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EXECUTIVE SUMMARY

Nigeria's payment system is changing. Over the past two decades, the payment system has undergone a significant transformation, transitioning from a manual clearing system with few stakeholders to a sophisticated digital system processing value in trillions of Naira. The evolution of Nigeria's payment landscape is divided into three phases: Phase one (pre-2005), Phase two (2006-2019), and Phase 3 three (post-2020). Phase one marked a pivotal period that laid the foundation for subsequent advancements in Nigeria's financial sector. Phase two saw transformative initiatives that propelled Nigeria's payments system towards modernization and efficiency. The transition into the third phase reflects the nation's commitment to continuously advancing its financial infrastructure.

Structure and Key Players:

The payment system is categorized into currency-based (cash) and non-cash components. The Central Bank of Nigeria (CBN) plays a pivotal role in regulation, supported by key entities such as the Nigeria Deposit Insurance Corporation (NDIC), Nigerian Inter-Bank Settlement System (NIBSS), and various financial institutions, payment service providers, and switching companies.



The main goal of Nigeria's payment system is to ascertain that the country's financial system works without backlogs. This allows transactions to be carried out cost-effectively as a result of existing infrastructure and also ensures transactions occur with minimal risks and without delay. It is this goal and vision that has pioneered the developments of Nigeria's payment infrastructure and ecosystem from its first evolutionary phase till the third, the present stage. Good payment systems are characterized by their ability to minimize liquidity and operational risks inherent in financial transactions. They carry out processes that seek to constantly improve, its payment instruments, processing, and its ability to become a means of settlement for the relevant banks in the country.



Industry Dynamics:

The major players are divided into the Payment Service Providers players, the Payment Component players (which are more institutional and infrastructure based) and the International Transfer players. The biggest card payment companies in Nigeria by market share in 2021 were Verve International, Mastercard and Visa respectively. In 2021, 35.5% of Nigerians above the age of 15 had a debit card with Verve claiming to issue around 35 million active payment cards in 2022.

The biggest mobile money operators include Opay, Palmpay and Pagatech both according to the amount of users and app downloads on Google Play. Opay has about 30 million users while Palmpay and Pagatech have about 25 million and 4 million users respectively.

TeampApt (Moniepoint) with \$100 billion in 2022 transactions is the biggest Switching & Processing platform. eTranzact with annual transaction value of 50 trillion naira (\$34.5 billion²) is the second biggest Switching & Processing player. It is followed by Flutterwave with \$9³ billion.

Key players include card payment schemes, mobile money operators, switching and processing companies, payment solution services, and payment service holding companies. Established entities like Verve, Mastercard, and Visa dominate card payment schemes, while Opay, Palmpay, and Pagatech lead the mobile money sector. For PSSP players, Nomba, Fluttwerwave and Appzone lead with \$1 billion in monthly transactions, \$9 billion in transactions and \$2 billion in transactions respectively. Nomba, Wi-Pay and Computer Warehouse Group are the biggest PTSP players with Wi-Pay and Computer Warehouse Group transacting over \$3 million and 1.7 billion naira respectively. Super-agents are perhaps one of the most popular payment providers as they are the ones directly “on the ground” with ordinary Nigerians. Kippa, which processes \$3 billion transactions with over 500,000 agents, MTN’s MoMo with over 700,000 agents and Nomba with over 300,000 agents are the most important players in the super-agent category. Interswitch is the only company with the payments service holding license, making its role and dominance uncontested.



35.5%

of Nigerians above the age of 15 had a debit card with Verve claiming to issue around 35 million active payment cards in 2022.

² At FX 1450 naira/\$.

³ See <https://research.contrary.com/reports/flutterwave>

Newcomers and Subsidiaries:

In 2021, Sterling Bank launched its non-interest bank subsidiary named the Alternative bank. The Alternative bank aims to go away from the “boring” traditional banking into the more modern one where they “design solutions that tailor individual needs.” This was a way for Sterling bank to officially put some stake into the current fintech ecosystem. From 2021, we saw this trend emerge from Tier 1 Nigerian banks, with newcomers emanating as subsidiaries. Stanbic IBTC did the same with ZEST Payments Limited; GTB with Squad by HabariPay; Accessbank with Hydrogen Payments with all three launching in 2022.

We have also seen mobile communications industry players venturing into the payments ecosystem with MTN’s Mobile Money (MoMo), Airtel’s SmartCash Payment Service Bank (PSB), and Globacom’s MoneyMaster PSB joining 9 mobile’s 9PSB and Hope PSB to make it five existing PSBs in Nigeria. All five PSBs vocally claim to help promote financial inclusion of Nigerians, as is the goal of the CBN under both PSV2020 and PSV2025.

Asides Hope PSB, the introduction of PSB’s by Nigeria’s top four telecommunications providers, accounting for 100% of the entire industry according to Statista in 2022, makes it clear that both DMBs and telecommunications players are developing new products and creating corporate subsidiaries to have a share in Nigeria’s evolving payment system.

When it comes to the Buy Now Pay Later category (BNPL), important newcomers were introduced in both 2021 and 2022. Credpal, a BNPL company, raised \$15 million in 2022, allowing it to expand its services to more customers. Other BNPL companies like Kenya’s M-KOPA expanded to Nigeria in 2021 while Nigeria’s Klump raised \$780 thousand in pre-seed funding. Fairmoney also acquired PayForce,

another lending company, to extend its core services to the BNPL category. Caborn likewise released its Carbon Zero product that allows its users to pay for products they want much later.

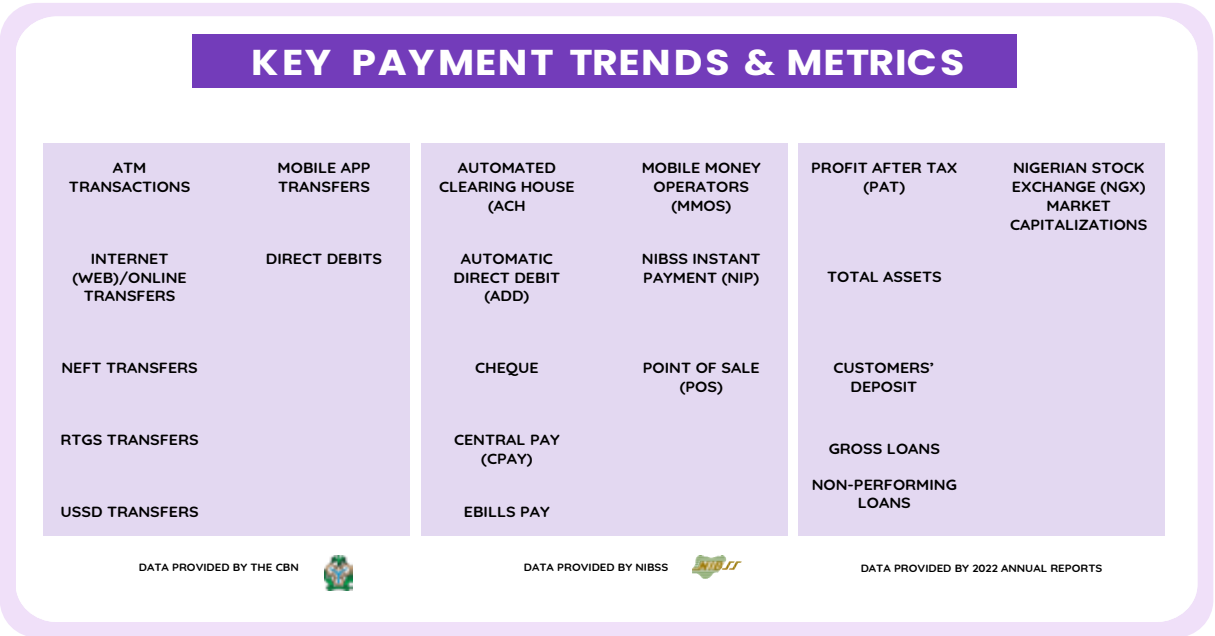
The crypto space also experienced some newcomers including Busha who received \$600 thousand pre-seed and another \$4.2 million seed funding in 2021. Buycoin also changed structure under its new Helicarrier cryptocurrency parent company where it now includes new products including Desk and Sendcash.



Performance Metrics and Trends:

Examining 14 performance metrics, including transaction volume and monetary values, and the performance of the top Nigerian banks reveals shifts in payment preferences.

Figure 1. Payment trends & metrics analyzed in this report



In 2021 the CBN reported a total volume of 1.59 billion ATM transactions, which decreased to 1.51 billion in 2022, indicating a -5.77% change in transaction volume. Conversely, the total transaction value saw a significant increase, growing from 21.23 trillion naira in 2021 to 32.64 trillion naira in 2022, reflecting a substantial 53.78% year-on-year growth.

Online transfers, with a total volume of 10.32 trillion in 2021, increased by 36.26% to 14.06 trillion in 2022.. The total transaction value for online transfers grew from 545.03 trillion naira in 2021 to 783.66 trillion naira in 2022, marking a substantial 43.78% year-on-year increase.

National Electronic Funds Transfer (NEFT) transfers, with a total volume of 172.79 billion in 2021, decreased to 88.46 billion in 2022, reflecting a significant -48.80% change in transaction volume. Despite the decline in volume, the total transaction value witnessed growth, reaching 410.17 trillion naira in 2021 and 477.36 trillion naira in 2022, marking a 16.38% year-on-year increase.

Real-Time Gross Settlement (RTGS) transfers, with a total volume of 1.04 billion in 2021, decreased to 288.21 million in 2022, reflecting a substantial -72.34% change in transaction volume. Similarly, the total transaction value for RTGS transfers decreased from 588.20 trillion naira in 2021 to 73.70 trillion naira in 2022, marking a -87.47% year-on-year decrease.

Unstructured Supplementary Service Data (USSD) transfers, with a total volume of 552.91 billion in 2021, decreased to 516.08 billion in 2022, reflecting a -6.66% change in transaction volume. The total transaction value for USSD transfers also decreased from 5.17 trillion naira in 2021 to 4.49 trillion naira in 2022, marking a -13.23% year-on-year decrease.

Mobile app transfers, with a total volume of 831.54 billion in 2021, increased to 1.86 trillion in 2022, reflecting an impressive 123.85% change in transaction volume. Similarly, the total transaction value for mobile app transfers increased from 53.20 trillion naira in 2021 to 111.12 trillion naira in 2022, marking a noteworthy 108.84% year-on-year growth.

Direct debits transfers experienced a 46.22% transaction volume growth, from 103.27 billion in 2021 to 151.01 billion in 2022. The total transaction value for direct debits increased from 23.01 trillion naira in 2021 to 26.40 trillion naira in 2022, marking a 14.76% year-on-year growth.

Automated Clearing House (ACH) transfers witnessed a 13.83% annual increase in transaction volume, from 20.9 billion in 2021 to 23.9 billion in 2022. The total transaction value equally increased from 16.9 trillion naira in 2021 to 18.8 trillion naira in 2022, marking an 11.33% year-on-year growth.

Automatic Direct Debit (ADD) transfers exhibited a -6.87% change in transaction volume, decreasing from 21.99 thousand in 2021 to 20.48 thousand in 2022. The total transaction value saw a substantial 67.66% year-on-year growth, increasing from 136.69 billion naira in the previous year to 229.17 billion naira in 2022.

Cheque transfers in Nigeria decreased by -8.55% in volume, from 4.45 billion in 2021 to 4.07 billion in 2022. The total transaction value declined by -0.48% year-on-year, from 3.22 trillion naira in 2021 to 3.20 trillion naira in 2022.

Central Pay (CPay) transfers in Nigeria experienced a -58.87% change in transaction volume, decreasing from 271.5 thousand to 111.68 thousand in volume, and another decrease of -30.10% in transaction value, from 2.34 billion naira to 1.63 billion naira from 2021 to 2022.

eBills Pay transfers in Nigeria decreased by -25.94% in volume, from 1.19 billion in 2021 to 885.89 million in 2022. However, the total transaction value increased by 22.94% year-on-year, from 2.27 trillion naira in 2021 to 2.80 trillion naira in 2022.

Mobile Money Operators (MMOs) transfers in Nigeria witnessed a remarkable 151.18% change in total volume, surging from 248.5 million in 2021 to 714.5 million in 2022. Concurrently, the total transaction value increased from 8.06 trillion naira in 2021 to 19.4 trillion naira in 2022, marking a significant 140.73% year-on-year increase.

NIBSS Instant Payment (NIP) transfers in Nigeria witnessed a substantial 47.99% change in total volume, increasing from 3.47 billion in 2021 to 5.14 billion in 2022. The total transaction value surged from 271.95 trillion naira in 2021 to 387.07 trillion naira in 2022, representing a notable 42.33% year-on-year increase.

Point of Sale (POS) transfers in Nigeria saw a significant 17.00% change in total volume, increasing from 982.83 million in 2021 to 1.14 billion in 2022. Concurrently, the total transaction value rose from 6.43 trillion naira in 2021 to 8.39 trillion naira in 2022, representing a notable 30.42% year-on-year increase.

Banking Sector Analysis:

Comparing top banks using metrics like profit after tax, total assets, customer deposits, gross loans, non-performing loans, and market capitalizations illustrates the industry landscape.

UBA, Stanbic IBTC, FCMB and Fidelity bank were the banks that were profitable between 2022 and 2021. Of the bunch, Fidelity returned the greatest profit in terms of percent change, with the bank being 86.9% more profitable in 2022 than 2021.

When it comes to customer deposits, Access Bank comes out on top in 2022 and 2021 even though Zenith bank had a greater y-o-y change. GTBank was the only bank whose change in y-o-y deposits was in singular digits.

Looking at Total assets, which provide insights into a bank's scale and growth, Access Bank still remains ahead with total assets accumulating to 14.9 trillion naira. They are followed by Zenith and then UBA. These three were equally the ones who saw the greatest y-o-y change in their asset size.

For loans given in 2022, Access Bank and First Bank lead with gross loans both in terms of value and y-o-y percentage change. The loan size of both banks amounted to 5.5 trillion naira and 5 trillion naira respectively.

Three banks had an increase in their Non-Performing Loans (NPLs) from 2021 to 2022. They were FCMB, Stanbic IBTC and Zenith. FCMB had the worst y-o-y change at 60%. Conversely, First Bank and Access bank were able to reduce the risk on their loans with an improvement in their NPLs from 6.1% and 4% in 2021 respectively, to 4.3% and 3.1%.

GTBank is the biggest Nigerian bank listed in the stock market with a market cap of 1.2 trillion naira. In fact, aside from GTBank, only two other banks have a market cap of 1 trillion naira or above. They include Zenith with a market cap of 1.1 trillion naira and First Bank with a market cap of 1 trillion naira.

Regulatory Landscape:

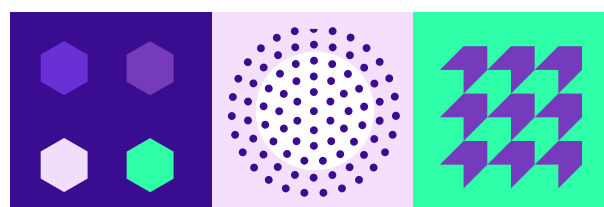
Nigeria's payment system operates under a multi-layered regulatory framework involving various institutions that work collaboratively. The CBN issues various regulatory guidelines and circulars that cover different aspects of payment services including providing licenses. The CBN also sets risk management frameworks, Anti-Money Laundering and Countering Financing of Terrorism (AML/CFT) regulations, and Consumer protection measures through the Consumer Protection Council (CPC) and the Federal Competition and Consumer Protection Commission (FCCPC). Despite the numerous functions carried out by the CBN itself, it is aided together with the Nigeria Deposit Insurance Corporation (NIDC) to provide the necessary oversight function to ensure that the payment system is both efficient and effective.

Gaps in the regulatory framework equally exist. The presence of overlapping and redundant regulations, exemplified by instances like the coexistence of "Guidelines on Operations of Electronic Payment Channels in Nigeria" and "Standards and Guidelines on Electronic Channels Operations in Nigeria," as well as the pairing of "Regulation for the Operation of Indirect Participants in the Payments System" and "Regulatory Framework for Agent Banking in Nigeria."

This redundancy introduces confusion among stakeholders, potentially resulting in inconsistencies during implementation. Despite the existence of "Operational Guidelines for Open Banking in Nigeria," additional regulatory frameworks, particularly those related to data protection and privacy, may necessitate further development to instill user trust and confidence in data sharing practices.

Future Outlook:

It is evident that the tremendous growth of Mobile App Transfers, Online Transfers, MMOs, and the NIP together paint a clear picture that Nigeria's payment system is becoming much more cashless and much more dependent on digital systems to properly function. While the future appears promising, regulatory challenges loom. Consumer trends, influenced by factors like financial inclusion, mobile money awareness, and regulatory restrictions, highlight areas for improvement.



ZONE – AFRICA'S FIRST REGULATED LAYER-1 BLOCKCHAIN NETWORK FOR PAYMENTS

Zone emerged as a groundbreaking payment infrastructure company, enabling payments and the acceptance of digital currencies for Financial Service Providers through its regulated blockchain network. Originating from the innovative ecosystem of Appzone Group, Zone distinguishes itself as the first regulated layer-1 blockchain network focused on payment solutions in Africa.

Its core mission is to connect every monetary value using blockchain, propelling a shift towards a decentralized global payment infrastructure.

With an emphasis on Africa, Zone enables direct connectivity among banks, fintechs, and other financial institutions (OFIS), fostering reliable, frictionless and universally interoperable payments at scale for financial service providers on its network.

IMPACT ON NIGERIA'S PAYMENT LANDSCAPE

Innovative Solutions

Zone is a regulated blockchain network that aims to connect every monetary store of value and (by doing so) establish a decentralized global payment infrastructure. With an initial focus on Africa, Zone enables banks and fintech startups to bypass intermediaries and connect directly with each other to enable real-time processing and settlement of digital payments in fiat currencies. Additionally, Zone serves as a layer-1 protocol for issuing digital currencies and deploying DeFi services in a regulated and interoperable way. With a strategic focus on creating a reliable, frictionless and universally interoperable global network, Zone is at the forefront of driving the transition from fiat to regulated digital currencies.

Growth and Market Presence

Since its inception in 2022, Zone has signed up over 15 of Africa's biggest commercial banks and most of the leading fintechs to its network. Zone piloted its ATM product use case and is now processing ATM-based transactions through its blockchain-powered payment infrastructure for some of the biggest banks. Backed by a significant \$8.5 million seed funding from leading global venture capitalists, Flourish Ventures and TLcom Capital – Zone's growth trajectory is further acknowledged by its inclusion in the Financial Times' list of Africa's Fastest Growing Companies in 2023.

SUCCESS STORIES

The ATM and POS Payment Gateway products that are powered by Zone's decentralized payment infrastructure, exemplify its impact, offering unmatched transaction reliability, instant settlements, and a zero chargeback framework.

This not only improves operational efficiency for financial service providers on its network but also enhances the transaction experience for their end-users.

REGULATORY ALIGNMENT AND FUTURE VISION

Zone's adherence to regulatory standards, as Africa's first regulated blockchain network for payments after securing its payment and switching license from the Central Bank of Nigeria, underscores its commitment to security, trust, and compliance within the financial ecosystem. Looking forward, Zone is poised to expand

its network domestically and explore cross-border transaction capabilities. Its aspiration to evolve into a global payment network aligns with its strategic vision to create one global network to pay anyone, through any means, in any currency.

LEADERSHIP AND VISION

Guided by the visionary leadership of co-founders Obi Emetarom (CEO) and Wale Onawunmi (CTO), Zone is set on redefining Africa's payment infrastructure.

Their foresight and dedication are pivotal to Zone's mission of connecting every monetary store of value by harnessing the power of blockchain technology.

COMMITMENT

Zone stands at the forefront of financial technology innovation, harnessing blockchain to deliver reliable, frictionless and universally interoperable payments at scale to financial service providers on its network. Through its unique approach

and technology, Zone is not only connecting financial entities but is also paving the way toward a digitized and borderless financial future, championing economic growth and inclusivity across Africa and beyond.

Overview of the Nigerian Payment Landscape



1.1. Evolution of the Nigerian payment landscape

Over the past two decades, Nigeria's payment systems have undergone a significant transformation, transitioning from a manual clearing system with few stakeholders to a sophisticated Automated and Instant Clearing System with NIBSS Instant Payment (NIP) that processed over 387 trillion naira in transaction value. This evolution is explained in detail in the paragraphs below.

The evolution of Nigeria's payment landscape is divided into three phases as shown in Figure 2 and Appendix A. This division makes it easier to understand since most of the achievements in both Phase two and three were largely driven by the visions set forth by the Central Bank of Nigeria (CBN).

Figure 2. The three evolutionary phases of Nigeria's Payment

EVOLUTIONARY PHASES OF NIGERIA'S PAYMENT SYSTEM

EVOLUTIONARY PHASE 1 (PRE-2005)

- 1892 - 1952 were inquiry period by the colonial administration who wanted to investigate banking practice in Nigeria.
- Central Bank Act, 1958 which crafted the legal frameworks by which the CBN operated and regulates banks.
- Introducing treasury bills in 1960.
- Establishment of Lagos Stock Exchange in 1961.
- Introducing treasury certificate in 1968.
- The 1997 amendments which brought the CBN back under the supervision of the Ministry of Finance.
- Introduction of Magnetic Ink Character Recognition (MICR) technology.
- Formulation of e-banking guidelines.
- Establishment of the Nigerian Inter-Bank Settlement System (NIBSS) and the National Central Switch.
- Launching of the Automated Clearing System (NACS).
- Reduction of the clearing cycle to T+3 and T+5 for local and upcountry instruments.
- Establishment of switching companies and interoperability of /shared ATM/POS.
- New Settlement Framework (for Cheque Clearing).
- Cheque Standard and Cheque Printer accreditation Scheme
- Reconstituted National Payments System Committee and set up technical sub-committee.

EVOLUTIONARY PHASE 2 (2006 - 2019)

- The CBN Act, 2007 which provides that the CBN shall be a fully autonomous body in the implementation of its functions. This Act widened CBN's scope to include ensuring monetary, price stability and rendering economic advice to the government.
- Payments System Vision 2020 (PSV20)
- Issuance of Mobile Payment Regulatory Framework
- Guidelines on Transaction Switching
- Direct Debit Rules
- Migration to EMV Cards
- Guidelines on ATM Operations
- Nigeria Uniform Bank Account Number (NUBAN)
- Issuance of cashless policy circular
- Issuance of Guidelines for card issuance and usage in Nigeria
- Nationwide implementation of Cheque Truncation
- Deployment of new RTGS and Scripless Securities Settlement System
- Compliance monitoring with Payment Card Industry Data and Security Standards (PCIDSS)
- Implementation of industry e-reference portal
- Abolished fees on cash deposit above the Cashless Policy threshold
- Implementation of Bank Verification Number (BVN) Scheme
- Issuance of Guidelines on International Money Transfer services in Nigeria
- Regulation on Instant (Inter-Bank) Electronic Funds Transfer Services in Nigeria
- Implementation of the Cash-less Policy

EVOLUTIONARY PHASE 3 (POST-2020)

- Payments System Vision 2025 (PSV25)
- Guideline on Nigerian Payments System Risk and Information Security Management Framework
- Guidelines on Operations of Electronic Payment Channels in Nigeria
- Receipt of Diaspora Remittances: Additional Operational Guidelines
- Issuance of the Framework for Regulatory Sandbox Operations
- Framework for Quick Response (QR) Code Payments in Nigeria
- Circular on the Regulatory Framework on Open Banking in Nigeria
- New License Requirements for the Payments System
- Regulatory Framework on Non-bank Merchant Acquiring in Nigeria
- Supervisory Framework for Payment Service Banks
- Framework and Guidelines on Mobile Money Services in Nigeria
- Guidelines for Licensing and Regulation of Payments Service Holding Companies in Nigeria
- Operational Guidelines for Open Banking in Nigeria
- Guidelines for Contactless Payments in Nigeria
- Regulatory Framework for the Agent Banking in Nigeria

Phase One (Pre-2005)

Phase one, pre-2005, marked a pivotal period that laid the foundation for subsequent advancements in Nigeria's financial sector. As far back as 1892, the idea of banking in Nigeria was entertained by the then colonial administration. This process, of enquiry by the colonial administration to commence banking in Nigeria, took 66 long years before a decision was finally made which culminated in the Central Bank Act of 1958.

This was the first Act that catered to the banking practice of the then colonial country despite the fact that regions like Lagos had an operational bank since 1894, Bank of British West Africa. Besides the Bank of British West Africa, about 26 banks were formed in the nation including Barclays Bank, United Bank for Africa, the Industrial and Commercial Bank, the Mercantile Bank, African Continental Bank, and the Nigerian Farmers and Commercial Bank. ^{[4][5]}

As can be noted, this was a period where the idea of banking itself was being experimented within the country. As a result of these developments, important versions of what could be called its own version of the very first payment system in the country were introduced through the treasury bills, the establishment of the Lagos Stock Exchange, and treasury certificate in 1960, 1961 and 1968 respectively.

This was the origin of a complex system for collection of payments beyond customer deposits in the newly independent Nigeria. A period of uncertainty emerged through the advent of military dictatorships in Nigeria which affected the CBN Act of 1958 but the 1997 amendments created the enabling environment for the current payment system.



In 1993, the Magnetic Ink Character Recognition (MICR) technology was introduced. This played a transformative role in payment processing and significantly streamlined financial transactions by automating the recognition of characters on cheques, enhancing efficiency and accuracy in payment systems. A year later, the Nigerian Inter-Bank Settlement System (NIBSS) was introduced. The NIBSS and the National Central Switch were instrumental in providing a robust framework for seamless interbank transactions. These infrastructures became key components of Nigeria's financial architecture, contributing to the resilience and effectiveness of the overall payment system. The creation of the Lagos clearing house in 1961, in accordance with Section 41 of the CBN Act, laid the groundwork for efficient cheque clearing among banks.

⁴ See <https://www.thelawlane.com/historical-development-of-banking-in-nigeria/>

⁵ See https://books.google.es/books?id=Ki8WAQAAMAAJ&redir_esc=y

The Bankers' Clearing System (NBCS), outlined by the CBN, identified five main stakeholders, including the NIBSS, Deposit Money Banks, Clearing System Committee, Payment Service Providers, and the CBN itself, ensuring a collaborative and regulated approach to clearing processes.

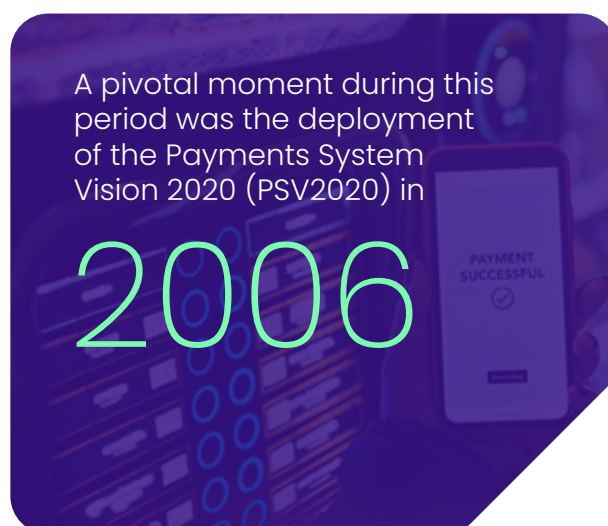
In 2002, recognizing the challenges associated with MICR, the CBN launched the Nigeria Automated Clearing System (NACS). This system addressed bottlenecks by facilitating online cheque processing through the Cheque Truncating and Conversion System (CTCS), combining MICR and imaging technology for automated clearing. In tandem with MICR implementation and the NIBSS, the formulation of e-banking guidelines emerged as a critical milestone in 2003. These guidelines set the stage for the digitization of financial transactions, paving the way for a more convenient and accessible banking experience for individuals and businesses alike. The focus on creating a digital framework reflected a forward-looking approach that anticipated the growing role of technology in the financial landscape.

The subsequent introduction of the New Settlement Framework in 2004 eliminated settlement lag for time-sensitive and high-value payments, categorizing banks into settlement and non-settlement entities, enhancing the efficiency of fund transfers.

Within the securities transfer ecosystem, the Nigeria Securities Clearing System (NSCS) and the Central Securities Clearing System (CSCS) played integral roles. Originating in 1997, the CSCS evolved after the internationalization of the Nigerian Stock Exchange, providing an online securities trading system for the electronic settlement of various financial instruments.

Phase Two (2006 – 2019)

Phase two spans from 2006 to 2019 and saw transformative initiatives that propelled Nigeria's payments system towards modernization and efficiency. A pivotal moment during this period was the deployment of the Payments System Vision 2020 (PSV2020) in 2006. This visionary roadmap outlined strategic objectives aimed at enhancing the overall efficiency and effectiveness of the payment landscape. The PSV2020, spearheaded by the Central Bank of Nigeria (CBN), stood as a catalyst in the transformative journey of the country's payment system landscape.



One of the key strengths of the PSV2020 initiative lies in its ability to provide a safe and efficient mechanism for both making and receiving payments. By prioritizing the minimization of risks to the central bank, payment service providers, and end-users alike, PSV20 instilled a sense of security within the entire payment ecosystem. This heightened level of security not only ensured the protection of financial assets but also cultivated an environment conducive to trust and reliability.

Table 1. Chronology of the milestones of PSV2020. Source: CBN⁶

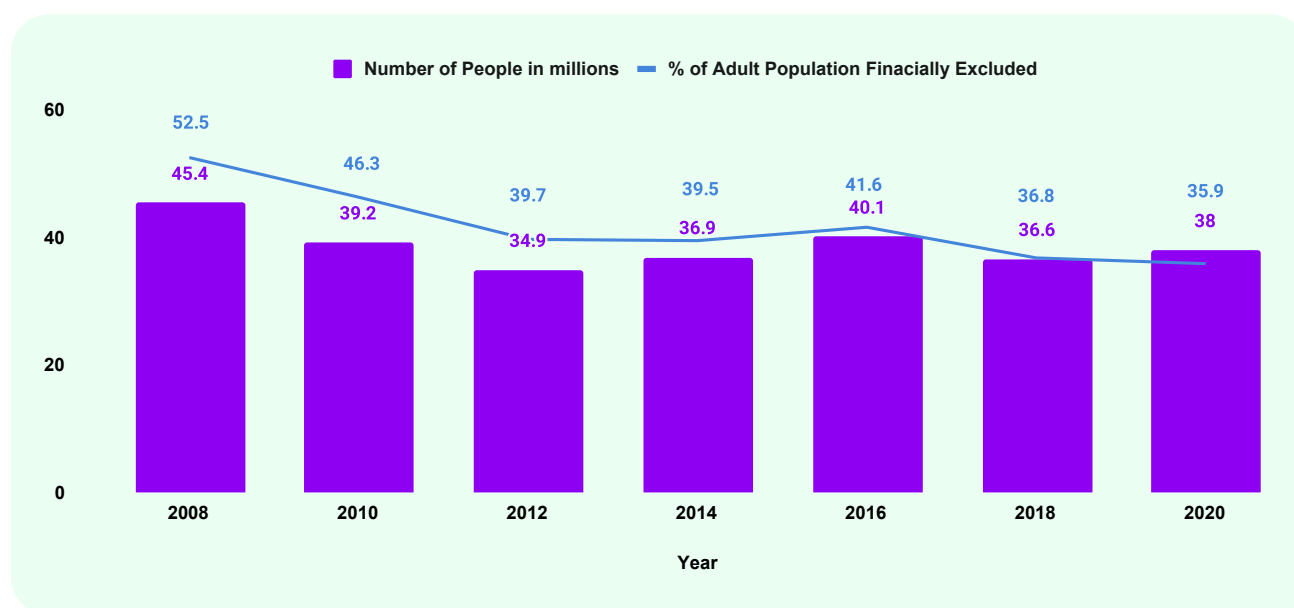
Year	Chronology of Key milestones of PSV2020
2006	<ul style="list-style-type: none"> • Initiated the examination of payment systems. • Formulated guiding principles. • Emphasized the shift from cash to electronic transactions.
2007	<ul style="list-style-type: none"> • Released initial evaluation based on 10 fundamental principles. • Established the official function of the Payments. • Formed working groups as part of the inauguration of the Payments Infrastructure and Strategy Committee.
2008 – 2012	<ul style="list-style-type: none"> • Hosting of the PSV2020 conference which aimed at expanding industry participation. • Emphasis on ensuring legal clarity and formulating the Payment System Management Bill. • A presidential directive regarding government e-payments was issued. • Initiated the replacement program for Real-Time Gross Settlement (RTGS).
2013	<ul style="list-style-type: none"> • A reissuance of PSV2020, involving a comprehensive rewrite that aligns with the new Principles for Financial Market Infrastructure (PFMI) Principles and incorporates significant advancements made since the initial review. • A novel governance structure was established, to decentralize management responsibilities to industry participants. • Lagos hosted an International Payment Conference, providing a platform for discussions and collaborations on global payment-related matters.
2014 – 2015	<ul style="list-style-type: none"> • Revised CBN guidelines to align with the principles of PFMI and contemporary market practices.
2016 – 2018	<ul style="list-style-type: none"> • Reviewing Payment Systems in accordance with PFMI Standards • Formalization of Payment Finality • Significantly Advancing Risk-Based Collateral Management Initiatives

⁶ See <https://www.cbn.gov.ng/Out/2022/CCD/PSMD%20vision%202025%20EDITED%20FINAL.pdf>

Furthermore, **Table 1** shows us the different achievements of PSV2020. The first version of PSV2020 was released in 2006, and its second version in 2013. The first version had the ultimate goal of making the Nigerian payments ecosystem “internationally recognised and nationally utilized” while the second version was focused on defining new

priorities for the payments market which eventually led to the creation of PSV2025 in 2020. PSV2020 was instrumental in extending the availability and usage of payment systems to all sectors and geographies within Nigeria. It went beyond the traditional boundaries, reaching both the banked and unbanked populations.

Figure 3. Payment trends & metrics analyzed in this report ⁷



To understand the impact of these policies on financial inclusion, the Enhancing Financial Innovation and Access (EFInA) reports show Nigeria’s financial inclusion data from 2008 to 2020. In 2008, 52.5% or 45.4 million Nigerian adults were financially excluded (see **Figure 3**)⁸.

This number dropped to 46.3% or 39.2 million Nigerian adults in 2010⁹; 39.7% or 34.9 million Nigerian adults in 2012¹⁰; 39.5% or 36.9 million Nigerian adults in 2014¹¹; 41.6% or 40.1 million Nigerian adults in 2016¹²; 36.8% or 36.6 million Nigerian adults in 2018¹³; 35.9% or 38 million Nigerian

adults in 2020¹⁴. Within the horizon of the PSV2020 then, Nigeria went from over half its population being excluded from the financial and payment system to only 35% in 2020, when the PSV2020 ended.

The success of PSV2020 was driven by its adherence to internationally accepted regulatory, technical, and operational standards. This commitment positions the Nigerian payment system on par with global best practices, fostering interoperability and compatibility with systems worldwide. By aligning with these

⁷ Link to charts - [CBN E-Payment Statistics.xlsx](#) & [Report Graphs](#)

standards, PSV2020 enhances the credibility of the Nigerian payment ecosystem and facilitates seamless cross-border transactions, contributing to the nation's integration into the global financial landscape.


Concurrently in phase two, the introduction of the Bank Verification Number (BVN) scheme and the Nigerian Uniform Bank Account (NUBAN) emerged as a significant positive input. BVN, serving as a unique identification system, played a crucial role in streamlining financial transactions, enhancing security measures, and mitigating identity-related risks.

The BVN helped to foster trust and reliability within the Nigerian financial system. NUBAN created a 10-digit bank account number which allowed banks to perform checks which were not previously feasible.¹⁵

Other infrastructural enhancements introduced by the PSV2020 which are important to state include the EMV Cards based platform, cheque centralisation and truncation via enhancing the clearing system, direct debit mandate management system, NIBSS instant payment, NIBSS automated payment system, mobile money payment and the eNaira.¹⁶

Despite the great achievements of the PSV2020, it is also relevant to consider its shortcomings to Nigerians and its relevant stakeholders.

As seen from the Case Study in **Figure 4** below, three areas of focus regarding the shortcomings of PSV2020 were:

- 
- Its perceived erosion of traditional consumer rights due to the introduction of e-payments and e-transactions and,
 - The difficulty of adopting the cash-less policy by ordinary Nigerians.
 - The persistence of frauds in Nigeria

Though PSV2020 had these shortcomings, the issue of consumer rights is continuously being tackled by industry players and businesses alike. When we asked **Yvonne Obike**, COO of Bankly, what her company does to ensure customer rights were protected, she let us know that “Bankly adheres to private data policies, KYC policies, and email policies, along with providing in-house training for staff on customer interactions and identification. Even customer service staff may not have access to all customer information, with restricted visibility into transaction histories. Certain data is safeguarded, and the customer support team operates with varying levels of security access.”

⁸ See <https://efina.org.ng/wp-content/uploads/2021/10/A2F-2008-Final-Report.pdf>

⁹ See <https://efina.org.ng/wp-content/uploads/2021/10/A2F-2010-Final-Report.pdf>

¹⁰ See <https://efina.org.ng/wp-content/uploads/2021/10/A2F-2012-Final-Report.pdf>

¹¹ See <https://efina.org.ng/wp-content/uploads/2021/10/A2F-2014-Final-Report.pdf>

¹² See <https://efina.org.ng/wp-content/uploads/2021/10/A2F-2016-Final-Report.pdf>

¹³ See <https://efina.org.ng/wp-content/uploads/2021/10/A2F-2018-Final-Report.pdf>

¹⁴ See <https://efina.org.ng/wp-content/uploads/2021/10/A2F-2020-Final-Report.pdf>

¹⁵ See https://www.cbn.gov.ng/out/2010/circulars/bspd/nuban%20proposal%20-%2020091010%20_final%20upload_.pdf

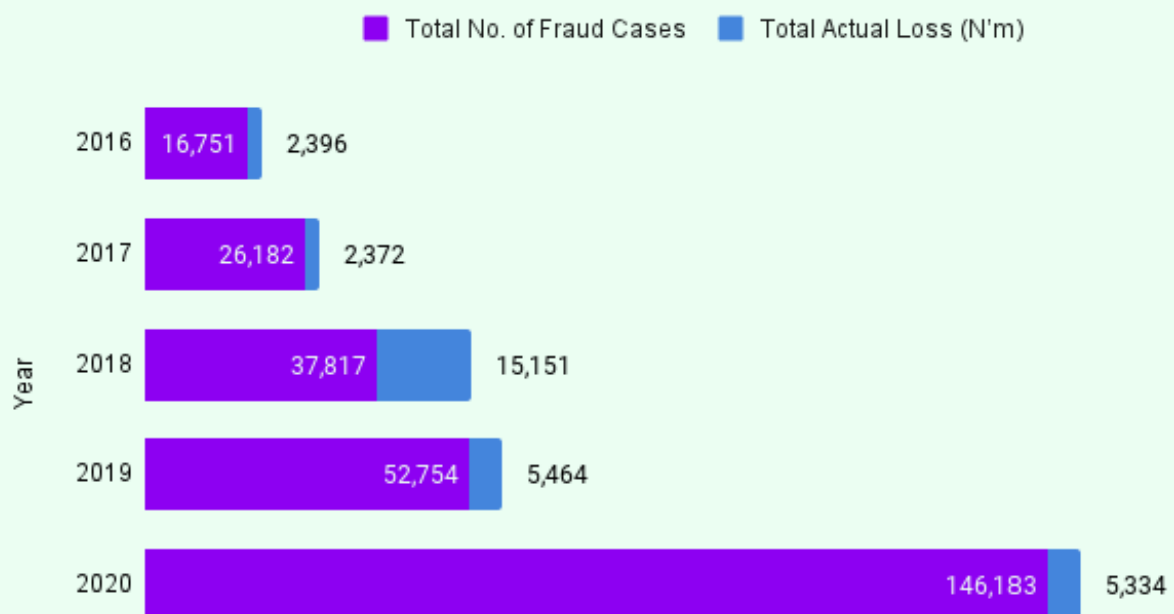
¹⁶ See <https://dc.cbn.gov.ng/cgi/viewcontent.cgi?article=2090&context=efr>

Figure 4. Shortcomings of PSV2020 Case Study

CASE STUDY: SHORTCOMINGS OF PSV2020

The law department of the Nasarawa State University (NSU) identified that consumer rights in PSV2020 could have been infringed via failure of financial service providers to deliver services ordered by consumers despite consumers paying for such services. They also mentioned that payment delivery delays, refusal or a lag in reimbursement of deposits or paid amounts contributed to deceptive and misleading product information which equally harmed the consumers of such products and services [1]. The concern by NSU is important to consider as it questions the impact of the introduction of new payment technology to traditional consumer rights such as the right to safety, right to information, right to choose, amongst others.

The second area that saw many criticizing the PSV2020 was in the area of its drive to attain a cashless society. The major dilemma identified here is not regarding the intention of the cashless policy in itself but its transition. It is clear and obvious to most that banking more Nigerians will mean much more deposits for financial institutions to utilize to offer new products and also grow as a whole. The challenge is the fact that Nigerians were, and continue to be, heavily reliant on cash for their daily living. In 2013, the average Nigerian transacted 65% of their income earned in cash [2]. Despite the fees levied on cash withdrawals since the commencement of PSV2020, cash use remains high with some sources stating 90% of transactions are still cash based post-PSV2020 [3]. This has unfortunately led to inflationary spirals which affects the very Nigerians the cashless policy, driven by PSV2020, was meant to help and support.



[4] Fraud Cases & Losses in between 2016 – 2020. Source: NDIC

Finally, despite the implementation of advanced measures like PSV2020, BVN, and NUBAN in Nigeria's payment system, concerns persist over the effectiveness of Nigeria's fraud detection. The accompanying figure illustrates a consistent rise in annual losses attributed to fraud, with ATM/Card-related and Web-Based (internet banking) Fraud being the primary contributors. The need for further enhancements in security protocols to curb these escalating threats is evident, urging a reevaluation of existing frameworks.

[1] Adaji, E. A. (2016). *Transforming Nigeria into a Cash-less Economy: Implications on Consumers' Rights and Dispute Resolution Mechanisms*.

[2] Yomere, G. O. (2015). *Benefits and challenges of Nigeria's cashless policy*. Kuwait Chapter of the *Arabian Journal of Business and Management Review*, 4(9), 1.

[3] *Nigeria's Cashless Transition: How Long Will it Take?* (2023). Afripoli.

[4] NDIC 2020 Annual Report

Phase Three (Post-2020)

The transition into the third phase, post-2020, reflects the nation's commitment to continuously advancing its financial infrastructure. A central theme of this phase is the realization of the Nigerian Payments System Vision 2025 (PSV2025). This ambitious vision signals the country's dedication to embracing cutting-edge technologies and fostering a more inclusive and competitive financial landscape that tries to solve the problems of both consumer rights and the painful transition towards a cashless society. PSV2025 is the culmination of years of planning and thinking by the CBN.

Since 2013, which began the second version of PSV2020, the CBN began assessments using the Principles for Financial Market Infrastructure (PFMI) which was

defined by the Bank for International Settlements (BIS).¹⁷ The Central Bank of Nigeria (CBN) adheres to the Principles for Financial Market Infrastructures (PFMI), which have been established by the Committee on Payment and Settlement Systems (CPSS) and the International Organization of Securities Commissions (IOSCO). These international standards are designed to bolster stability and minimize risks in financial transactions. The PFMI covers various facets of financial market infrastructure operation, encompassing governance, risk management (encompassing credit, liquidity, operational risks, etc.), settlement processes (with a focus on finality and efficiency), and default management procedures for instances where a participant fails to meet obligations. In ensuring the safety and efficiency of the financial market infrastructure in Nigeria, the PFMI serves as

¹⁷ See https://www.cbn.gov.ng/out/2018/bpsd/nps_risk_and_info_sec_mgt_framework.pdf

a comprehensive framework for the CBN.

As a result of the perceived need by the CBN to further improve Nigeria's payment ecosystem, the CBN identified 13 payments system recommendations which set in place the necessary foundation that led to the realization of PSV2025 (see **Figure 5**).

The mission of PSV2025 is rooted in the evolving landscape of the Nigerian payment system, where various alternatives have gradually replaced traditional cash transactions. They include electronic bill payments, mobile phone top-ups, mobile payments, and instant payments.

Figure 5. 13 Recommendations for Actualizing PSV2025

THE 13 RECOMMENDATIONS FOR THE ACTUALIZATION OF PSV 2025

1. The Central Bank of Nigeria (CBN) will commence a comprehensive examination of the fundamental payments infrastructure and central switching platform to guarantee sustained capacity for meeting payment demands. Additionally, the bank will assess the feasibility of implementing a Request for Payment (RfP) Scheme and explore the adoption of Contactless Solutions, including Quick Response Code and Contactless Cards, among other options.
2. A diverse Workgroup representing various sectors of the industry has been assigned the responsibility of formulating the Open Banking roadmap for Nigeria. This initiative involves developing a proposal for a regulatory sandbox tailored to the Nigerian market. The group's mandate encompasses defining the regulatory framework and structure. Additionally, the Workgroup is tasked with outlining a set of APIs essential for the local market. Furthermore, the Central Bank of Nigeria (CBN) will explore the possibility of implementing a regulatory sandbox specifically designed for the Nigerian market.
3. The PSV 2025 aims to expedite the provision of fundamental banking and financial services to those without access to traditional banking. It also seeks to garner support from various industry stakeholders in achieving this goal. Consequently, the CBN will persist in advancing the Agent Banking initiative and assisting the industry in identifying solutions that facilitate financial inclusion.
4. The CBN will actively monitor Blockchain solutions for the Naira, collaborating with relevant stakeholders to identify resources for tracking and reporting potential deployments of Blockchain solutions in other countries. Additionally, the CBN will engage with other central banks to explore potential joint ventures for investigating and implementing a Central Bank Digital Currency (CBDC) solution. The CBN will also keep an eye on 'Smart Contract' solutions in other countries or regions, developing a strategy for their adoption in Nigeria. A position paper outlining potential use cases, deployment approaches, and timescales will be created in collaboration with industry stakeholders.

5. The CBN is contemplating the creation of a regulatory framework for the potential integration of 'Stable Coin.' Additionally, it will persist in monitoring Initial Coin Offerings (ICOs) and collaborate with the Security Exchange Commission (SEC) to collectively establish a regulatory framework in case an investment solution based on ICOs is adopted.
6. The Central Bank of Nigeria (CBN) plans to launch a project aimed at identifying primary applications of Big Data. This initiative will explore opportunities to leverage data within the payments system and contribute to economic analysis.
7. The minimum security requirements established by the Central Bank of Nigeria (CBN) for banks will undergo a comprehensive review to ensure their alignment with the latest industry best practices. Additionally, a thorough examination and enhancement of the payments architecture will be conducted, ensuring that minimum standards for user authentication are integrated into a multi-layered security solution.
8. The CBN will persist in endorsing the BVN as a robust means to combat fraud. In due course, and in collaboration with pertinent agencies, the CBN will assess the expansion of BVN to function as a broader user identification method by integrating with other data sources. Additionally, there will be an exploration of the possibilities offered by a Blockchain-based solution.
9. The CBN is urging banks to enhance Consumer Protection by establishing minimum standards that guarantee prompt resolution of disputes.
10. Maintaining interoperability will remain a fundamental principle in Nigeria's payment system. Periodic assessments of payment service providers will include tests for compliance and license renewal.
11. The existing governance framework will be enhanced through the implementation of organized and consistent quarterly reporting.
12. Conclude the activities of the Initiative Working Groups involved in the PSV 2020, acknowledging the significant contributions made by members in attaining the vision's objectives.
13. Proceed with the activities of the special interest working groups, incorporating a new special interest working group focused on fintech.



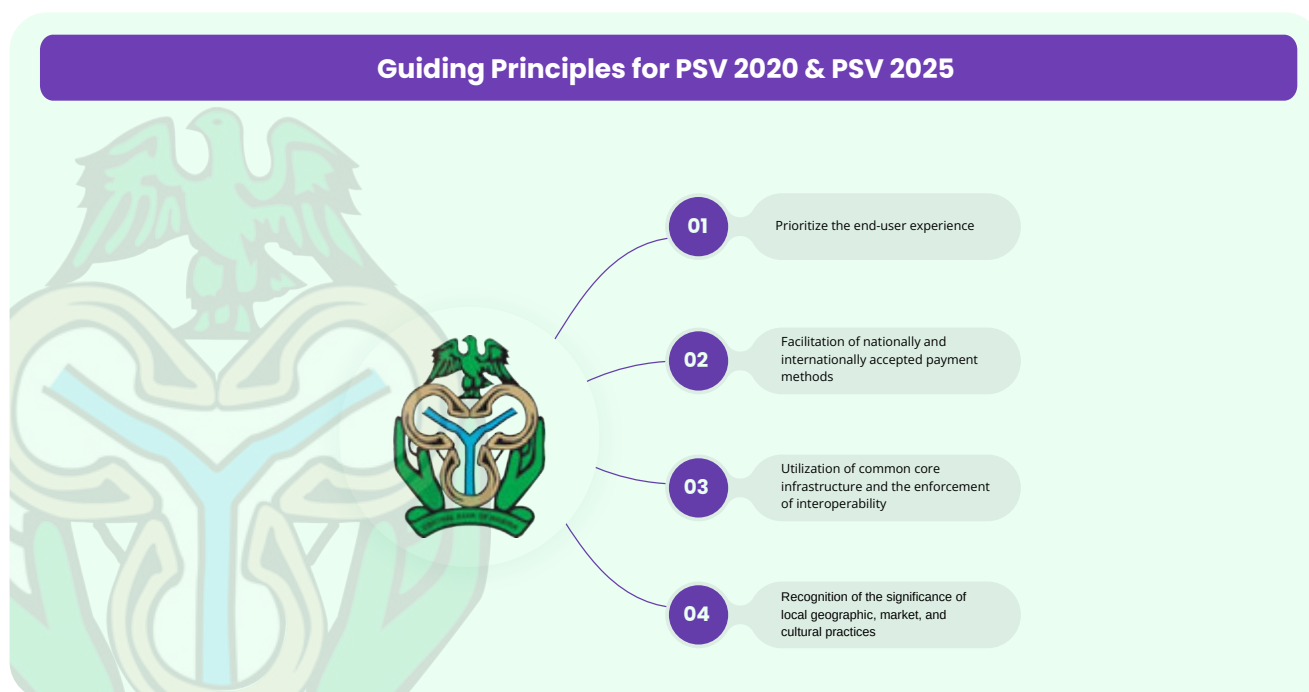
The mission of **PSV2025** is rooted in the evolving landscape of the Nigerian payment system, where various alternatives have gradually replaced traditional cash transactions.

As the trajectory of the 'mobile-first generation' unfolds, it is anticipated that the utilization of physical cash will naturally decline. Consequently, the focal point of PSV2025 revolves around augmenting the CBN's cashless policy to align with the evolving financial landscape. The overarching goal is for Nigeria to achieve a comprehensive and efficient electronic payment system infrastructure by 2025. This envisioned infrastructure is designed to seamlessly facilitate financial services across all sectors of the economy, providing a secure, reliable, and user-centric framework for diverse financial solutions. The envisioned state for Nigeria in 2025 is one characterized by a robust and efficient electronic payment system that continues to adhere to international standards as laid by PSV2020. This entails creating an environment where financial transactions are conducted electronically, minimizing

reliance on physical currency.

The PSV2020 and PSV2025 share a common foundation built on clear guiding principles (see **Figure 6**).¹⁸ These principles serve as a blueprint for the effective functioning and evolution of the payment systems. A primary focus of both iterations is to prioritize the end-user experience by strategically collaborating with Payment Service Providers (PSPs), acknowledging their integral role in the ecosystem. Another key principle guiding the development of both PSV2020 and PSV2025 is the facilitation of nationally and internationally accepted payment methods, as formerly mentioned. By doing so, these systems aim to create a seamless and globally inclusive environment that accommodates diverse payment preferences, fostering financial connectivity on a broader scale.

Figure 6. Guiding Principles for PSV 2020 & PSV 2025



¹⁸ See <https://www.cbn.gov.ng/Out/2022/CCD/PSMD%20vision%202025%20EDITED%20FINAL.pdf>

In the pursuit of progress and dynamism, the payment systems are designed to encourage innovation and deployment by Payment Service Providers. This forward-looking approach propels technological advancements and ensures that the payment landscape remains adaptable and responsive to emerging trends and consumer needs. More so, the utilization of common core infrastructure and the enforcement of interoperability is another guiding principle for both the PSV2020 and PSV2025. This strategic decision enhances the efficiency of payment systems and promotes a unified and interconnected network that benefits both users and service providers, contributing to a more cohesive financial ecosystem. The recognition of the significance of local geographic, market, and cultural practices is another pivotal principle embedded in the development of PSV2020 and PSV2025.

By acknowledging and adapting to regional nuances, these payment systems strive to resonate with the diverse global user base, ensuring that the solutions offered are contextually relevant and user-friendly. This is the reason why both Visions conform to internationally accepted risk. This commitment to risk mitigation establishes a secure foundation for the payment systems, instilling confidence among users, providers, and regulatory bodies. The PSV 2025's commitment to global standards stems from its acknowledgment of the unique dynamics of the Nigerian market. Instead of adopting a one-size-fits-all approach, the framework carefully considers global trends and best practices in payments.

However, it strategically selects elements that are most pertinent to Nigeria's specific economic and technological landscape.

This nuanced approach ensures that global standards are adapted to suit Nigeria's context, maximizing their relevance and effectiveness.



In the practical implementation of its vision, the CBN employs specific strategies to align the Nigerian payment system with global standards. Firstly, the central bank plans to benchmark the Nigerian payment system against international standards, as outlined in the PSV2025 official document.¹⁹ This benchmarking process involves a thorough comparison of Nigeria's payment system with global benchmarks, identifying areas for improvement and ensuring alignment with international best practices (see **Figure 5**). Furthermore, the PSV 2025 focuses on specific standards crucial for a robust payment system that align with global practices. These include a commitment to security, aiming for a secure and reliable payment system that likely adheres to international security standards for financial transactions. The vision also prioritizes efficiency, aiming to enhance the speed and smoothness of financial transactions in line with global efforts.

¹⁹ See https://www.cbn.gov.ng/icps2013/papers/NIGERIA_PAYMENTS_SYSTEM_VISION_2020%5Bv2%5D.pdf

Another notable stride in phase three is the introduction of the operational guidelines for open banking in Nigeria which was approved in March, 2023.²⁰ The operational guidelines establish the principles for how financial data will be shared across the banking and payment systems with the ultimate goal of promoting innovations within the ecosystem and increasing the range of financial products and services available to bank customers. Organizations become participants of these operational guidelines if they have data about customers which can be exchanged with other entities for the pur-

pose of providing innovative types of financial products in the country.

Via this mechanism, licensed financial institutions, see Appendix B and C, can be both Application Programming Interface (API) providers (AP) and consumers (AC). This strategic move reflects a commitment to embracing technological innovations and creating an environment conducive to increased competition and inclusivity with an emphasis on data sharing and collaboration among financial institutions, as well as enhancing the overall customer experience.

²⁰ See <https://www.cbn.gov.ng/Out/2023/CCD/Operational%20Guidelines%20for%20Open%20Banking%20in%20Nigeria.pdf>



1.2 Structure of the Nigerian payment system

To comprehend the structure of Nigeria's payment system, it is pertinent to begin by defining a payment system. The Central Bank of Nigeria (CBN) defines the Nigerian payment system as an established infrastructure that includes institutions, people, rules, procedures, standards, and computer networks. Economic agents conduct financial transactions through this infrastructure, which combines both physical and organizational structures. This integrated setup facilitates the transfer of financial value between entities managing mutual financial obligations.

As can be seen from **Table 2**, Nigeria's payment system is structured either by its size or its components. By its size, Nigeria's payment system is structured by retail/small value systems and by large/wholesale value systems. Retail payments are the kinds of payments regular people and small businesses use, not big banks. There are three main types: cash (like coins and bills), paper-based (like checks and traveler's cheques), and paperless (like digital transfers). In Nigeria, cash is the most popular for small payments because it is safe from credit risks. Paper-based payments are less common because they can be risky due to fraud and aren't trusted as much. Paperless instruments are instruments largely

adopted as a result of the innovation brought about by the second phase of Nigeria's payment system evolutionary cycle as explained before. Here, technology is essential as the main paperless instruments include Automated Clearing House (ACHs), Automated Teller Machines (ATM), internet payments, mobile phones, Point-of-Sale (PoS) and wire transfers.

The large value payment system is primarily used for processing high-value payments by corporate financial entities. Transactions in this system are done electronically within Nigeria and are also settled in real time. Due to the transaction volume of the large payment system, disruptions could affect the domestic economy via shocks transmitted to the financial markets. Despite this, the system is utilized because of its continuous improvement, reliability, safety, cost-effectiveness, speed and accuracy. It is important to note that the large value payment system is run by the Nigeria Interbank Settlement System (NIBSS).

The NIBSS is an industry-owned firm that was established in 1993 as a non-profit intermediary between Nigerian banks. NIBSS being industry-owned means it is jointly owned by all licensed banks, discount houses and the CBN.²¹

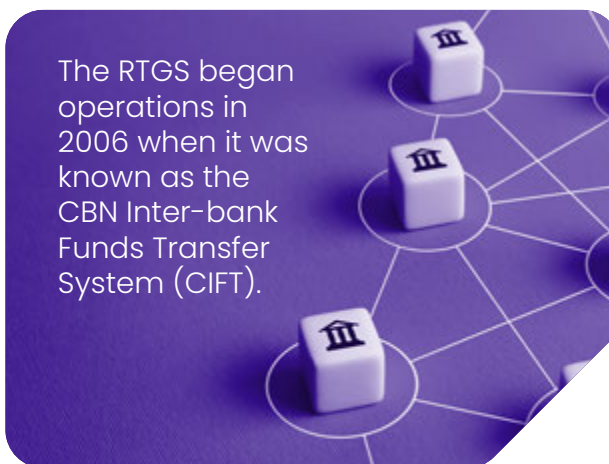
²¹ See https://fastpayments.worldbank.org/sites/default/files/2021-09/World_Bank_FPS_Nigeria_NIBSS_Case_Study.pdf

Its mandate is responsible for the back-end infrastructure which makes transfers possible, serving as a middleman that collects the money from the sender's bank and settles the money at the recipient's banks – a necessary two-step process that eliminates settlement bottlenecks.²²

The NIBSS is the central switch responsible for facilitating interoperable transactions across different players (banks, fintech, non-banks) and across platforms (mobile payments, digital platforms). As the financial hub regulator, NIBSS supports the entry of new players into the financial service industry. There are currently about sixteen (16) licensed switch companies in Nigeria. The infrastructure allowing NIBSS to function smoothly involves the Real Time Gross Settlement (RTGS) and the Society for Worldwide Interbank Financial Telecommunication (SWIFT). The RTGS began operations in 2006 when it was known as the CBN Inter-bank Funds Transfer System (CIFT).

The RTGS offer transfer services for large-value funds via the T24 CBN System. Settlement under the RTGS is finalized after payment instructions are received from settlement accounts, of the authorizing bank, with sufficient funds. Transactions carried out by the RTGS include third party funds transfer, inter-bank transfer, account balance inquiries, queue management, report generation and reconciliation. Other services offered by the RTGS include the Delivery Versus Payments (DVP) for securities settlement and the Payments Versus Payments (PVP) for foreign exchange settlements.

On the other hand, SWIFT, whose network is not domiciled in Nigeria but in Switzerland, Netherlands and the United States, was built for payments done internationally via the messaging system.²³



More recently, NIBSS began offering its merchants direct services such as e-bills pay and the NQR Payment Solution. E-bills pay is NIBSS' electronic bill payment channel which facilitates biller notification and reconciliation real-time transaction reporting.²⁴ The e-bills pay platform enables individuals and businesses to pay their bills (such as utility bills and taxes) electronically, offering a convenient alternative to the traditional payment methods. The NQR Payment Solution was established mainly for fintech companies in 2021 to offer low-cost instant value Person to Business (P2B) and Peer to Peer (P2P) transactions by scanning to pay through unifying available closed QR Code schemes.²⁵ The QR Codes contains the details relating to each transaction which would link with a customer's banking app on their smartphone.

²² See <https://redbiller.com/blog/article/the-role-of-nibss-in-the-nigerian-payment-space>

²³ See <https://www.swift.com/about-us/swift-and-data>

²⁴ See <https://nibss-plc.com.ng/e-billspay/#:~:text=An%20accessible%20and%20seamless%20account,Collections>

²⁵ See <https://www.thisdaylive.com/index.php/2021/03/18/nibss-launches-nqr-code-for-financial-services-providers>

Table 2. Structure of Nigeria’s Payment System by Size and Components. Source: CBN

Payment system by size		
Retail/Small Value	<ul style="list-style-type: none">• Currency or cash• Paper-based instruments• Paperless or electronic instruments• Real Time Gross Settlement (RTGS)• Society for Worldwide Interbank Financial Telecommunication (SWIFT)	
Large Value/Wholesale payments system – Enabled by the Nigeria Inter-Bank Settlement System (NIBSS)		
Payment System by component		
Cash	<ul style="list-style-type: none">• Currency (notes & coins)	
Non-cash	<ul style="list-style-type: none">• Inter-Bank Clearing System (Bankers Clearing House System) – introduced 1961• The Nigeria Inter-Bank Settlement System (NIBSS) – introduced 1993• The Nigeria Automated Clearing System (NACS) – introduced 2002• The New Settlement Framework – introduced 2004• The Nigeria Securities Clearing System (NSCS) & Central Securities Clearing System (CSCS)	
	<ul style="list-style-type: none">• The Nigeria Electronic Payments System. Further comprised of the following:	a. Electronic cards including e-purse, credit cards and debit cards.
		b. Internet banking
		c. Telephone banking
		d. Mobile banking

The structure of the payment system by components is divided into the cash and the non-cash component. A component in this context refers to an important layer of the Nigerian infrastructure which allows for the system as a whole to function effectively. The cash component includes the notes and coins whilst the non-cash component is further divided into six sub-components including the Inter-Bank Clearing System (Bankers Clearing House System), the Nigeria Inter-Bank Settlement System (NIBSS), the Nigeria Automated Clearing System (NACS), the New Settlement Framework, the Nigeria Securities Clearing System (NSCS) & Central Securities Clearing System (CSCS) and the Nigeria Electronic Payments System.



The first clearinghouse established by the CBN was the Lagos clearing house in 1961²⁶ to facilitate cheques clearing among banks, according to Section 41 of the CBN Act.²⁷ The CBN has defined five main stakeholders for its Bankers' Clearing System (NBCS) including the NIBSS, the Deposit Money Banks, the Clearing System Committee, Payment Service Providers (PSSP), the CBN itself and other Financial Institutions.²⁸ The NACS was launched in 2002 to respond to the bottlenecks connected with the implementation of the Magnetic Ink Character

Recognition (MICR) clearing system. The solution devised by the NACS was that it would facilitate the online processing of cheques using the Cheque Truncating and Conversion System (CTCS), and automated clearing through a mix of the MICR and the imaging technology. The seamless functioning of Nigeria's electronic payments system is attributed to the pivotal role played by the Nigerian Automated Clearing System (NACS). In 2004, the CBN also nuanced the New Settlement Framework to eliminate settlement lag for time-sensitive and high-value payments. Under this new framework, banks were categorized into settlement banks who maintain accounts with the CBN and non-settlement banks who maintain only operational accounts, such as foreign exchange and inter-bank fund transfer accounts, for limited transactions with the CBN. Non-settlement banks are also obliged by the CBN NBCS rules to clear their cheques through settlement banks.²⁹

The Nigeria Securities Clearing System (NSCS) & Central Securities Clearing System (CSCS) both operate within the securities transfer ecosystem in the country. Securities transfer includes transfers involving debt service and money market

²⁶ See <https://www.cbn.gov.ng/out/2017/ccd/central%20banking%20at%20a%20glance.pdf>

²⁷ See <https://www.cbn.gov.ng/out/publications/bsd/1991/cbnact.pdf>

²⁸ See [https://www.cbn.gov.ng/Out/2018/BPSD/Revised%20Nigeria%20Banker%27s%20Clearing%20System%20Rules%20\(2018\).pdf](https://www.cbn.gov.ng/Out/2018/BPSD/Revised%20Nigeria%20Banker%27s%20Clearing%20System%20Rules%20(2018).pdf)

²⁹ See [https://www.cbn.gov.ng/out/2017/bpsd/exposure%20draft%20for%20nigerian%20clearing%20system%20rules,%202016%20\(revised\).pdf](https://www.cbn.gov.ng/out/2017/bpsd/exposure%20draft%20for%20nigerian%20clearing%20system%20rules,%202016%20(revised).pdf)

instruments supervised by the Nigerian Stock Exchange. The CSCS evolved in 1997 after the internationalization of the Nigerian Stock Exchange and serves as an online securities trading system that facilitates the electronic settlement of FGN development stocks, industrial loan stocks, preference stocks and equities between stockbrokers and customers. The settlement of the CSCS system is possible through the in-house CSCS clearing system and the Nigerian Stock Exchanges' central communication network. Finally, the Nigerian Electronic Payments System involves the non-paper technology payment instruments such as credit and debit cards, internet banking, telephone banking and mobile banking.

The Private Sector in Nigeria's Payment Structure

Outside the CBN, other important stakeholders that ensure the stability of Nigeria's payment system include the Nigerian Inter-Bank Settlement System (NIBSS), the Nigerian Stock Exchange, banks, discount houses, payment service providers and switching companies.

Payment service providers are divided into five main categories by the CBN.³⁰ They include the card payment schemes, the mobile money operators, switching and processing companies, payment solution services (PSS) and payments service holding companies (see **Figure 7**).

Figure 7. Function of PSPs

FUNCTIONS OF PAYMENT SERVICE PROVIDERS

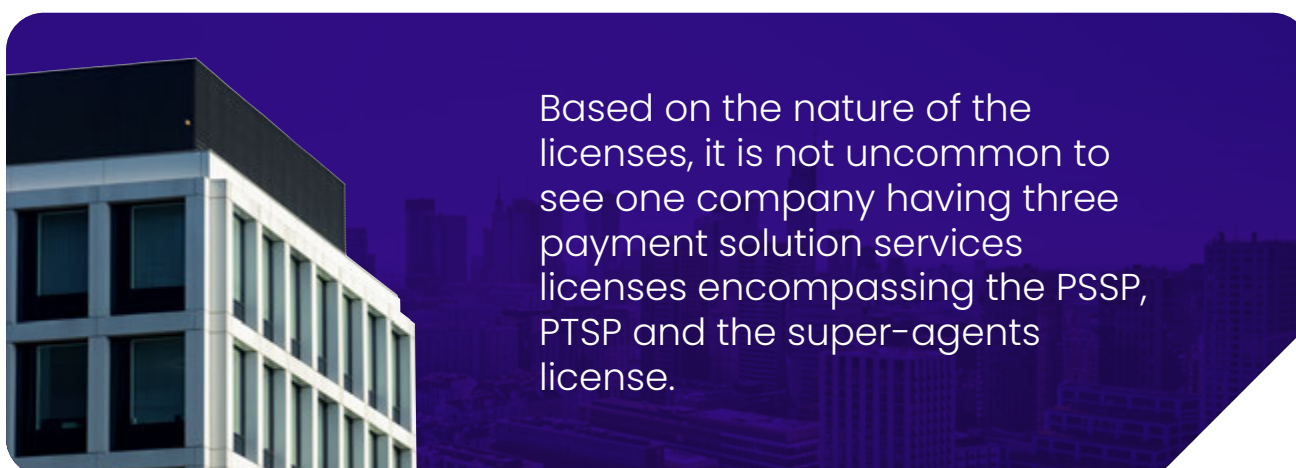
1. Card/Payment Scheme Operators are entities in charge of designing and operating payment systems, like credit card networks. They establish rules and standards for transactions within their network, managing processes for debit, credit, and prepaid card transactions.
2. Mobile Money Operators are companies offering financial services via mobile devices, enabling users to store, send, and receive money, pay bills, etc. These operators facilitate diverse financial transactions through mobile phones, such as money transfers, bill payments, and occasionally savings or loans.
3. Switching & Processing Operators are operators facilitating the secure and efficient routing of electronic payment transactions among various entities. They act as intermediaries, directing transactions between banks, merchants, and other financial institutions, ensuring smooth transfers between payers and payees.
4. Payment Solution Service Providers (PSSP) are providers offering comprehensive electronic payment solutions, including software and platforms for online, mobile, and electronic transactions. This category encompasses companies providing services such as e-wallets, online payment gateways, and merchant aggregation platforms.

³⁰ See **Appendix B** for a list of all licensed payment service providers in Nigeria.

5. Payment Terminal Services Providers (PTSP) are entities offering services related to payment terminals, the devices used for payments through cards or other electronic means. PTSPs may handle maintenance, deployment, and other services associated with these physical devices, such as Point-of-Sale (POS) terminals and Automated Teller Machines (ATMs).
6. Super-Agent Operators are intermediaries in the distribution of financial services, particularly in mobile money or electronic payment systems. Super-agents broaden the reach of financial services by collaborating with agents at the grassroots level. They serve as master agents managing networks of smaller agents in rural or under-served areas.
7. Payments Service Holding Operators are holding companies that own or control various entities involved in payment services, such as banks, mobile money operators, or PSSPs. These operators own subsidiaries or affiliates specializing in different aspects of the payment ecosystem, creating a diverse portfolio within the payment services sector.

The PSS is further divided into three: payment solution service providers (PSSP), payment terminal services providers (PTSP) and the super-agents. Examples of PSSPs include OnePipe, Kora, and Flutterwave. Nomba, Computer Warehouse Group, and 3Line Card Management are examples of PTSPs, While super-agents include companies like 5554 Technologies, Capricorn Digital, and Clane Company.³¹ In all, **Table 3** shows that payment

service providers are the most well-known system players for the ordinary Nigerian with as many as 75 PSSP companies operating in the country. Based on the nature of the licenses, it is not uncommon to see one company having three payment solution services licenses encompassing the PSSP, PTSP and the super-agents license. In fact, there are about 14 of such companies in Nigeria as can be seen from **Figure 8**.



³¹ You can refer to **Appendix B** to view the full list of all licensed payment service providers in Nigeria.

Figure 8. The 14 Nigerian companies with PSSP, PTSP & Super-Agents Licenses



More so, depending on company size, they might have more than three licenses. For instance, Interswitch has a card payment scheme license via Verve International; they also act as a switching and processing company, a super-agent company and the only licensed payment service holding company in the country.

This is not just a testament of Interswitch' behemoth nature but also of their relevance when it comes to providing the needed infrastructure to make payment transactions smoother even as a private company who started operations since the first evolutionary phase of Nigeria's payment system in 2002.

Table 3. Official list of number of licensed Payment Service Providers by CBN. *Source:* CBN

Payment Service Provider Category	Number of Companies Operating
Card/Payment Scheme	8
Mobile Money Operators	17
Switching & Processing	16
Payment Solution Service Providers (PSSP)	75
Payment Terminal Services Providers (PTSP)	36
Super-Agent	47
Payments Service Holding	1

Overall, the main goal of Nigeria's payment system is to ascertain that the country's financial system works without backlogs. This allows transactions to be carried out effectively as a result of existing infrastructure and also ensures transactions occur instantly with minimal risks. It is this goal and vision that has pioneered the developments of Nigeria's payment infrastructure and ecosystem from its first evolutionary phase to the present state.

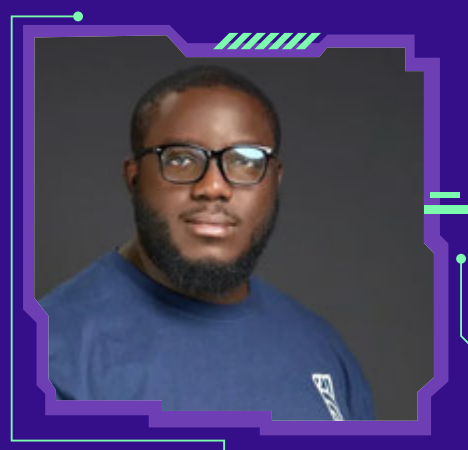
Role of the CBN in Nigeria's Payment Structure

The CBN has four main roles it plays in Nigeria's payment system. These include:

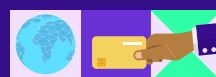
Financial intermediation: Deposit Money Banks (DMBs) act as financial intermediaries by ensuring funds are available to economic agents. The intermediation in this role is facilitated by the transfer of value from the payer/depositor to the payee/receiver of funds. In this way, the payment system becomes the vehicle whereby liquidity and credit are moved from one economic agent, in the financial system, to another.

Transaction settlement: The payment system aids in speeding up both the exchange and settlement of securities and funds. In Nigeria, two settlement techniques used by the CBN include the Real-Time Gross Settlement System (RTGS) and the Deferred Settlement (Netting) System.

"The key metrics employed to gauge growth encompass three major aspects: the influx of new customers, the total volume of transactions, and the revenue generated. Additionally, internal protocols delve into the profitability metrics, including the total value of transactions processed on the platform. Kora's growth analysis revolves around five crucial points: new customer acquisition, transaction volume, revenue growth, profitability, and the total value of transactions. By scrutinizing these facets, the company gains a comprehensive understanding of its performance and sustainability."



Ayodeji Osisami
CFO, Kora



The third role is that of minimizing risks, such as fraud or cybersecurity threats, which tend to be involved in the transfer of monetary value from one economic agent to the other (see Figure 4). The introduction of the BVN and NUBAN as previously explained, for example, are proactive measures implemented by the CBN to curb such risks involved in the transfers of money between different economic agents.

The final role is that the payment system plays a crucial role in fostering monetary stability by offering a robust framework for financial transactions. Through seamless and integrated processes, it diminishes reliance on cash transactions, particularly for large-scale payments, thereby reducing the need for extensive currency minting. This, in turn, helps moderate inflation by limiting the amount of cash in circulation. Furthermore, the CBN assumes a pivotal role in regulating the payment system, ensuring its smooth operation and contributing to overall financial stability within the country.

Challenges facing Nigeria's Payment Structure

Despite the clear and formidable structure of Nigeria's payment system, there are five main challenges that confront the system. The first challenge is that the Nigerian economy remains a cash economy despite the efforts of both the PSV2020 and PSV2025. Secondly, though there has been improved progress in the payment system infrastructure, it has still not done enough to allow for a smooth enough functioning of electronic payments which is devoid of delays or even high transaction costs. Thirdly, fraudulent schemes and sharp practices still abound in the payment system including cloned cheques to paying banks, intentional misdirections and delivery errors of clearing instruments.

Fourth, adoption of electronic payments is not as high as it should be due to the frequency of distress in the banking system, which affects the public confidence in both banks and financial institutions. Finally, there are challenges associated with e-payments including the low level of literacy, the low level of banking habit, poor service delivery and lack of accessibility to e-payment platforms by many Nigerians.

1.3 Major Payment Methods and Channels

Payment methods are an integral component of the payment system and they are defined by the already existing payment structure as can be seen from **Table 2**.³²

The growth of Nigeria's payment methods is testament to the effectiveness of the CBN's PSV2020 and PSV2025 drive. To put the growth of some of Nigeria's major payment methods into proper perspective, as at 2012 when PSV2020 and the cashless policy was commencing in the ecosystem, ATM transactions in Nigeria had a total payment value of 1,98 trillion Naira whilst Online/Web Transfers payment value in the same year was just 31,57 billion Naira.³³

Just ten years later, in 2022, ATM transactions payment value was 32 trillion Naira whilst that of Online/Web transfers had skyrocketed to 783,6 trillion Naira (see Figure 9).

The major payment methods and channels in Nigeria are generally enabled by the CBN and the Nigeria Interbank Settlement System (NIBSS). The major payment methods and channels can be distinguished either by their transaction value or volume. As at 2022, the three major payment methods and channels by transaction value include (see **Table 6**):

1. Online/Web transfers which had a transaction value of 783,6 trillion Naira.
2. NEFT transfers which had a transaction value of 477,4 trillion Naira.
3. NIP transfers which had a transaction value of 387.1 trillion Naira.

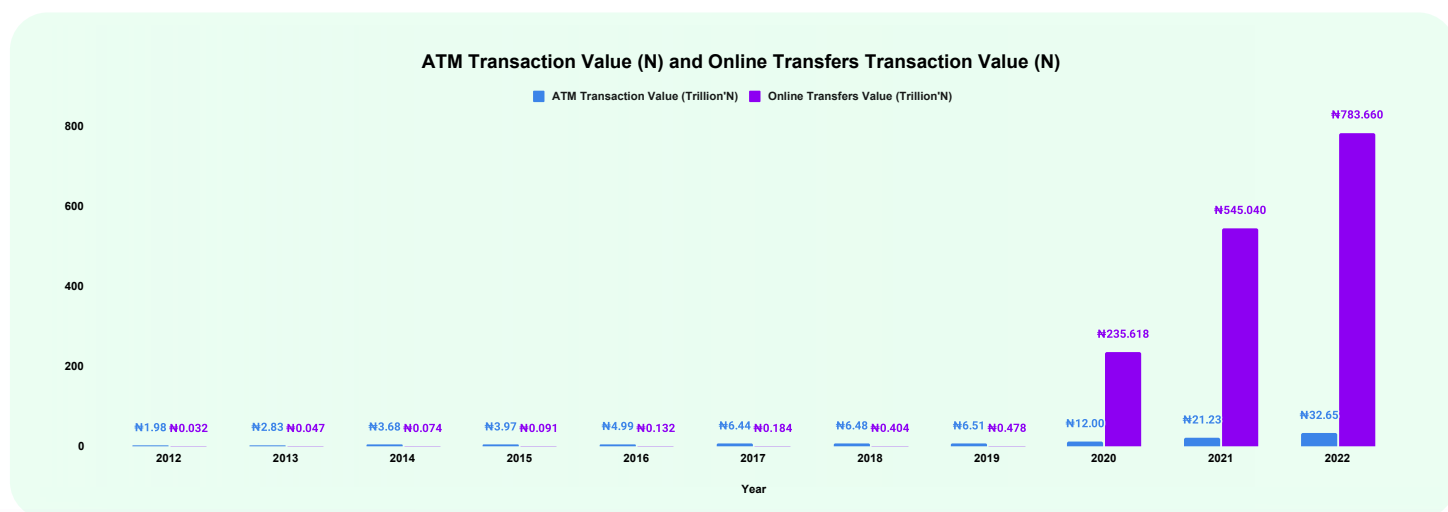
By transaction volume size, the major payment methods and channels by transaction volume in 2022 were:

1. Online/Web transfers which had a transaction volume of 14,1 trillion.
2. Mobile app transfers which had a transaction volume of 1,9 trillion.
3. USSD transfers which had a transaction volume of 516,9 billion.

³² See <https://www.cbn.gov.ng/out/2022/mpd/series%206.pdf>

³³ See <https://www.cbn.gov.ng/Paymentsystem/ePaymentStatistics.asp>

Figure 9. ATM & Online Transfers Transaction Value (2012 – 2022)



1.4 Major players and newcomers

Knowing the major players in Nigeria's payment system is important as it allows us to understand the size of the ecosystem and the economic agents properly defining the trends in the space. For the purpose of this report, analyzing the major players are divided into the **Payment Service Providers players**, the **Payment Component players** (which are more institutional and infrastructure based) and the **International Transfer players**. This separation allows us to properly analyze the institutional players from the profit-driven players. As already discussed in the previous section, the NIBSS, the CBN and the CSCS are the main components necessary to enable the Nigerian payment system as a whole. For this reason, their influence will be highlighted more in subsequent sections and not here. The two categories to be highlighted here are the Payment Service Providers and the International Transfer players.

The Payment Service Providers category players involve the licensed companies

under the seven categories as shown in **Table 3**. The biggest card payment companies in Nigeria by market share in 2021 were Verve International, Mastercard and Visa respectively.³⁴ In 2021, 35.5% of Nigerians above the age of 15 had a debit card with Verve claiming to issue around 35 million active payment cards in 2022 (see Figure 10).^{[35][36]}

The biggest mobile money operators include Opay, Palmpay and Pagatech both according to the amount of users and app downloads on Google Play. Opay has about 30³⁷ million users while Palmpay and Pagatech have about 25³⁸ million and 4³⁹ million users respectively. Team-pApt (Moniepoint) with \$100 billion⁴⁰ in 2022 transactions is the biggest Switching & Processing platform. eTranzact with annual transaction value of 50 trillion naira (\$34.5 billion⁴¹)⁴² is the second biggest Switching & Processing player. It is followed by Flutterwave with \$9⁴³ billion.

³⁴ See https://www.fisglobal.com/-/media/fisglobal/files/campaigns/global-payments%20report/FIS_TheGlobalPaymentsReport_2023.pdf

³⁵ See <https://genderdata.worldbank.org/indicators/fin2-t-a/?gender=total>

³⁶ See <https://www.vanguardngr.com/2022/03/nigerians-account-for-over-35-million-vervecards/>

³⁷ See

<https://techpoint.africa/2023/04/20/customers-applaud-opay-say-brand-is-reliable-network-uptime-top-notch/>

³⁸ See <https://techpoint.africa/2023/06/29/palmpay-25m-users-savings-plan/>

³⁹ See <https://acumen.org/?investment=pagatech>

⁴⁰ See <https://nairametrics.com/2023/08/31/e-payment-moniepoint-hits-12-billion-monthly-transaction-value/>

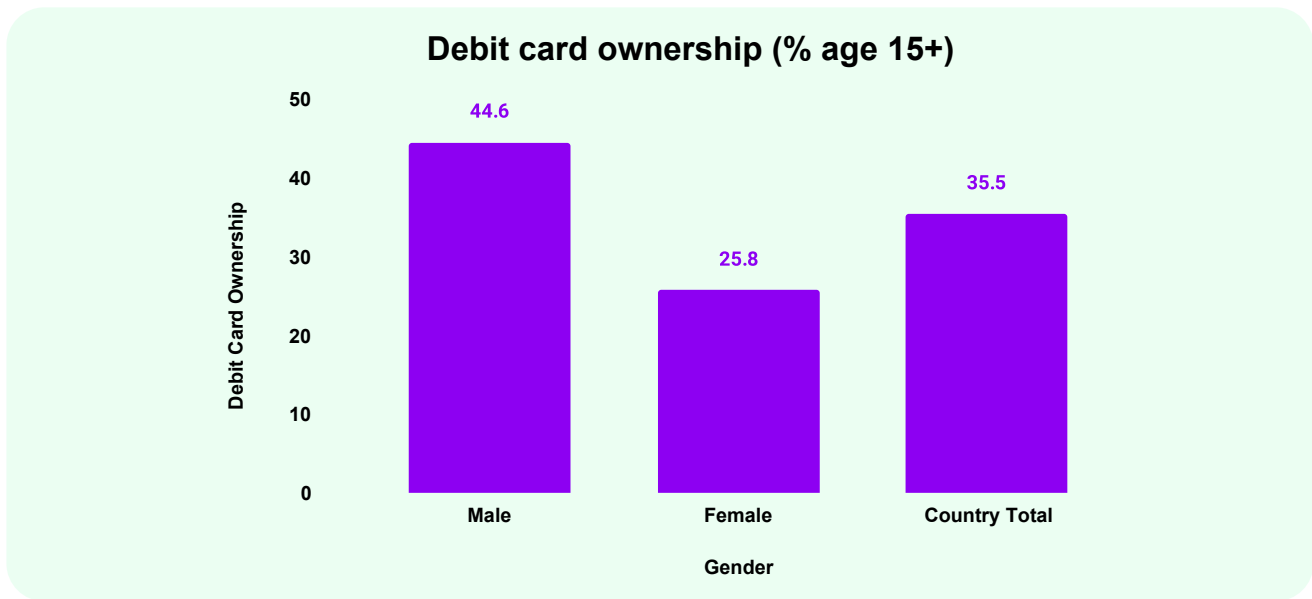
⁴¹ At FX 1450 naira/\$.

⁴² See

<https://www.tekedia.com/etranzact-releases-2022-financial-report-completed-transactions-worth-n50-trillion-in-value/#:~:text=eTranzact%20Releases%202022%20Financial%20Report%2C%20Completed%20Transactions%20Worth%20N50%20Trillion%20in%20Value,-July%2025%2C%202023&text=Nigerian%20technology%20company%20that%20provides,N39%20trillion%20processed%20in%202021.>

⁴³ See <https://research.contrary.com/reports/flutterwave>

Figure 10. Debit Card Ownership. Source: Worldbank.⁴⁴



Also important to mention under the Switching & Processing category is Inter-switch which processed 2.7 billion transactions in 2019, higher than most players in its same category.⁴⁵ As mentioned earlier, the license of the PSSP, PTSP and Super Agent categories can be obtained together with an escrow of 250 million naira, making it common for different companies to have licenses across the three categories as can be seen in **Table 3** and **Appendix B** with the 14 companies already mentioned.⁴⁶ For PSSP players, Nomba, Fluttwerwave and Appzone lead with \$1⁴⁷ billion in monthly transactions, \$9 billion in transactions and \$2⁴⁸ billion in transactions respectively. Nomba, Wi-Pay and Computer Warehouse Group are the

biggest PTSP players with Wi-Pay and Computer Warehouse Group transacting over \$3⁴⁹ million and 1.7⁵⁰ billion naira respectively.

Super-agents are perhaps one of the most popular payment providers as they are the ones directly “on the ground” with ordinary Nigerians. Kippa, which processes \$3 billion transactions with over 500,000⁵¹ agents, MTN’s MoMo with over 700,000⁵² agents and Nomba with over 300,000⁵³ agents are the most important players in the super-agent category. Inter-switch is the only company with the payments service holding license, making its role and dominance uncontested.

⁴⁴ See <https://genderdata.worldbank.org/indicators/fin2-t-a/?gender=total>

⁴⁵ See <https://interswitchgroup.com/new-milestone-alert-over-1-2-billion-transactions-processed-in-a-single-month-through-thewswitch>

⁴⁶ See <https://www.cbn.gov.ng/out/2021/ccd/approved%20new%20licence%20categorization%20requirements%20consolidated%20-%202021.pdf>

⁴⁷ See <https://techcrunch.com/2023/05/02/african-payment-service-provider-nomba-raises-30m-backed-by-basel0-partners-and-shopify/>

⁴⁸ See <https://www.crunchbase.com/organization/appzone>

⁴⁹ See <https://www.thisdaylive.com/index.php/2016/11/10/wi-pay-secures-intl-money-transfer-operations-approval>

⁵⁰ See <https://afx.kwayisi.org/ngx/cwg.html>

⁵¹ See <https://nairametrics.com/2022/09/09/kippa-obtains-super-agent-banking-licence-from-central-bank-of-nigeria/>

⁵² See <https://paystack.com/blog/operations/mtn-payment-service-bank-license>

⁵³ See <https://techcrunch.com/2023/05/02/african-payment-service-provider-nomba-raises-30m-backed-by-basel0-partners-and-shopify/>

Table 4. Major Payment Service Providers Players

Category	Measurement	Major Players
Card Payment Scheme (by Market Share)	Market Share	<ul style="list-style-type: none"> • Verve International • Mastercard • Visa
Mobile Money Operators (by number of users)	Number of users	<ul style="list-style-type: none"> • Opay • Palmpay • Pagatech
Switching & Processing Licenses	Transactions	<ul style="list-style-type: none"> • eTranzact • TeamApt (Moniepoint) • Flutterwave • Interswitch
Payment Solution Service Providers (PSSP)	Transactions	<ul style="list-style-type: none"> • Nomba • Flutterwave • Zone
Payment Terminal Services Providers (PTSP)	Transactions & Merchants	<ul style="list-style-type: none"> • Nomba • Wi-Pay • Computer Warehouse Group
Super-Agent	Agents	<ul style="list-style-type: none"> • MTN's MoMo • Kippa • Nomba
Payment Service Holding Licenses	Transactions	<ul style="list-style-type: none"> • Interswitch

When it comes to the international players, **Appendix C** shows us an interesting story not by value of transactions but by local presence. That is, companies registered in both Lagos and the United Kingdom are the most influential players in the country. This is because Lagos is Nigeria's commercial capital, and the United Kingdom, especially, London where a lot of the

headquarters are, is one of the world's financial capital as well. Local companies like eTranzact, Flutterwave, Interswitch are by far the biggest players as already seen from **Table 4** above, based on the value of foreign currencies being processed through their platforms. Other foreign but locally registered companies like Moneygram who partner with about 15⁵⁴ local

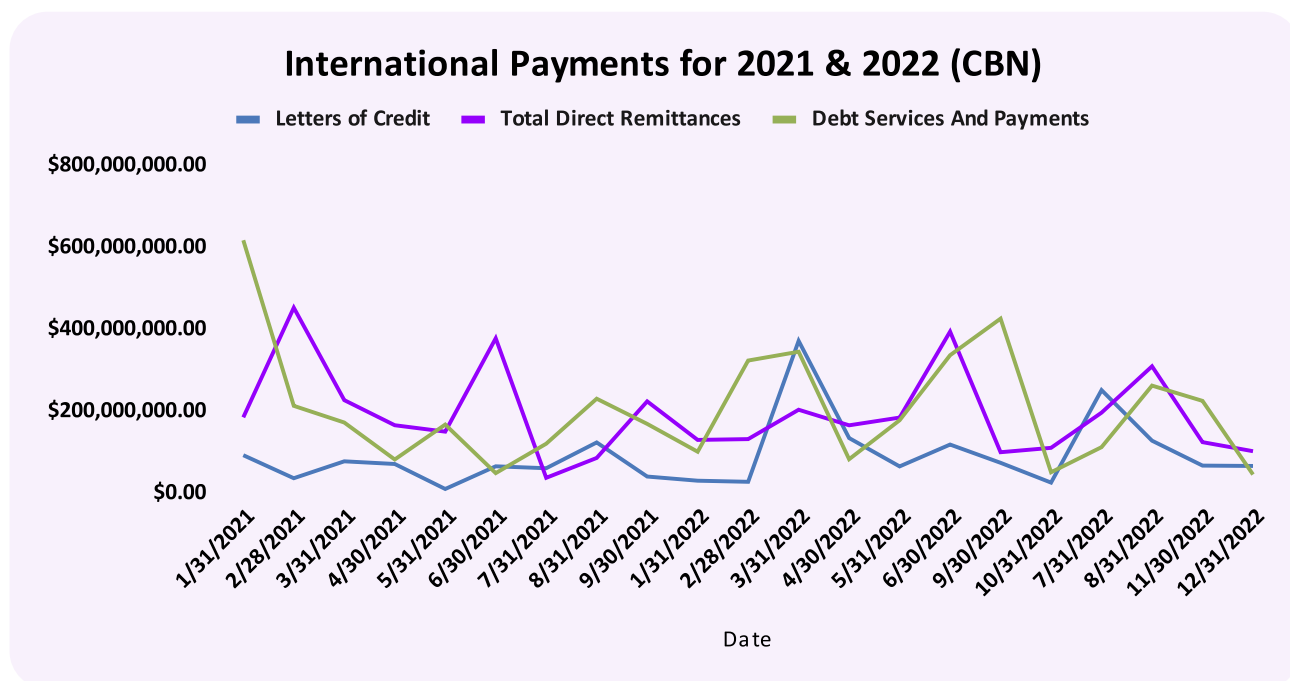
⁵⁴ See <https://moneygram.com.ng/>

DMBs are also big players but not as big as the locally founded international players. The rise of online transfers however makes other foreign, non-domiciled companies, important players in the international transfer ecosystem.

The biggest foreign players recognized by the CBN include Paypal, Remitly, Western Union and Worldremit. Though these companies normally come with higher cost, making them shunned by Nigerians who opt for local options, their role is still relevant as international trade and debt services are still the main reasons for which international payments are made (see **Figure 11**).

The reason why online transfers, as we will soon see in the sections below, are high but do not reflect in the international payments is because the online transfers are domestic and not international. This means that Nigerians are increasingly buying online within Nigeria and not outside Nigeria. This might be because of the restrictions imposed by the CBN due to the foreign exchange crunch, making DMBs limited in how much dollars they allow their customers to use online.⁵⁵ Though alternatives like Flutterwave's 'Send' made a buzz, the reality is that the fees are too expensive for the ordinary Nigerian to be accustomed to shopping internationally using such platforms.

Figure 11. Nigeria's 2021 & 2022 International Payment Trend. *Source:* CBN.⁵⁶



⁵⁵ See <https://www.premiumtimesng.com/news/top-news/517128-more-nigerian-banks-limit-foreign-currency-spending-on-naira-cards.html>

⁵⁶ See <https://www.cbn.gov.ng/Intops/payments.asp>

1.5 The newcomers

Analyzing newcomers in Nigeria's payment system is interesting to note on two accounts. The first reason is that existing industry players are actively participating in evolving payment trends, through the creation of subsidiaries and spinoffs. The second reason is that the payment system in Nigeria is proactively being defined by a virtuous circle led by private enterprise innovations. In 2021, Sterling Bank launched its non-interest bank subsidiary named the Alternative bank. The Alternative bank aims to go away from the "boring" traditional banking into the more modern one where they "design solutions that tailor individual needs."⁵⁷ "This was a way for Sterling bank to officially put some stake into the current fintech ecosystem.

From 2021, we saw this trend emerge from Tier 1 Nigerian banks, with newcomers emanating as subsidiaries. Stanbic IBTC did the same with ZEST Payments Limited⁵⁸; GTB with Squad by HabariPay⁵⁹; Accessbank with Hydrogen Payments⁶⁰ with all three launching in 2022.

We have also seen mobile communications industry players venturing into the payments ecosystem with MTN's Mobile Money (MoMo)⁶¹, Airtel's SmartCash Payment Service Bank (PSB)⁶², and Globacom's MoneyMaster⁶³ PSB joining 9 mobile's 9PSB and Hope PSB⁶⁴ to make it five existing PSB's in Nigeria.⁶⁵



The Alternative bank aims to go away from the "boring" traditional banking into the more modern one...

⁵⁷ See <https://altbank.ng/who-we-are/>

⁵⁸ See <https://technext24.com/2023/08/22/stanbic-ibtc-fintech-subsiary-as-zest/>

⁵⁹ See <https://www.premiumtimesng.com/business/business-news/534451-gtco-gets-cbns-nod-for-payments-unit-habaripay.html>

⁶⁰ See <https://www.premiumtimesng.com/news/top-news/568321-access-holdings-sets-up-new-subsiary-hydrogen.html>

⁶¹ See <https://techcabal.com/2023/06/07/one-year-after-its-launch-mtns-momo-still-needs-to-reach-more-nigerians/>

⁶² See <https://www.premiumtimesng.com/news/headlines/530974-airtel-launches-nigeria-payment-service-bank-unit-smartcash-psb.html>

⁶³ See [https://leadership.ng/globacom-rolls-out-payment-service-bank-to-enhance-financial-inclusion/#:~:text=Globacom%20Rolls%20Out%20Payment%20Service%20Bank%20To%20Enhance%20Financial%20Inclusion,-Written%20by%20Leadership&text=Globacom%20has%20rolled%20out%20its,Bank%20of%20Nigeria%20\(CBN\).](https://leadership.ng/globacom-rolls-out-payment-service-bank-to-enhance-financial-inclusion/#:~:text=Globacom%20Rolls%20Out%20Payment%20Service%20Bank%20To%20Enhance%20Financial%20Inclusion,-Written%20by%20Leadership&text=Globacom%20has%20rolled%20out%20its,Bank%20of%20Nigeria%20(CBN).)

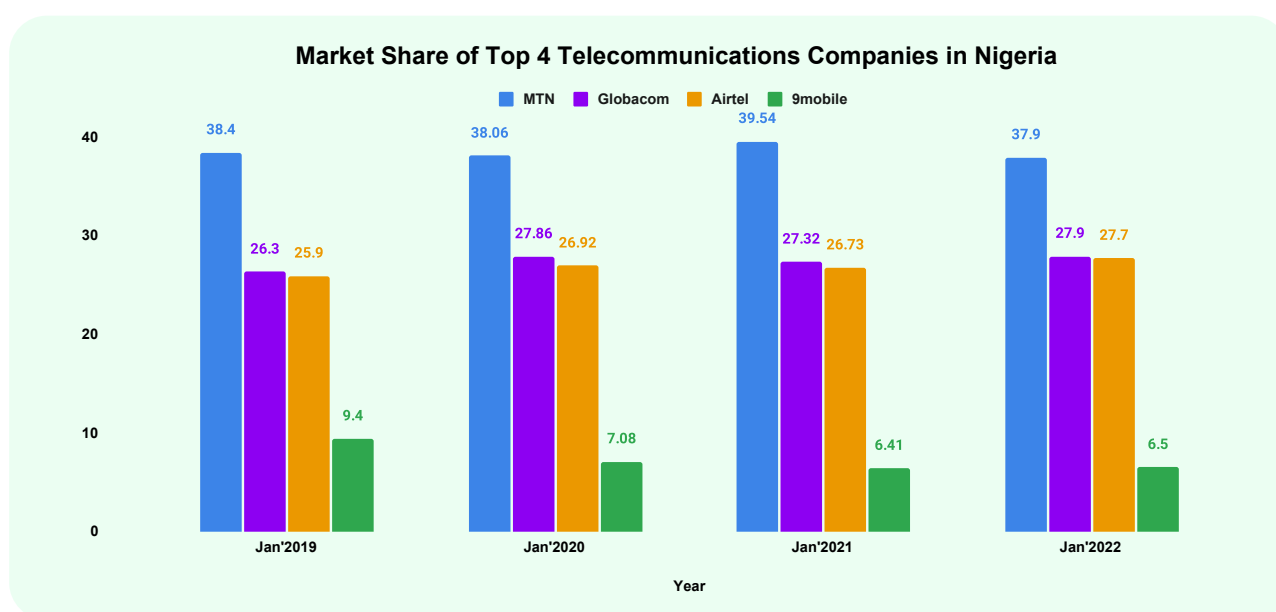
⁶⁴ See <https://www.premiumtimesng.com/news/headlines/530974-airtel-launches-nigeria-payment-service-bank-unit-smartcash-psb.html>

⁶⁵ See <https://www.premiumtimesng.com/promoted/427941-hope-psbank-to-deliver-digital-banking-experience-to-customers.html>

All five PSBs vocally claim to help promote financial inclusion of Nigerians, as is the goal of the CBN under both PSV2020 and PSV2025. Besides Hope PSB, the introduction of PSB's by Nigeria's top four telecommunications providers, accounting for 100% of the entire industry according to Statista in 2022 (see **Figure 12**)⁶⁶, makes it clear that both DMBs and telecommuni-

cations players are developing new products and creating corporate subsidiaries to have a share in Nigeria's evolving payment system. Other newcomer licenses issued by the CBN in 2021 and 2022 can be seen in **Table 5**. Three new non-interest banks and commercial banks were approved to begin operations by the CBN since 2021.

Figure 12. Nigeria Top 4 Telecommunications Companies. *Source:* Statista.



For the CSCS, the NGX's 2021 All Stock Index (ASI) opened the year with a market capitalization of 21.52 trillion Naira and ended the year with a market capitalization of 22.30 trillion Naira. When it comes to the newcomers under the CSCS as reported by the CBN's 2021 annual activity report, new listings include Briclinks Africa PLC (BAPLC), LASACO Assurance Plc, Nigerian Exchange Group Plc, Ronchess Global

Resources Plc, and AXA Mansard Investment Limited.⁶⁷ In 2022, the All Stock Index (ASI) opened the year with a market capitalization of 23.18 trillion and closed the year with a market capitalization of 27.91 trillion naira.⁶⁸ New listings according to the CBN 2022 activity report included the listing of company equities including Access HoldCo, eTranzact International Plc, and Geregu Power Plc.

⁶⁶ See <https://www.statista.com/statistics/671676/mobile-subscription-share-in-nigeria-by-operator/#:-:text=Share%20of%20mobile%20subscriptions%20Nigeria%202019%2D2022%2C%20by%20operator&text=During%20the%20period%20from%20January,with%20around%2028%20percent%20each./>

⁶⁷ See <https://www.cbn.gov.ng/out/2022/fmd/2021%20financial%20markets%20annual%20activity%20report.pdf>

⁶⁸ See [https://www.cbn.gov.ng/Out/2023/FMD/Financial%20Markets%20Department%20-%202022%20Annual%20Activity%20Report%20\(1\).pdf](https://www.cbn.gov.ng/Out/2023/FMD/Financial%20Markets%20Department%20-%202022%20Annual%20Activity%20Report%20(1).pdf)

Table 5. Newcomers into Nigeria's payment ecosystem 2021 & 2022. *Source:* CBN.⁶⁹

Type of Financial Institution	Name of enterprise	Date Licensed
Payment Service Bank	MoMo Payment Service Bank	2022
Payment Infrastructure	Zone (formerly AppZone)	2022
Non-Interest Bank	Jaiz Bank Plc	2021
	Lotus Bank Ltd	2021
	Alternative Bank Limited	2023
Finance Company	Centrum Finance Company Limited (formerly ALC Finance Limited)	2023
Commercial Bank	Globus Bank Limited	2021
	Parallex Bank Ltd	2021
	Premium Trust Bank	2021

In 2022⁷⁰, some new funds were introduced in Nigeria including: Aidi fund with a size of \$1.5 million, Aruwa Capital Management with a fund size of \$20 million, Atlantica Ventures with a fund size of \$23.8 million, Convergence Partners with a \$20 million fund size, Future Africa/TLG Capital with a \$25 million fund size, Loftyinc Capital with a fund size of \$14.3 million, Microtraction with a \$15 million fund size, Ventures Platform and Zedcrest Capital with fund sizes of \$46 million and \$10 million respectively.

The deployment of these new funds ensure that startups and businesses in the country develop improved products for customers and also to improve the ecosystem.

When it comes to the Buy Now Pay Later category (BNPL), important newcomers were introduced in both 2021 and 2022. Credpal, a BNPL company, raised \$15 million in 2022, allowing it to expand its services to more customers.⁷¹



The crypto space also experienced some newcomers including Busha who received \$600 thousand and another \$4.2 million seed funding in 2021.

⁶⁹ See <https://www.cbn.gov.ng/supervision/fstitutions.asp>

⁷⁰ See <https://briterbridges.com/africa-investment-report-2022-by-briter-bridges>

⁷¹ See <https://techcabal.com/2022/03/29/bnpl-credpal-secures-15m/>

Other BNPL companies like Kenya's M-KOPA expanded to Nigeria in 2021⁷² while Nigeria's Klump raised \$780 thousand in pre-seed funding.⁷³ Fairmoney also acquired PayForce, another lending company, to extend its core services to the BNPL category.⁷⁴ Caborn likewise released its Carbon Zero product that allows its users to pay for products they want much later.⁷⁵ The crypto space also experienced some newcomers including Busha⁷⁶ who received \$600 thousand

and another \$4.2⁷⁷ million seed funding in 2021. Buycoin also changed structure under its new Helicarrier cryptocurrency parent company where it now includes new products including Desk and Send-cash.⁷⁸ They join the ranks of other cryptocurrency and blockchain platforms like Zone and Paychant who have led the infrastructural development of Nigeria's blockchain payments ecosystem.

⁷² See <https://techpoint.africa/2021/07/13/mkopa-appoints-duroshola-general-manager/>

⁷³ See <https://old.disruptafrica.com/2022/03/11/nigeria-buy-now-pay-later-startup-klump-raises-780k-pre-seed-funding/>

⁷⁴ See <https://techcrunch.com/2023/03/14/nigerian-credit-led-fintech-fairmoney-acquires-payforce-in-retail-merchant-banking-play/>

⁷⁵ See <https://nairametrics.com/2023/04/26/carbon-launches-new-transfer-feature-for-its-carbon-zero-buy-now-pay-later-customers/>

⁷⁶ See <https://techcabal.com/2021/12/01/payourse-secures-600k-pre-seed/>

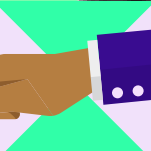
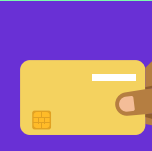
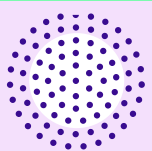
⁷⁷ See <https://techcabal.com/2021/11/23/busha-secures-seed-funding/>

⁷⁸ See <https://helicarrier.studio/>

1.6 Interview with Lendsqr CEO/Founder, Adedeji Olowe

ADEDEJI OLOWE

Founder & CEO,
Lendsqr and Trustee,
Open Banking Nigeria



Q: You have had experience of the finance industry since 2002, even before the CBN began its Payment System Vision 2020 in 2006/7. You have also grown in the industry, going from tier 1 banks to fintech startups to board memberships. In your evolution as a leader in the fintech space, what components of the payment system do you think was the most influential in bringing Nigeria to its current position?

When reflecting on the key drivers that significantly impacted the fintech landscape in Nigeria, several milestones emerge as crucial pillars of influence. Firstly, USSD technology played a transformative role by enabling banks to reach customers ubiquitously, particularly those in underserved areas, without the necessity of a debit card or internet banking. The trailblazers in this realm were GTBank with 737, followed by Fidelity Bank's 770.

Subsequently, First Bank and UBA adopted USSD technology two years later.

Secondly, the advent of the Bank Verification Number (BVN) marked a foundational shift. This unique identifier empowered individuals to engage in mass-market online products securely, allowing fintech platforms to authenticate users effectively. Notably, Sanusi Lamido and bank CEOs invested a substantial \$60 million to establish the BVN, a noteworthy commitment both then and now.

The third pivotal development was the introduction of debit cards, granting people the ability to enter a bank, obtain a card, and commence transactions. Special recognition is due to App Zone for making this functionality available, though their contributions might not always receive the recognition they deserve within the industry.

Finally, the fourth influential factor is the evolution of agency banking. While the concept existed previously, Moniepoint and Palmpay emerged as key architects, scaling and enhancing its functionality to make a more significant impact on financial services accessibility.

Q: After working in the industry for a long time and also being a board member of Interswitch, you finally decided to start Lendsqr. Why did you choose the lending ecosystem, out of the many options you could have chosen? What insights did you have leading to that choice?

The realm of payments has undoubtedly seen commendable advancements, yet credit stands out as a transformative enabler. The ability to facilitate credit empowers individuals to grow and embark on ventures that might otherwise remain unrealized. For instance, envision a group of young individuals aspiring to launch a Substack-like platform. With access to small funding, they could acquire essential tools such as cameras and podcasting devices, potentially transforming their modest investment into a million-dollar content creation endeavor.

Rather than opting to be a direct lender, I contemplated a more impactful role – constructing a technology infrastructure that lenders could leverage.



ADEDEJI OLOWE
Founder & CEO,
Lendsqr and Trustee,
Open Banking Nigeria

While bootstrapping is acknowledged as a viable approach, it often represents an exception in the business landscape. Many individuals require some form of credit to kickstart their entrepreneurial journey, pursue education, acquire their first vehicle, build their initial residence, or stock their business shelves. The infusion of credit has the potential to set numerous positive events into motion. It was this belief that inspired the creation of Lendsqr.

Rather than opting to be a direct lender, I contemplated a more impactful role – constructing a technology infrastructure that lenders could leverage. This approach stemmed from the conviction that fostering an ecosystem where technology supports lenders would yield more significant benefits. I always tell people, AWS has done more for startups than any VC has done for startups because AWS made it possible for startups to showcase something that the investors can even invest in.

Q: Based on your experience in the industry, what kinds of concerns and interests do you think different stakeholders (government such as CBN, institutional such as NIBSS, and private ones such as fintech startups) hold when it comes to regulation?

Navigating the priorities of the Central Bank of Nigeria (CBN) can be a challenging task, with shifts in directives and policies leaving stakeholders uncertain. **The need for enhanced leadership within the CBN is underscored, as past periods of effective leadership seem to have waned.** While it's acknowledged that the CBN contends with multifaceted issues, including managing money supply in the economy, the significance of payments in influencing economic dynamics should not be overlooked.

A pivotal aspect of economic activity is the ease of payments. When payment processes are streamlined, instilling confidence in users that proper procedures are in place, consumer spending is positively impacted. This is evident in the flourishing online commerce and USSD transactions, driven by the trust people have in these payment systems. **To further fortify the payment landscape, addressing the pervasive issue of fraud is paramount.** I don't think the payment industry has touched up to 10% of what is potentially possible in Nigeria.

While traditional card-based transactions may be losing prominence, there are avenues for revitalization, such as embracing contactless payments. The potential of contactless payments to revolutionize commerce is enormous. Additionally, improvements to the QR code standard is essential. Enhancements in QR technology can lead to faster and more seamless transactions, akin to the efficiency of contactless payments. The suggested QR code upgrades involve capturing user details and seamlessly integrating them into mobile devices. The implementation of Open Banking is also crucial. By making bank transactions and data available through APIs (Application Programming Interfaces), Open Banking fosters innovation within the fintech sector. Granting fintechs access to such data can catalyze a wave of innovative solutions and services.

The call is for the CBN to address issues of fraud, explore the untapped potential in the payments industry, and usher in advancements like contactless payments, improved QR codes, and the activation of Open Banking.

Q: How do you think the future of the industry will evolve? What type of innovations and products/changes do you expect to see in this year and the coming years?

Anticipating the unfolding of my predictions, I recently wrote an article delving into the expected developments. However, the ongoing year has proven to be challenging for many, aligning with my earlier prediction that the Central Bank of Nigeria (CBN) would impose a ban on cryptocurrencies—a forecast that materialized. **It appears that until around May of this year(2024), the innovation landscape might remain subdued as the CBN navigates and solidifies its strategic plans.**

Foreseeing potential shifts, there's a belief that contactless payments could make a resurgence, albeit not without consequences. The process of revival may witness the demise of several fintechs, but those resilient enough may experience a resurgence. Meanwhile, the super-agent business model, once thriving, is expected to transform into a low-margin sector. This transformation will likely prompt industry players to contemplate diversification, seeking additional layers to enhance the super-agent model.

Expressing a cautious stance, there is a lack of bullish sentiment towards cryptocurrencies, even though a surge is observed globally. The apprehension stems from a belief that the crypto market might encounter complications, leading to adverse consequences.

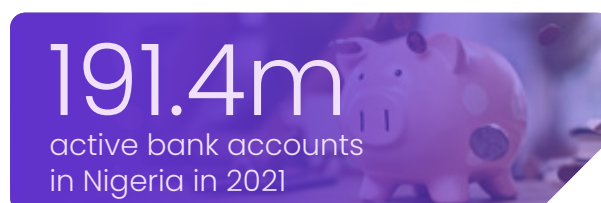
Payment Trends and Performance Metrics



2.1 Analysis of transaction volumes, monetary values, and performance metrics

Analyzing the transaction volumes and values is important to understand the fundamental channels and components of the payment system. In this section, 14 performance metrics are used to examine both transaction volume and monetary values including: TM transactions, Online transfers, NEFT transfers, TRGS transfers, USSD transfers, Mobile App transfers, Direct Debits, ACH transfers, ADD, Cheque, CPay, eBills Pay, MMOs, NIP and the POS transfers. As can be seen in **Table 6**, these metrics are obtained directly from both the CBN E-Payments records and the NIBSS industry statistics.

However, a quick overview at the NIBSS data on bank accounts and BVNs helps us better contextualize the context of the operationalization of these 14 performance metrics. According to the NIBSS, there were 191.4 million active bank accounts in Nigeria in 2021. 179.2 million of them were individual accounts whilst 8.9 million were corporate accounts.⁷⁹ Around 133.5 million are active bank accounts. There was also a total of 51.9 million BVN enrolment, with 44.5 million active BVNs across all banks. Due to the technology of the BVN, 44.5 million active BVNs technically means that there are at least 44.5 million Nigerians with bank accounts. This is different to the actual bank account value as one individual can possess multiple bank accounts.



The total number of POS registered in 2021 was 12.7 million. This number reduced to 2.3 million in 2022.⁸⁰ BVN enrollments however increased to 56 million in 2022, with 202.6 million individual accounts and 9.9 million corporate accounts accounted for by the NIBSS.

From **Table 6** and **Figure 13**, we see that in 2021 the CBN reported a total volume of 1.59 billion ATM transactions, which decreased to 1.51 billion in 2022, indicating a -5.77% change in transaction volume. Conversely, the total transaction value saw a significant increase, growing from 21.23 trillion naira in 2021 to 32.64 trillion naira in 2022, reflecting a substantial 53.78% year-on-year growth. This shift underscores a trend towards digital payments, such as POS terminals, mobile wallets, and online transfers, signaling increased smartphone and internet usage. The decline in ATM transactions also suggests improved convenience and security associated with digital payments, showcasing a progression towards a cashless economy and promoting financial inclusion.

⁷⁹ See <https://nibss-plc.com.ng/wp-content/uploads/2024/02/NIBSS-FLASH-REPORT-2021.pdf>

⁸⁰ See <https://nibss-plc.com.ng/wp-content/uploads/2024/02/NIBSS-FLASH-REPORT-2022.pdf>

Table 6. Nigeria's 2021 and 2022 Payment System Statistics. *Source:* CBN & NIBSS

Data Source	Performance Metric	2021 Volume	2022 Volume	Y-o-Y Volume % Change	Growth Indicator	2021 Value (N)	2022 Value (N)	Y-o-Y Value % Change	Growth Indicator
CBN E-Payment Statistics	ATM Transactions	1.59 billion	1.51 billion	-5.77%	↓	21.23 trillion	32.64 trillion	53.78%	↑
	Internet (Web)/Online Transfers	10.32 trillion	14.06 trillion	36.26%	↑	545.03 trillion	783.66 trillion	43.78%	↑
	NEFT Transfers	172.79 billion	88.46 billion	-48.80%	↓	410.17 trillion	477.36 trillion	16.38%	↑
	RTGS Transfers	1.04 billion	288.21 million	-72.34%	↓	588.20 trillion	73.70 trillion	-87.47%	↓
	USSD Transfers	552.91 billion	516.08 billion	-6.66%	↓	5.17 trillion	4.49 trillion	-13.23%	↓
	Mobile App Transfers	831.54 billion	1.86 trillion	123.85%	↑	53.20 trillion	111.12 trillion	108.84%	↑
	Direct Debits	103.27 billion	151.01 billion	46.22%	↑	23.01 trillion	26.40 trillion	14.76%	↑
	Automated Clearing House (ACH)	20.9 billion	23.9 billion	13.83%	↑	16.9 trillion	18.8 trillion	11.33%	↑
	Automatic Direct Debit (ADD)	21.99 thousands	20.48 thousands	-6.87%	↓	136.69 billion	229.17 billion	67.66%	↑
	Cheque	4.45 billion	4.07 billion	-8.55%	↓	3.22 trillion	3.20 trillion	-0.48%	↓
NIBSS Industry Statistics	Central Pay (CPay)	271.5 thousand	111.68 thousand	-58.87%	↓	2.34 billion	1.63 billion	-30.10%	↓
	eBills Pay	1.19 billion	885.89 million	-25.94%	↓	2.27 trillion	2.80 trillion	22.94%	↑
	Mobile Money Operators (MMOs)	248.5 million	714.5 million	151.18%	↑	8.06 trillion	19.4 trillion	140.73%	↑
	NIBSS Instant Payment (NIP)	3.47 billion	5.14 billion	47.99%	↑	271.95 trillion	387.07 trillion	42.33%	↑
	Point of Sale (POS)	982.83 million	1.14 billion	17.00%	↑	6.43 trillion	8.39 trillion	30.42%	↑

Online transfers, with a total volume of 10.32 trillion in 2021, increased by 36.26% to 14.06 trillion in 2022.. The total transaction value for online transfers grew from 545.03 trillion naira in 2021 to 783.66 trillion naira in 2022, marking a substantial 43.78% year-on-year increase. This growth indicates an improved digital payment infrastructure, empowering businesses to actively promote online payments. It also reflects increased consumer trust in digital platforms, highlighting a broader societal shift towards digital literacy. The surge in online transfers signifies a flourishing landscape for e-commerce, bill payments, and peer-to-peer transactions, underlining a shift from traditional methods towards digital alternatives.



43.78%

year-on-year increase on
total transaction value for
online transfers

National Electronic Funds Transfer (NEFT) transfers, with a total volume of 172.79 billion in 2021, decreased to 88.46 billion in 2022, reflecting a significant -48.80% change in transaction volume. Despite the decline in volume, the total transaction value witnessed growth, reaching 410.17 trillion naira in 2021 and 477.36 trillion naira in 2022, marking a 16.38% year-on-year increase. This nuanced trend suggests a potential shift towards larger transactions or specific scenarios where NEFT remains suitable. It underscores the diversification within the digital payment industry, indicating that certain industries or transactions may continue to rely on NEFT for processing larger sums.

Real-Time Gross Settlement (RTGS) transfers, with a total volume of 1.04 billion in 2021, decreased to 288.21 million in 2022, reflecting a substantial -72.34% change in transaction volume. Similarly, the total transaction value for RTGS transfers decreased from 588.20 trillion naira in 2021 to 73.70 trillion naira in 2022, marking a -87.47% year-on-year decrease. This decline aligns with RTGS's nature as a platform primarily used for high-value and time-critical transactions, indicating a streamlining of the payment system towards more cost-effective alternatives.

Unstructured Supplementary Service Data (USSD) transfers, with a total volume of 552.91 billion in 2021, decreased to 516.08 billion in 2022, reflecting a -6.66% change in transaction volume. The total transaction value for USSD transfers also decreased from 5.17 trillion naira in 2021 to 4.49 trillion naira in 2022, marking a -13.23% year-on-year decrease. While impacted by increasing mobile apps and smartphone penetration, USSD's cost-effectiveness makes it a preferred option, particularly for non-smartphone users and those in rural areas.

Mobile app transfers, with a total volume of 831.54 billion in 2021, increased to 1.86 trillion in 2022, reflecting an impressive 123.85% change in transaction volume. Similarly, the total transaction value for mobile app transfers increased from 53.20 trillion naira in 2021 to 111.12 trillion naira in 2022, marking a noteworthy 108.84% year-on-year growth. This remarkable shift is driven by initiatives like PSV2020 and PSV2025, coupled with the cashless policy implemented by the CBN, indicating sustained user behavior change towards mobile applications as preferred and trusted means of conducting financial transactions.

Direct debits transfers experienced a 46.22% transaction volume growth, from 103.27 billion in 2021 to 151.01 billion in 2022.

The total transaction value for direct debits increased from 23.01 trillion naira in 2021 to 26.40 trillion naira in 2022, marking a 14.76% year-on-year growth. This growth signifies an increasing prevalence of automated bill payments and recurring transactions through direct debits, contributing to improved customer retention and enhanced business revenue.

Automated Clearing House (ACH) transfers witnessed a 13.83% annual increase in transaction volume, from 20.9 billion in 2021 to 23.9 billion in 2022. The total transaction value equally increased from 16.9 trillion naira in 2021 to 18.8 trillion naira in 2022, marking an 11.33% year-on-year growth. While ACH may not experience exponential growth, its role within the payment system as a complementary channel is evident, coexisting with faster-growing channels like mobile app transfers.

Automatic Direct Debit (ADD) transfers exhibited a -6.87% change in transaction volume, decreasing from 21.99 thousand in 2021 to 20.48 thousand in 2022. The total transaction value saw a substantial 67.66% year-on-year growth, increasing from 136.69 billion naira in the previous year to 229.17 billion naira in 2022. This trend aligns with the observed pattern in RTGS transfers, indicating a decline in volume but sustained significance for high-value transactions.

Cheque transfers in Nigeria decreased by -8.55% in volume, from 4.45 billion in 2021 to 4.07 billion in 2022. The total transaction

value declined by -0.48% year-on-year, from 3.22 trillion naira in 2021 to 3.20 trillion naira in 2022. This continued decline aligns with the broader trend since the implementation of the cashless policy in 2011, reflecting a preference for digital alternatives due to perceived disadvantages associated with cheque usage.

Central Pay (CPay) transfers in Nigeria experienced a -58.87% change in transaction volume, decreasing from 271.5 thousand to 111.68 thousand in volume, and another decrease of -30.10% in transaction value, from 2.34 billion naira to 1.63 billion naira from 2021 to 2022. This decline suggests the influence of various alternative payment solutions gaining market share and becoming preferred choices for businesses and customers. Limited awareness of CPay may contribute to its reduced adoption compared to more prominent and actively marketed payment gateway players.

eBills Pay transfers in Nigeria decreased by -25.94% in volume, from 1.19 billion in 2021 to 885.89 million in 2022. However, the total transaction value increased by 22.94% year-on-year, from 2.27 trillion naira in 2021 to 2.80 trillion naira in 2022. This trend, seen in several other channels, suggests that despite a decline in transaction volume, there is an increase in transaction value, possibly due to larger bill transactions consolidated into singular eBills Pay transactions.



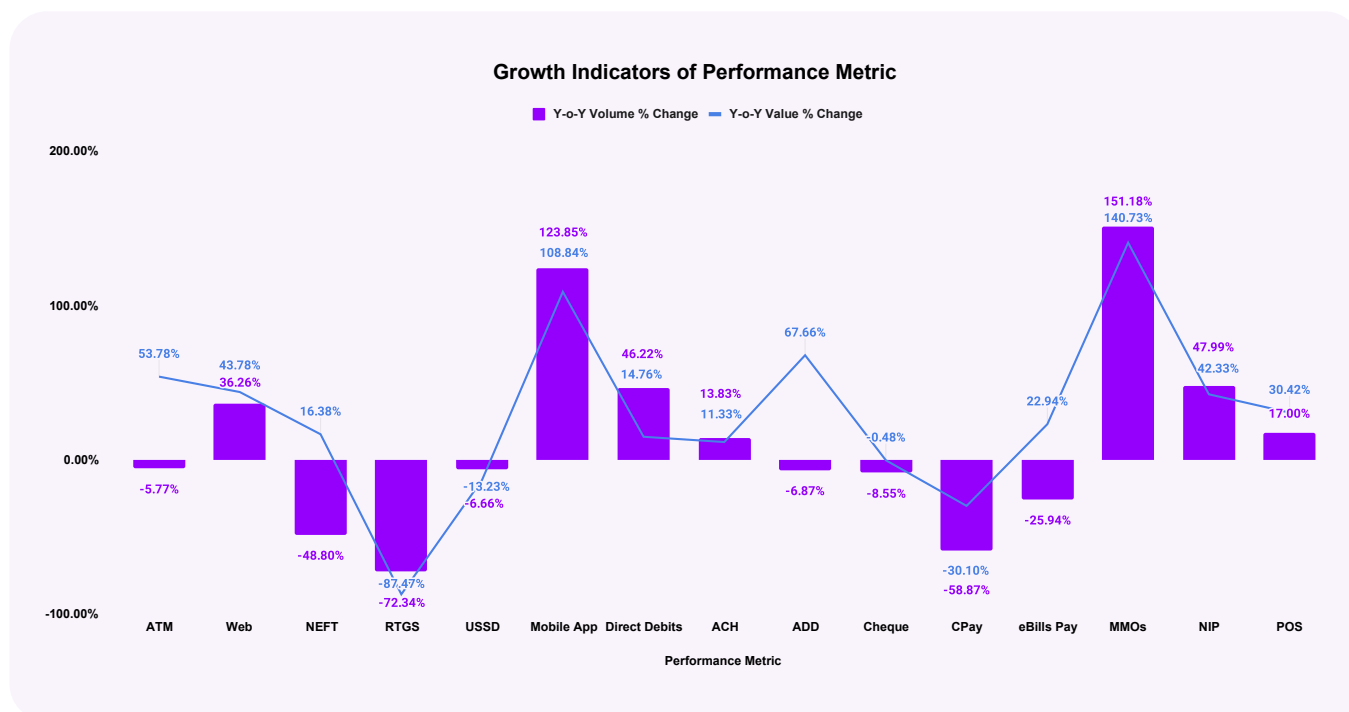
Mobile Money Operators (MMOs) transfers in Nigeria witnessed a remarkable 151.18% change in total volume, surging from 248.5 million in 2021 to 714.5 million in 2022. Concurrently, the total transaction value increased from 8.06 trillion naira in 2021 to 19.4 trillion naira in 2022, marking a significant 140.73% year-on-year increase. This surge reflects the impact of rising smartphone penetration, contributing to widespread adoption of mobile money platforms for diverse financial transactions. The convenience and accessibility offered by mobile money services, particularly in remote or unbanked areas, have been key drivers of this growth.

NIBSS Instant Payment (NIP) transfers in Nigeria witnessed a substantial 47.99% change in total volume, increasing from 3.47 billion in 2021 to 5.14 billion in 2022. The total transaction value surged from 271.95

trillion naira in 2021 to 387.07 trillion naira in 2022, representing a notable 42.33% year-on-year increase. The surge in NIP usage introduces faster and more efficient transactions, outpacing traditional methods and fostering innovation and competition among financial institutions.

Point of Sale (POS) transfers in Nigeria saw a significant 17.00% change in total volume, increasing from 982.83 million in 2021 to 1.14 billion in 2022. Concurrently, the total transaction value rose from 6.43 trillion naira in 2021 to 8.39 trillion naira in 2022, representing a notable 30.42% year-on-year increase. POS transactions play a pivotal role in providing enhanced convenience, speed, and security, contributing to the ongoing transformative shift towards heightened adoption of cashless transactions in Nigeria.

Figure 13. Growth Indicators for Nigeria's 2021 and 2022 Payment System Performance Metrics.
Source: CBN & NIBSS



As seen from the performance metrics, the evolution of Nigeria's payment system has progressed from cash to increasingly cashless. Though cash crunches affect the general economy and businesses relying heavily on cash, the payment system has increasingly grown as a result of the push towards making Nigeria a more financially digital country.

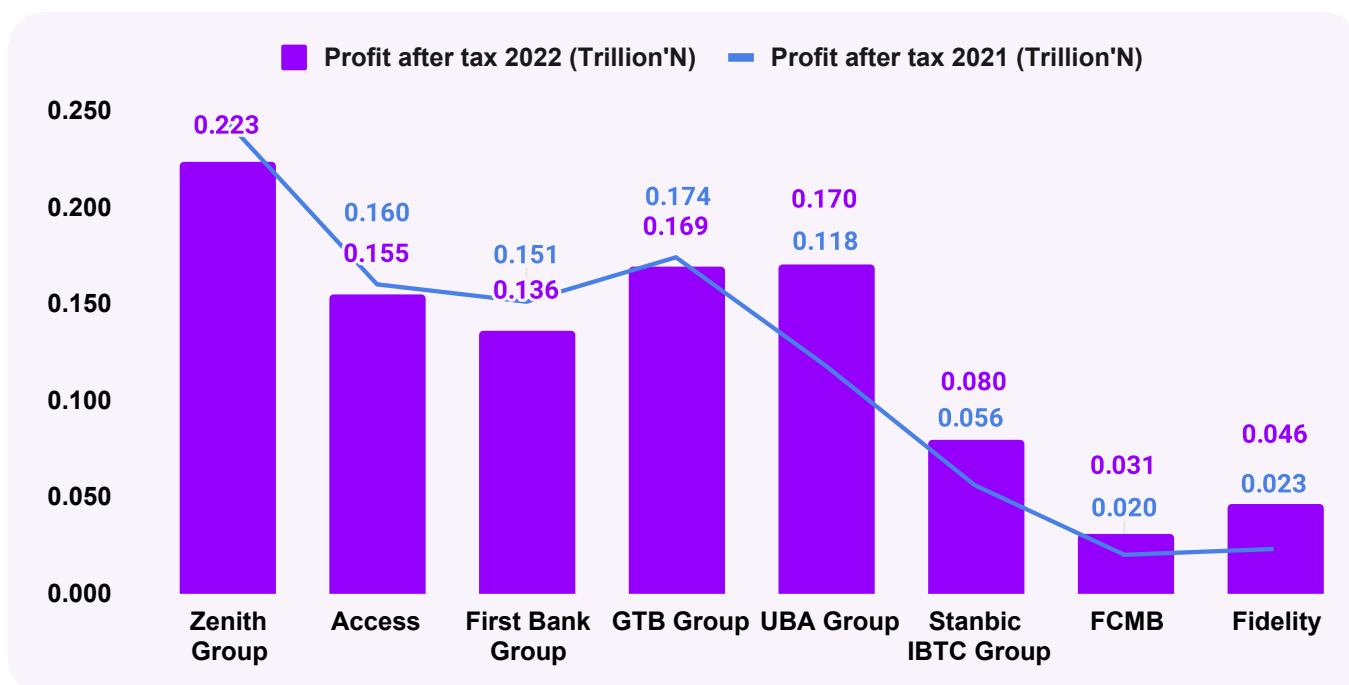
When it comes to accessing the biggest banks in Nigeria, the 2021 and 2022 performance metrics, as shown from **Figures 14 to 22**, shows the growth and decline in several important aspects. To understand the performance of these banks in the years of analysis, the profit after tax, total assets, customers' deposits, gross loans, non-performing loans, and the Nigerian stock exchange (NGX) market capitalizations were used.

The Profit After Tax is a key metric reflecting a bank's financial prowess.

An increase in PAT is indicative of robust financial performance and effective management, empowering the bank to invest in growth and provide better returns to shareholders.

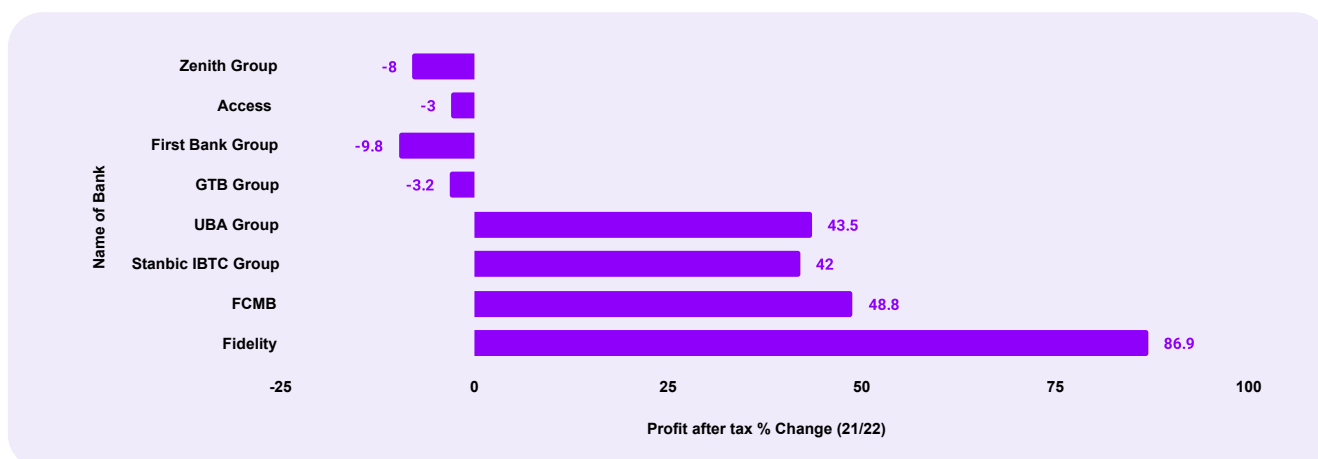
Conversely, a decline in PAT suggests potential financial challenges arising from increased expenses, reduced revenue, or higher provisions for potential loan losses. As we can see from **Figure 14** and **Figure 15**, UBA, Stanbic IBTC, FCMB and Fidelity bank were the banks that were profitable between 2022 and 2021. Of the bunch, Fidelity returned the greatest profit in terms of percent change, with the bank being 86.9% more profitable in 2022 than 2021. The bank with the greatest decline in terms of percentage change, of the eight identified, is First Bank despite the bank recording its biggest revenue due to higher interest rates.⁸²

Figure 14. 2021 & 2022 Profit after tax. Source: 2022 Annual Reports



⁸² See <https://www.premiumtimesng.com/business/business-news/602175-fbn-holdings-annual-profit-falls-despite-record-n805-billion-revenue.html>

Figure 15. Percentage Change in 2021 & 2022 Profit after tax. Source: 2022 Annual Reports



When it comes to customer deposits, as seen in **Figure 16** and **17**, Access Bank comes out on top in 2022 and 2021 even though Zenith bank had a greater y-o-y change. GTBank was the only bank whose change in y-o-y deposits was in singular digits. Customer deposits are important for banks because an increase in deposits signifies trust, growth potential, and enhanced liquidity. However, this positive trend is tempered by considerations like the cost of deposits and the need for robust loan demand to generate substantial returns. A decline in customer deposits can raise concerns about loss of confidence, reduced liquidity, and limited growth. Nevertheless, a nuanced perspective emerges when assessing the reasons behind the decline and exploring alternative funding sources.

When it comes to the Total assets which provide insights into a bank's scale and growth. Access Bank still remains ahead with total assets accumulating to 14.9 trillion naira. They are followed by Zenith and then UBA. These three were equally the ones who saw the greatest y-o-y change in their asset size. It is important to measure asset size because a rise in total assets suggests expansion, driven by increased deposits, loans issued, or acquisitions. However, rapid growth may raise concerns about excessive risk-taking. When banks decrease in total assets, it signifies a contraction in the bank's business. In 2022, all eight banks increased their asset size by at least 10 percent.



Figure 16. 2021 & 2022 Total Assets and Customer Deposits. Source: 2022 Annual Reports

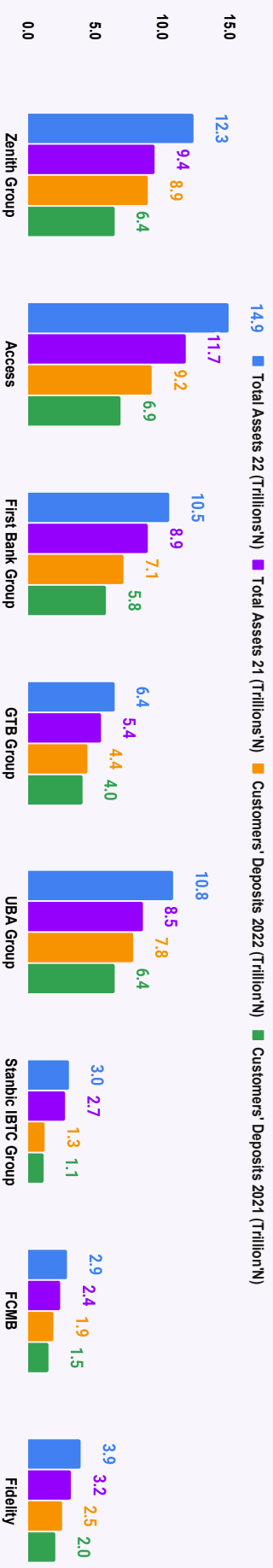
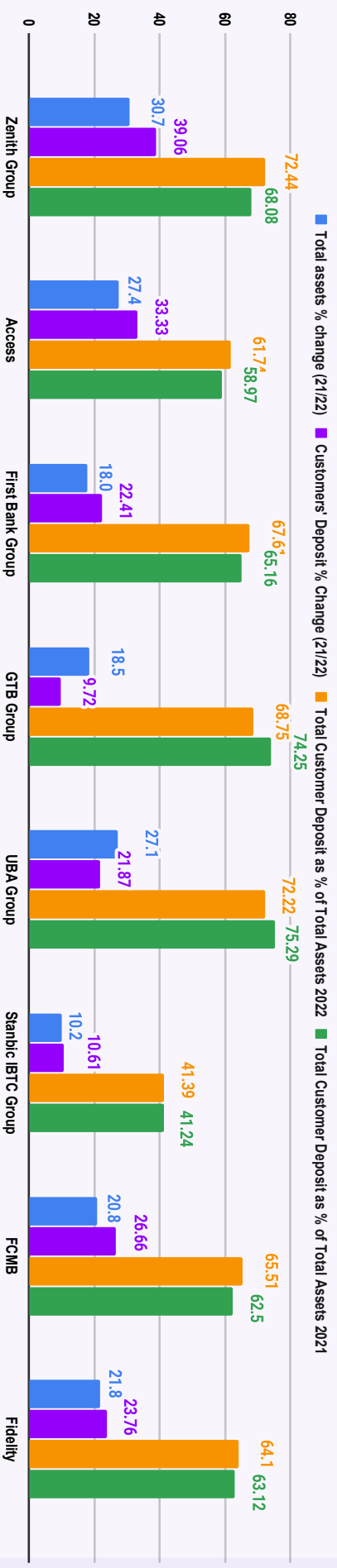


Figure 17. Percentage Change in 2021 & 2022 Total Assets and Customer Deposits. Source: 2022 Annual Reports



For loans given in 2022, Access Bank and First Bank lead with gross loans both in terms of value and y-o-y percentage change as can be seen in Figure 18 and 19. The loan size of both banks amounted to 5.5 trillion naira and 5 trillion naira respectively. Here again, GTBank was the only bank whose gross loans increased in single digits, 4.4%, even though FCMB had the smallest gross loans of the eight banks. Gross loans are a critical aspect of a bank's operations.

An increase in gross loans indicates active lending, supporting economic activity. However, careful monitoring is necessary to maintain lending standards and prevent potential increases in non-performing loans. A decline in gross loans may be a response to a slowing economy, increased risk aversion, or loan repayments exceeding new loans issued.

Figure 18. 2021 & 2022 Gross Loans. *Source: 2022 Annual Reports*

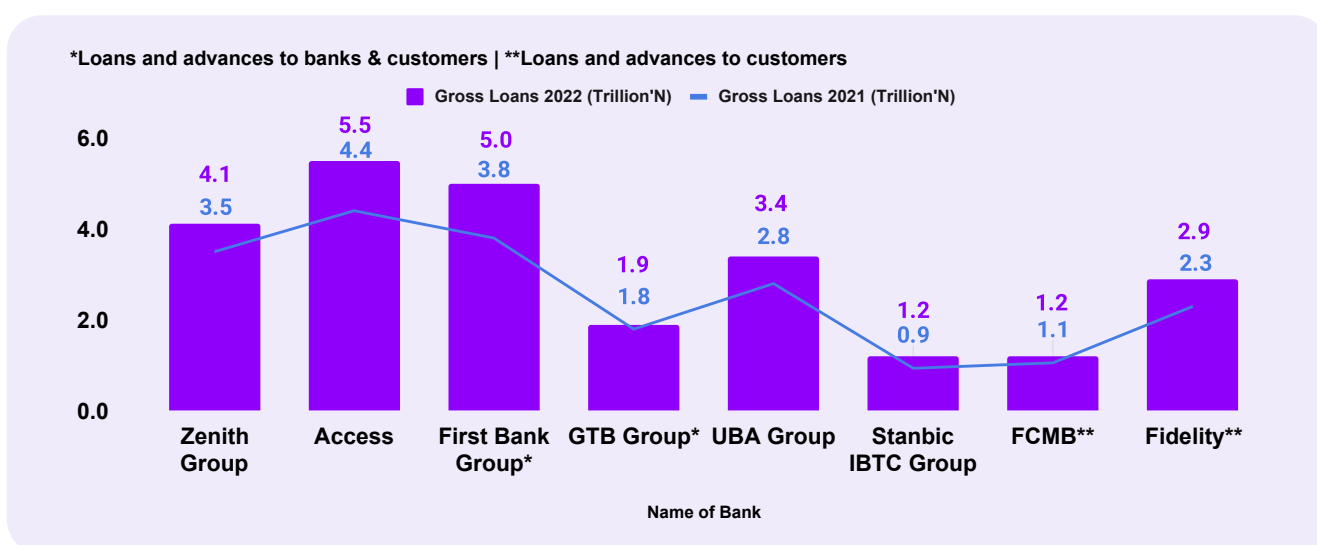
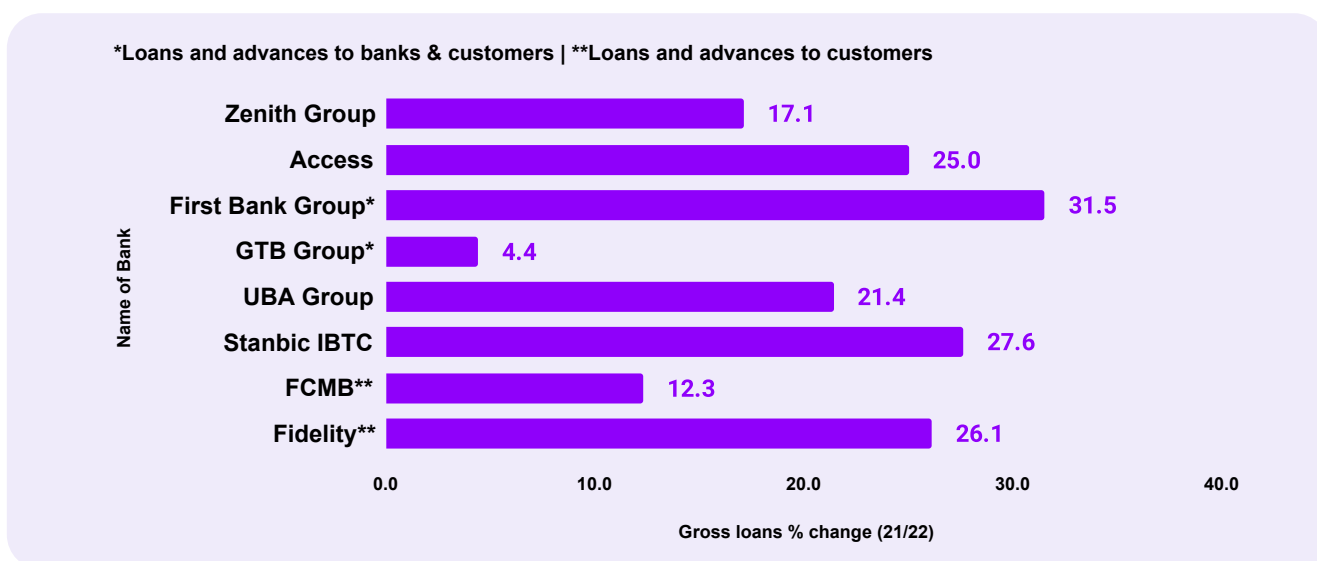


Figure 19. Percentage Change in 2021 & 2022 Gross Loans. *Source: 2022 Annual Reports*



Non-Performing Loans (NPLs) shed light on a bank's credit risk. An increase in NPLs is concerning, indicating a rise in problematic loans that can impact profits and reduce capital reserves. A decrease in NPLs is positive, signaling effective credit risk management. At the same time however, an extremely low NPL ratio warrants scrutiny to ensure it doesn't result from overly cautious lending practices.

Figure 20 and **21** shows us that three banks had an increase in their NPLs from 2021 to 2022. They were FCMB, Stanbic IBTC and Zenith. FCMB had the worst y-o-y change at 60%. Conversely, First Bank and Access bank were able to reduce the risk on their loans with an improvement in their NPLs from 6.1% and 4% in 2021 respectively, to 4.3% and 3.1%.

Figure 20. 2021 & 2022 Non-Performing Loans (NPL). Source: 2022 Annual Reports

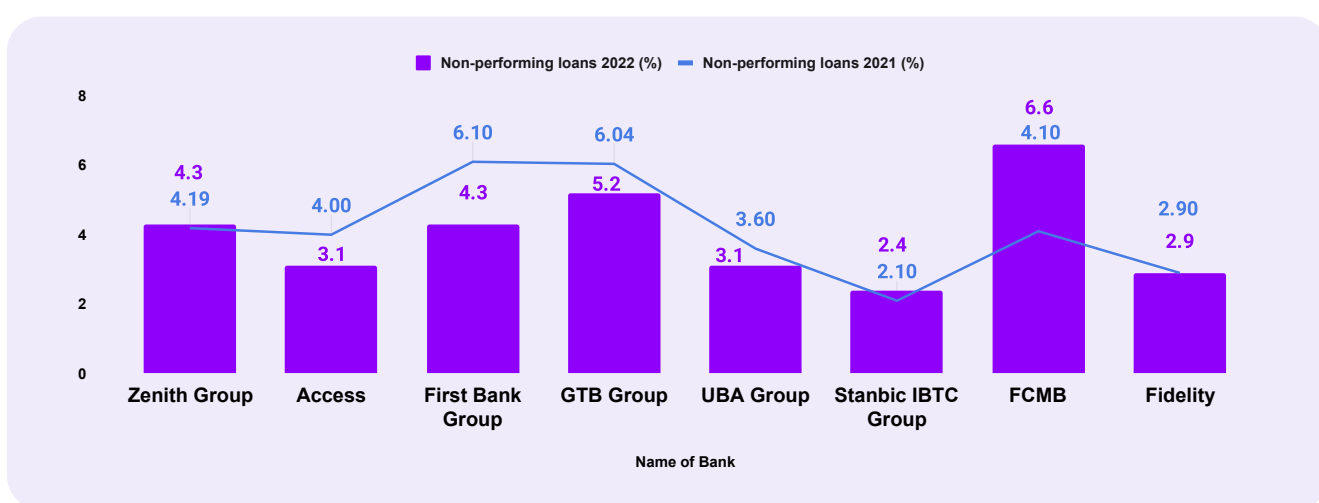
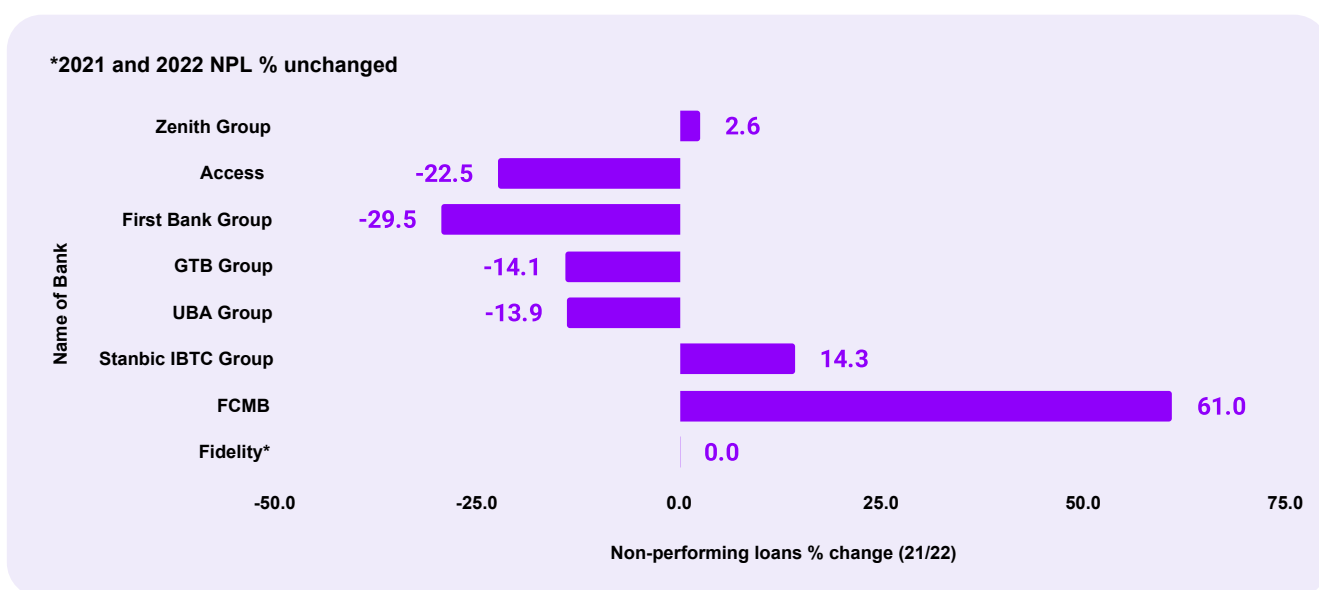


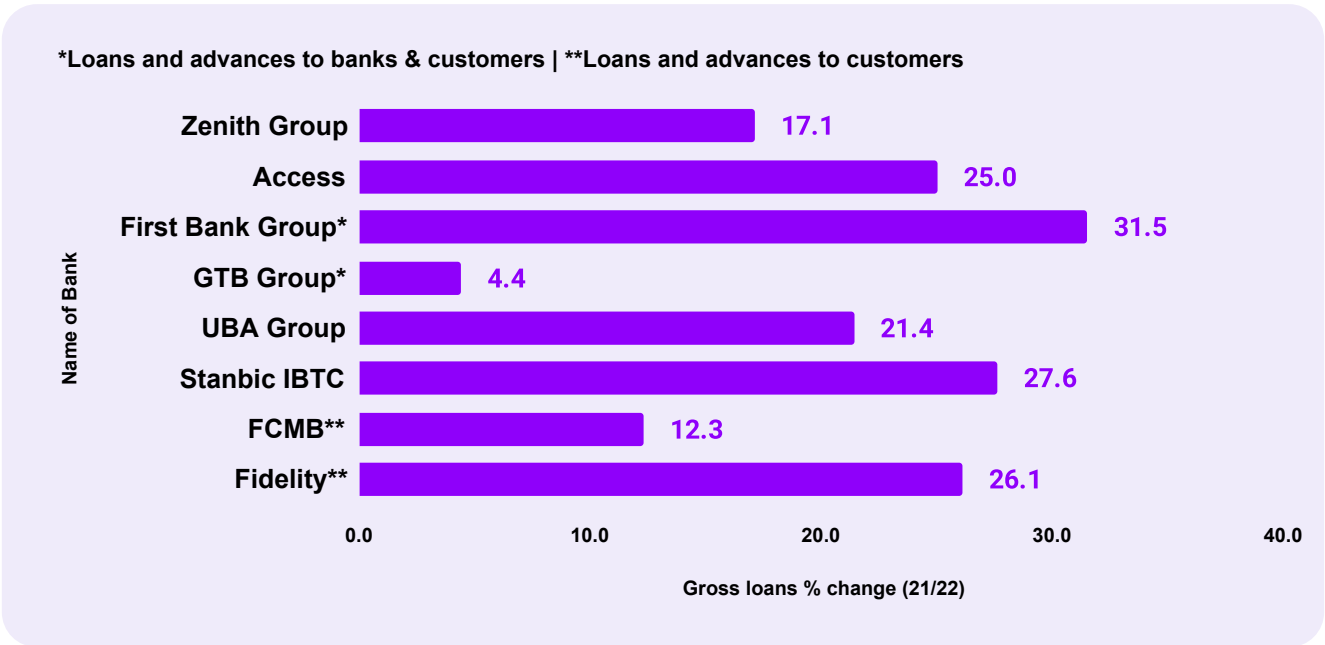
Figure 21. Percentage Change in 2021 & 2022 NPL. Source: 2022 Annual Reports



The NGX Market capitalization is a reflection of a bank's market value. A larger market cap signifies strong financial performance, market leadership, and investor confidence. This translates to easier access to capital and an enhanced overall reputation. On the other hand, a smaller market cap doesn't necessarily indicate poor performance; it may result from factors like the bank's newness or niche focus.

In **Figure 22**, we see that GTBank is the biggest Nigerian bank listed in the stock market with a market cap of 1.2 trillion naira. In fact, aside from GTBank, only two other banks have a market cap of 1 trillion naira or above. They include Zenith with a market cap of 1.1 trillion naira and First Bank with a market cap of 1 trillion naira.

Figure 22. Percentage Change in 2021 & 2022 NPL. Source: 2022 Annual Report



2.2 Identification of disruptors and their impact on the market



Identifying disruptors in the payments market is made simpler when we understand the underlying trends, as shown in the previous section. From the performance metrics, we know that the shift towards digital payments is evident in the year-on-year analysis of transaction volumes and values.

The decline in ATM transaction volume by 5.77% from 2021 to 2022, coupled with a significant increase in total transaction value by 53.78%, indicates a movement towards digital payment methods. The growth in mobile app transfers by 123.85% signifies a substantial shift in user behavior (see **Figure 23**). Online transfers, including web and mobile app transfers, have seen remarkable growth, reflecting improvements in digital payment infrastructure and increased consumer trust.

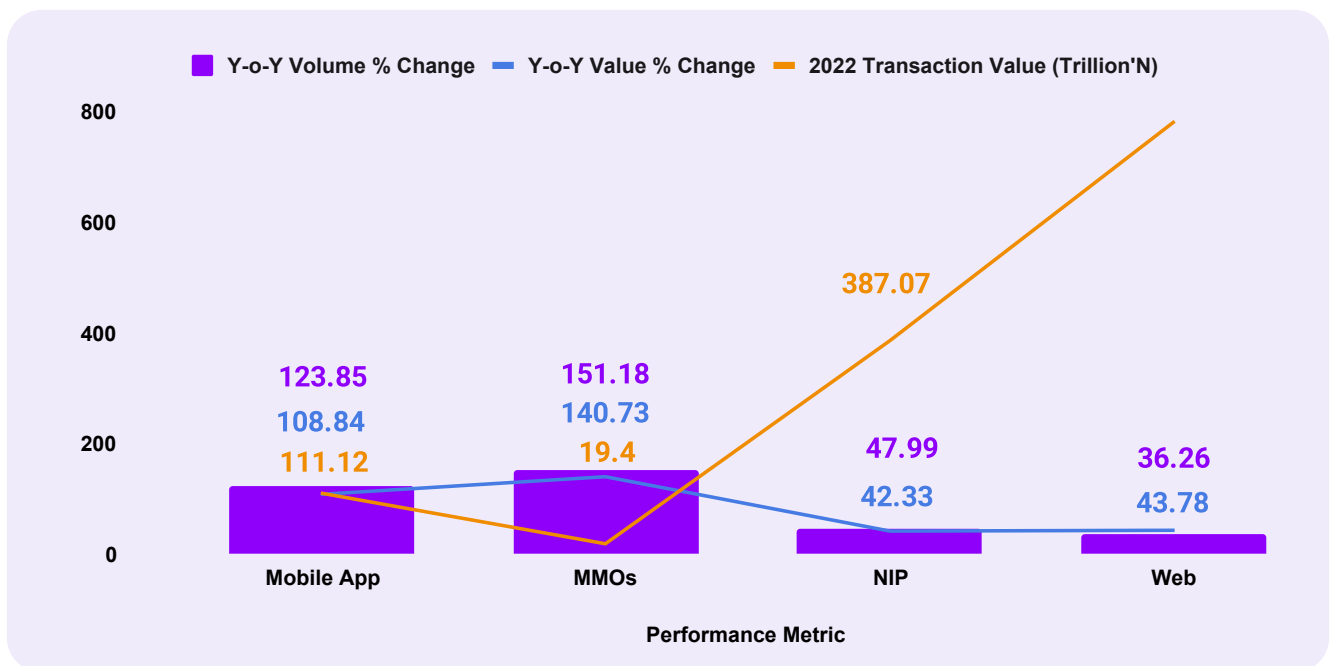
This trend aligns with a broader societal shift towards digital literacy and preference for online transactions, fostering a flourishing landscape for e-commerce, bill payments, and peer-to-peer transactions in Nigeria.

"Duplo addresses the challenges logistics businesses face in managing payments to drivers, handling collections from customers, and efficiently handling petty cash. For instance, we've facilitated solutions for drivers in remote areas, enabling them to pay for fuel seamlessly. Secondly, the construction sector has embraced our platform. Construction firms, dealing with numerous suppliers across diverse requirements, benefit from our streamlined approach to payments. We aim to simplify how these firms transact with their vendors, ensuring security and transparency in the process. The fast-moving consumer goods (FMCG) industry constitutes another sector where we've observed substantial adoption. Distributors in this space leverage our platform to streamline payment collections from retailers and payments to manufacturers, contributing to significant growth."



Yele Oyekola
Duplo, CEO/Co-Founder

Figure 23. Top Performing Performance Metrics in 2022 by Volume and Value Change



Moreover, despite a decrease in volume, USSD transfers remain foundational in Nigeria's digital payment landscape. The decline is attributed to the increasing prevalence of mobile apps and smartphone penetration, highlighting the ongoing significance of USSD for users without access to advanced digital options. The decline in traditional methods like Cheque Transfers, Central Pay (CPay) Transfers, and Automatic Direct Debit (ADD) Transfers indicates a continued shift away from paper-based transactions. The growth of Mobile Money Operators (MMOs) Transfers by 151.18% suggests a profound impact of rising smartphone penetration in facilitating financial transactions, particularly in remote or unbanked areas. The significant increase in NIBSS Instant Payment (NIP) Transfers indicates a move towards faster and more efficient transactions, aligning with the broader trend of mobile-driven and digital payments. Point of Sale (POS) Transfers also show robust growth, driven by expanding infrastructure, increased card penetration, and government initiatives promoting cashless payments.

With this understanding, the major disruptors in the market have to have had a huge influence in the online transfers, mobile app transfers channels, or MMOs, as these three were the main drivers of disruption between the two years of analysis. Finding this disruption can be done several ways. The first has already been done through **Table 4** and the newcomers driven by the mass communication giants, with the main players in the payment service providers industry being fundamental in making the disruption happen.

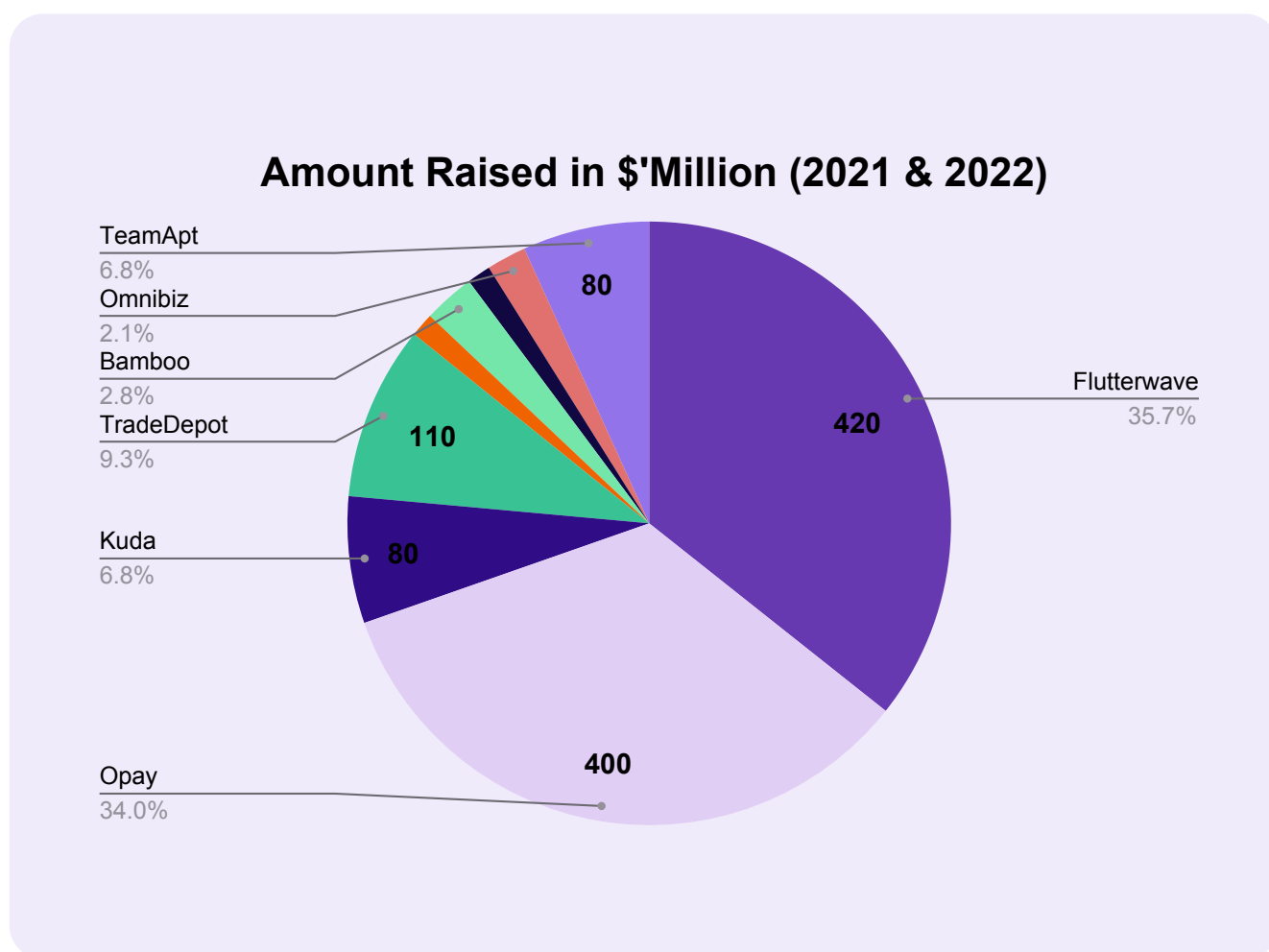
151.18%

growth of Mobile Money Operators (MMOs) Transfers suggests a profound impact of rising smartphone penetration in facilitating financial transactions, particularly in remote or unbanked areas.

The second way to identify disruptors is by tracking the amount of funding payment companies received from investors in the past five years. In 2021, Flutterwave was able to raise \$170 million in Series C and another \$250 million in Series D in 2022.⁸³ Opay was equally able to raise \$400 million in 2021. Kuda bank raised \$80 million in series A and B in 2021. TradeDepot raised \$110 million in series B funding in 2021.

Credpal raised a total of \$15 million in 2022.⁸⁴ Bamboo raised \$32.4 million in 2022.⁸⁵ Umba raised \$15 million in 2022.⁸⁶ Omnibiz raised \$25 million between 2021 and 2022.⁸⁷ TeampApt raised \$80 million between 2021 and 2022.⁸⁸ Together, these companies brought in \$1.17 billion between 2021 and 2022 (see **Figure 24**).

Figure 24. Most Funded Disruptors between 2021 & 2022



⁸³ See [https://nairametrics.com/2023/08/28/top-10-most-funded-nigerian-startups-as-of-august-2023/#:~:text=OPay%20\(%24570%20million\)&text=Its%20latest%20raise%20was%20announced,million%20Series%20B%20in%20Novemb er.](https://nairametrics.com/2023/08/28/top-10-most-funded-nigerian-startups-as-of-august-2023/#:~:text=OPay%20(%24570%20million)&text=Its%20latest%20raise%20was%20announced,million%20Series%20B%20in%20Novemb er.)

⁸⁴ See https://www.crunchbase.com/organization/credpal/company_financials

⁸⁵ See https://www.crunchbase.com/organization/bamboo-eacd/company_financials

⁸⁶ See https://www.crunchbase.com/organization/umba/company_financials

⁸⁷ See https://www.crunchbase.com/organization/omnibiz/company_financials

⁸⁸ See https://www.crunchbase.com/organization/teamapt/investor_financials

Not only are these funds used to increase payment and e-commerce products for these businesses, it also counts as international flows coming into the country as identified in **Figure 11**. The impact the companies that raised have on the market is that Nigerians are becoming used to the idea of sending money without cost. To put this into perspective, between 2011 to 2018, only \$200 million was invested into the fintech industry in Nigeria.⁸⁹ This is in contrast to the two years analyzed in this report, which makes the funding worth more than five times that value. The awareness and increasing demand of such payment methods is also testament through the fact that in 2017, only 74 active fintechs were operating in Nigeria.⁹⁰ This number nearly doubled to about 144 by 2021, making Nigeria home to 32% of Africa's fintech market and also the top 12th market in the world by number of finance app installs in 2021.⁹¹

The final way to find disruptors is through the innovation they bring to the system as a whole. While talking to Ayodeji Osisami, CFO of Kora, he emphasised on the need for innovation when he told us that "the key to Kora's success lies in delivering customized solutions tailored to the unique needs of businesses within various industries. Kora's strength lies in its ability to adapt and provide solutions for each business type, whether it's dynamic or fixed bank accounts, varying settlement frequencies, or specific payment methods." Companies like Zone were equally part of such disruptors between 2021 and 2022 as the introduction of the company's regulated and decentralized blockchain network show great potentials of enabling a more secure, cost effective and faster infrastructure.

⁸⁹ See <https://www.cbn.gov.ng/Out/2023/RSD/OCCASIONAL%20PAPER%20NO%2076%20-%20Fintech%20Evolution%20and%20Development%20in%20Nigeria.pdf>

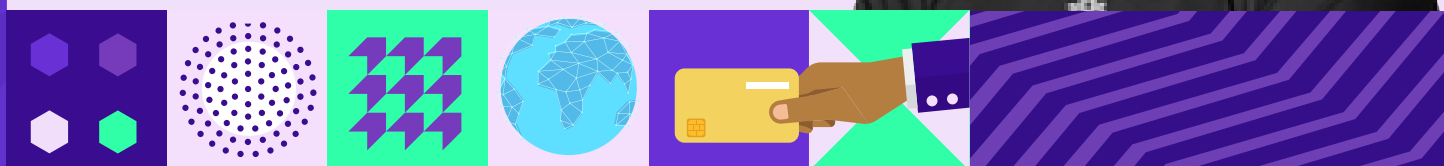
⁹⁰ See <https://technext24.com/2023/09/06/nigeria-fintech-africa-startups/>

⁹¹ See <https://technext24.com/2021/06/10/loan-and-investment-apps-in-huge-demand-as-nigeria-records-highest-number-of-fintech-app-installs-in-africa/>

2.3 Interview with Zone CEO/Co-founder, Obi Emetarom

OBI EMETAROM

CEO/Co-Founder,
Zone



Q: How has the path been for Zone since launching in 2022? And how was 2023 compared to the previous years?

Before we launched in 2022, we ran a pilot with a few banks on the single use case of cash withdrawal at ATMs. By the beginning of 2022, our focus was to obtain our licence from the Central Bank and make sure we could finetune system features in order to deliver our compelling value proposition despite the various peculiarities within each of our member banks.

In 2023, we continued to mature the system through a lot of feedback from our pilot. We also did major upgrades to allow more decentralisation, support developer and issuer ecosystems, increase throughput and reduce latency. Specifically we introduced capabilities to support token issuance and smart contract development by third parties.

The additional decentralisation allowed us to plug fintechs directly into the network. The original architecture required all non-bank financial institutions to join the network through banks which would mean that banks serve as a gateway into the network and every Fintech would have to select a Bank through which they would connect and receive settlement. But that would obviously introduce dependence on banks and so instead we designed a flat architecture where any licensed financial institution can connect directly to the network using their own node or gateway with direct access to every other institution on the network. These changes were all based on learnings from the pilot and I would say effecting them was the major focus for 2023.

The other 2023 focus was to introduce support for another payment channels beyond the ATM channel we started with. As such, we built out capabilities to pro-

cess PoS payments at agent and merchant locations which should be launching very soon. So in summary, it has essentially been a lot of refining and improvement based on feedback obtained during the pilot activities of 2022.

Q: Could you share the potential challenges and benefits of creating a common currency for settlements across different regions and the options that Zone is considering to address this issue?

So today, when payments are made, the time interval for the value of those payments to be accessible to recipients is very critical. The reason is that the bulk of the recipients are low-income merchants. They don't have a huge liquidity stash somewhere. When they sell, they need the value so they can restock as quickly as possible. As such, delays in settlement that take 24 or 48 hours mean that merchants have parted with goods and the money for those goods is being held somewhere within the payment value chain which puts these merchants in a tight situation. Being able to deliver real-time value is very important for that segment of the economy.

...if the merchant's bank has not received value and they still go ahead to transfer value to the merchant, then it's like a loan they are giving the merchants...



OBI EMETAROM
CEO/Co-founder,
Zone



Now, to deliver this kind of value, there are two aspects: one is the value to the merchant/recipient. The other is the value to that merchant's bank since the merchant's account sits in a bank or some kind of financial institution. Usually what happens is that if the merchant's bank has not received value and they still go ahead to transfer value to the merchant, then it's like a loan they are giving the merchants with an expectation to recoup after settlement. Usually (especially for fintechs) the liquidity required to settle merchants upfront is significant and expensive. Also, because the cost is transferred to the merchant, it makes instant settlement expensive even when financial institutions attempt to go about it this way.

Basically, you are loaning the merchant his/her own money hence increasing the cost of his service just for enabling payment. The reason why there is a lag in settlement is that the processing infrastructure for payment transactions is separate from the settlement system.

When transactions are processed, because the systems are separate, somebody needs to take the information from the transaction processing system and feed it as a batch into the settlement system at intervals.

The settlement system is where all of the participating institutions maintain balances to receive settlement value and fulfil settlement obligations.

There are two types of settlement tokens, local and global settlement tokens. The local settlement token/currency is simpler because it is backed by the currency of the particular country where transactions are happening.



OBI EMETAROM
CEO/Co-founder,
Zone

The interval for synchronising both systems is what causes the delay. The solution to this is to combine both transaction processing and settlement into one system so that the settlement system is aware of each transaction as its being processed and so fulfils settlement obligations for each transaction instantly. Zone has been able to achieve this using blockchain hence ensuring that, as transactions happen, the settlement system is aware that such transactions have happened and can effect settlement immediately afterwards.

The last piece that allows this to happen is the settlement currency/settlement token. That's the form in which those settlement balances are kept on the blockchain. In other words, what represents the value of each settlement amount? It's a form of money, backed by traditional physical currency, that allows settlement obligations to be fulfilled as the transactions are happening rather than later as a batch after some interval.

There are two types of settlement tokens, local and global settlement tokens. The local settlement token/currency is simpler because it is backed by the currency of the particular country where transactions are happening. Once transactions happen, participating Banks get value immediately in the form of the local settlement token and then transfer the same value to their client who is the merchant. Now, the global settlement token/currency is different because it enables transaction settlements across borders.

The difference is that it has to be backed by a currency that is accepted as value within the two separate jurisdictions where sender and receiver Banks operate. Today, the default currency is the dollar. A settlement token backed by the dollar would be accepted across participating institutions because the world already utilises the dollar for international transactions today. But in principle, the global settlement token works in the same way as the local settlement token. It resides on-chain and is used to fulfil settlement obligations as each of the cross-border transactions happen.

Real time settlement on Zone presents a stark contrast to the way payment systems operate around the world today in the sense that most systems don't support true instant payments. We have partial instant payments like NIP in Nigeria and even such partial instant payment systems are still relatively new in many countries globally.

I use the term "Partial" because the beneficiary gets value instantly but the bank does not get the value till later. So Zone is pioneering true instant payments where both the beneficiary and the institution banking that beneficiary get value immediately through the blockchain.

Q: What is the interaction or interrelation between what Zone is trying to achieve and PAPSS? In what ways does Zone's decentralized payments network differ from traditional centralized payment networks, and what advantages does it offer?

PAPSS and Zone share a similar vision of bridging the gap in pan-African payments, but there are key differences. PAPSS relies on a centralized traditional payment infrastructure with multiple intermediaries. For instance, a transaction might go from the initiator's local switch to PAPSS, then to the destination country's local switch, and finally to the beneficiary bank. This model introduces potential cost implications and failure points, as well as processing delays associated with batch settlements.

In contrast, Zone's model eliminates intermediaries. For example, Bank A in Nigeria connects directly to Bank B in the beneficiary's country via our blockchain nodes, resulting in higher reliability, lower costs, and faster processing times. This direct connection model also supports real-time settlements, unlike the batch settlement approach of traditional systems.

We see a potential collaboration with PAPSS where they can leverage Zone's infrastructure for enhanced efficiency. These conversations are ongoing, and we are optimistic about the possibilities.

Q: Could you share specific examples of how Zone's blockchain-based architecture addresses issues like cost, availability, and functionality that were encountered with traditional payment infrastructure?

Let's start with cost. The big cost advantage is linked to the absence of a central infrastructure. In a traditional payment model, that central infrastructure is what every participating institution has to rely on to send transactions. Now, traditional central infrastructure has human beings and systems as well as brick-and-mortar structures like offices and data centres all of which constitute cost. In the decentralized model offered by Zone, there is no centre so all those components are just not there. And so it's easy to transfer the cost-savings to customers by reducing the fee that each customer is supposed to pay.

In terms of availability, every participating institution in the decentralized model connects directly to every other participating institution without dependence on that central intermediary. The problem with the central intermediary is that only the central intermediary knows how to reach a destination Bank when you send a transaction from an originating bank. If that central intermediary fails, then no member of that network can function because they don't know how to reach any other member. They don't have that information or architectural setup, so it's a problem.

Now, traditional central infrastructure has human beings and systems as well as brick-and-mortar structures like offices and data centres all of which constitute cost.



OBI EMETAROM
CEO/Co-founder,
Zone



With respect to functionality, there are quite a number. We can talk about reconciliation functionality, settlement functionality, or tools for third-party developers and issuers. With reconciliation, the big benefit is about avoiding chargebacks. The concept of chargebacks apply when transactions fail and there's a discrepancy in the state of the transaction.

The customer is charged at his or her Bank but the transaction fails at the terminal. Today, manual reconciliation takes days or weeks and unfortunately customers cannot be refunded until the reconciliation is done. This is a big pain for low income customers. For the more affluent, if the transaction fails and they are charged, they can reinitiate the payment since the amount would typically be a small portion of their balance. On the contrary, the amount can be the entire balance of a low-income customer. On Zone's decentralized model powered by blockchain, this reconciliation happens automatically. The system is able to detect such discrepancies and reverse them before the customer has any need to complain.

For the settlement functionality, because both the settlement mechanism and the transaction processing mechanism are sitting within the same network, then you can have real-time fulfilment of settlement obligations as transactions happen.

Of course, leveraging a settlement token/currency to achieve that.

The third-party issuer functionality provides support for central bank digital currencies, for example. With this type of decentralized architecture, the central bank can issue CBDC that are compatible with the traditional fiat currency so that merchant locations with payment acceptance points will have the option for their customers to use fiat money or CBDC while payment beneficiaries will be able to get value for every payment initiated. This abstracts the complexity associated with accepting both fiat and CBDC payments while providing frictionless experience from the end user's point of view.

Q: How does Zone's regulated blockchain network enable the issuance of digital currencies by third parties, and what impact does this have on the overall payment ecosystem?

Zone's regulated blockchain network ensures that the issuance of digital currencies by third parties complies with all regulatory requirements, emphasizing KYC and AML compliance. This regulatory oversight helps prevent fraud by restricting the manipulation of balances and enforcing stringent governance measures.

On Zone's decentralized model powered by blockchain, this reconciliation happens automatically.



OBI EMETAROM
CEO/Co-founder,
Zone

We also address the transparency issues common with many stablecoins by decentralizing the custody of physical assets. This means that the physical assets backing these digital currencies are managed transparently, reducing counterparty risks. Our compliance-related capabilities distinguish Zone from other blockchain networks, ensuring a secure and reliable environment for digital token issuance.

Q: What has Zone's user and revenue growth trajectory been like in the last 2 years? What new products are you planning to release and what are the biggest challenges you face regarding the project?

We have a roadmap to roll-out several new products, including payment acceptance via merchant and agent POS terminals, decentralized account-to-account transfer APIs, and online/mobile card payment acceptance. These will complement our existing ATM transaction volumes.

...digital currencies are managed transparently, reducing counterparty risks. Our compliance-related capabilities distinguish Zone from other blockchain networks, ensuring a secure and reliable environment for digital token issuance.



OBI EMETAROM
CEO/Co-founder,
Zone



In terms of challenges we see, one challenge will be in our international expansion. As we all know, there's a huge angle around regulator engagement in different countries because different regulators have different viewpoints about payment systems and what they want to achieve. They also have different views on blockchain, crypto and all of these technologies. We need to navigate those viewpoints and play a major role in terms of guiding and educating on the benefits and value proposition of this new technology.

Q: In terms of KYC, anti-money laundering compliance, and exchange controls, how does Zone address regulatory concerns to ensure mass adoption of digital currencies across the country?

Our strategy involves embedding regulatory guidelines directly into our system's logic. Traditionally, central banks set guidelines and conduct audits after the fact, which can be costly and inefficient.

By defining these guidelines as tamper-proof smart contracts on the blockchain, compliance is enforced in real time.

For example, our platform includes automatic AML screening to prevent blacklisted entities and users without proper KYC documentation from participating. By using smart contracts, we shift from post-event audits to proactive enforcement, ensuring continuous compliance and significantly enhancing regulatory adherence.

Q: Looking towards the future, what role does Zone envision for itself in the evolving landscape of cashless payments, especially in the context of the hybrid model combining fiat and digital currencies within a volatile regulatory environment?

We acknowledge the regulatory volatility, driven by changes in leadership and economic conditions like devaluation.

Our strategy balances short-term and long-term goals.

Short-term: We are focusing on fiat currency, enhancing the payment experience with reliable, frictionless, and universally interoperable infrastructure. Our aim is to eliminate issues like transaction failure, manual reconciliation, chargebacks, and fraud.

Long-term: We anticipate the rise of regulated digital currencies. Our goal is to facilitate their compliance with regulation and accelerate their adoption while ensuring seamless interoperability with fiat currencies. By building a robust infrastructure, we aim to usher in the era of cashless payments, while laying the foundation for the inevitable transition from TradFi to regulated DeFi.

Emerging Technologies and Regulatory Policies




3.1 Regulatory framework and changes in the payment industry

Nigeria's payment system operates under a multi-layered regulatory framework involving various institutions that work collaboratively. Despite that, some clear distinctions need to be made as to the major players when it comes to regulations. The CBN is the main institution regulating the entire payments system. The CBN issues various regulatory guidelines and circulars that covers different aspects of payment services including providing licenses, as seen in **Appendix B & C** for example, and requirements for payment service providers. The CBN also sets risk management frameworks, Anti-Money Laundering and Countering Financing of Terrorism (AML/CFT) regulations, and Consumer protection measures through the Consumer Protection Council (CPC) and the Federal Competition and Consumer Protection Commission (FCCPC).

To provide even more regulatory clarity, the CBN also drafted the Payment Systems Governance Bill to address the pre-

vailing legal vacuum concerning payment systems within the country.⁹²

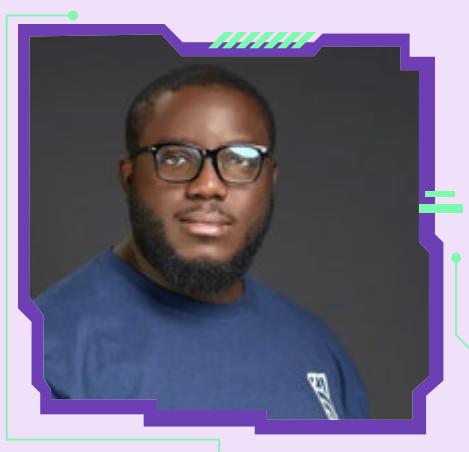
Despite the implicit authority granted to the CBN by the CBN Act of 2007 to regulate payment systems, the new Bill seeks to explicitly establish exclusive provisions in this domain. In accordance with Section 47 (1) of the CBN Act, the CBN is directed to facilitate the clearing of cheques and credit instruments for banks operating in Nigeria. This entails the establishment of clearing houses through collaboration with other banks at suitable times and locations as determined by the Bank. Section 47 (2) underscores the ongoing responsibility of the CBN to actively promote and facilitate the development of efficient systems for transaction settlement. Section 17 confirms the CBN's exclusive prerogative to issue bills and coins throughout Nigeria. Outside of this, the CBN ensures the payment system is well regulated as can be seen through the numerous guidelines and frameworks in **Table 7**.



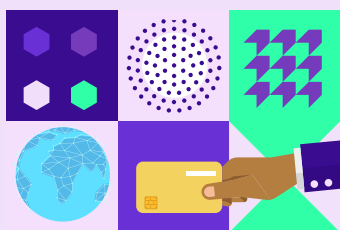
The CBN issues various regulatory guidelines and circulars that covers different aspects of payment services including providing licenses

⁹² See <https://www.cbn.gov.ng/out/2010/circulars/bod/payment%20system%20management%20bill.pdf>

“While occasional setbacks have occurred, such as CBN inquiries, Kora, as a registered PSSP, appreciates the increased attention and oversight. The maturation of the payment industry, marked by the emergence of key players like Flutterwave and Paystack, has prompted regulatory bodies to actively engage with the sector. Regulatory checks, like those conducted by the CBN, are considered positive by Kora. The company welcomes regulatory scrutiny as a means to foster a healthier and more secure market environment, preventing the entry of bad actors.”



Ayodeji Osisami
CFO, Kora



Despite the numerous functions carried out by the CBN itself, it is aided together with the Nigeria Deposit Insurance Corporation (NDIC) to provide the necessary oversight function to ensure that the payment system is both efficient and effective. According to Section 2 of the NDIC Act of 2006, the NDIC's most important mandate is to ensure insurance of deposits, giving it a role as a Risk Minimiser.⁹³ As at December, 2022, the NDIC states that there was a total 46.28 trillion naira as total bank deposits.⁹⁴ 44.99 trillion naira of that sum, or 97%, are deposits of deposit money banks (DMBs) and mobile money operators (MMOs) (see **Figure 25**).

Non-interest banks had a total deposit of 587.20 billion naira. MFBs deposits were 507.63 billion naira, while primary mortgage banks and payment service banks had a deposit of 181.93 billion naira and 11.88 billion naira respectively. Out of all those deposits, the NDIC states that only 6.13 trillion naira was insured as at December, 2022. Of that amount, only 5.69 trillion naira of DMBs' and MMOs' deposits was insured, of the total 44.99 trillion naira deposits.

N587.20b

total deposit from
non-interest banks

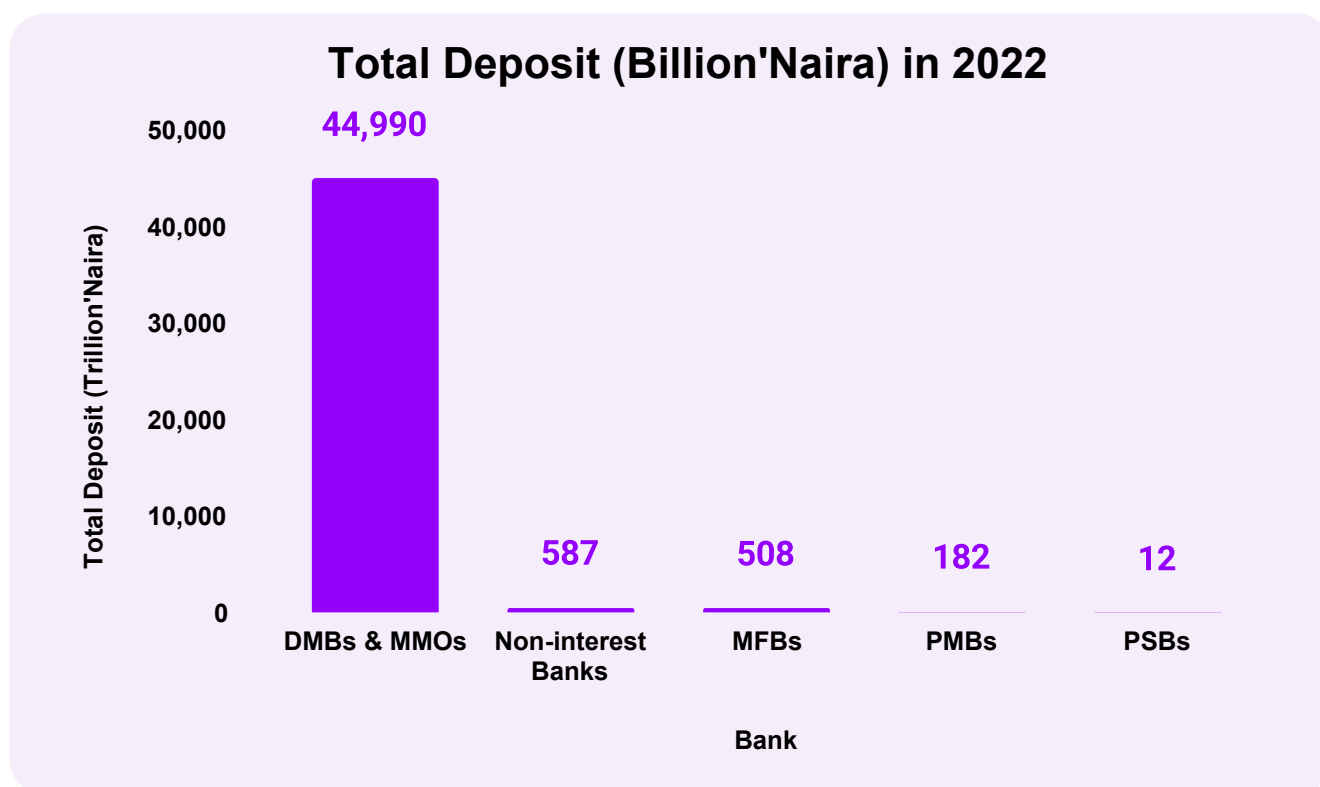
N181.93b

deposit from primary
mortgage banks

⁹³ See <https://ndic.gov.ng/about/mandate-power-and-functions/>

⁹⁴ See <https://ndic.gov.ng/resources/facts-and-figures/>

Figure 24. Most Funded Disruptors between 2021 & 2022



Under the Pass-Through-Deposit Insurance scheme, subscribers of MMOs will receive insurance coverage up to a maximum of 500,000 (Five Hundred Thousand Naira) per subscriber per DMB, or the relevant coverage level for depositors as specified by the NDIC Act.⁹⁵ Several financial institutions are not covered under the NDIC including development finance institutions like Bank of Industry, Federal Mortgage Bank, Bank of Agriculture and infrastructure banks. Discount houses, finance companies, investment firms, unit trusts/mutual funds, insurance companies, Pension Fund Administrators (PFAs) and stockbroking firms are also not covered by the NDIC. When it comes to insuring depositors, the NDIC assures the reimbursement of deposits in the unfortunate

event of a participating financial institution's failure, providing a maximum insured sum of N500,000 for depositors in DMBs and Primary Mortgage Bank (PMBs), and N200,000 for depositors in MFBs.

Several financial institutions are not covered under the NDIC including development finance institutions...

⁹⁵ See [https://ndic.gov.ng/frequently-asked-questions/#:~:text=a\)%20Deposit%20Guarantee,of%20a%20participating%20financial%20institution.](https://ndic.gov.ng/frequently-asked-questions/#:~:text=a)%20Deposit%20Guarantee,of%20a%20participating%20financial%20institution.)

Table 7. A comprehensive list of Payment System Regulations in Nigeria

Regulatory Body	Major Payment System Regulations
Central Bank of Nigeria (CBN)	<p>Payment System Management Bill</p> <p>Standards and Guidelines on Electronic Channels Operations in Nigeria</p> <p>Guidelines on operations of bank accounts for Virtual Assets Service Providers (VASPs)</p> <p>Nigerian Payment System Risk and Information Security Management Framework</p> <p>Guidelines for Contactless Payments in Nigeria</p> <p>Regulatory Framework for the Agent Banking in Nigeria</p> <p>Operational Guidelines for Open Banking in Nigeria</p> <p>Guidelines for Licensing and Regulation of Payments Service Holding Companies in Nigeria</p> <p>Framework and Guidelines on Mobile Money Services in Nigeria</p> <p>Supervisory Framework for Payment Service Banks</p> <p>Regulatory Framework on Non-Bank Merchant Acquiring in Nigeria</p> <p>Framework for Quick Response (QR) Code Payments in Nigeria</p> <p>Guidelines on Operations of Electronic Payment Channels in Nigeria</p> <p>Standards on Nigeria Uniform Bank Account Number (NUBAN) for Banks and Other Financial Institutions</p> <p>Regulation for the Operation of Indirect Participants in the Payments System</p> <p>Regulation on Electronic Payments and Collections for public and Private sector in Nigeria</p> <p>Regulation on End to End Electronic Payment of Salaries, Pensions & Other Remittances & Revenue Collections in Nigeria</p>

Regulatory Body	Major Payment System Regulations
Central Bank of Nigeria (CBN)	<p>Regulation on Instant (Inter-Bank) Electronic Funds Transfer Services in Nigeria</p> <p>Regulation for Bill Payments in Nigeria</p> <p>Regulation for Direct Debit Scheme in Nigeria</p> <p>Guidelines on Securities Settlement in Nigeria</p> <p>Guidelines on Transaction Switching in Nigeria</p> <p>Guidelines for the Operation of Treasury Single Account (TSA) by State Governments in Nigeria</p> <p>Guidelines on International Mobile Money Remittance Service in Nigeria</p> <p>Regulatory Framework for Mobile Payment Services in Nigeria</p> <p>POS Guidelines</p> <p>Switching/Stored Value Guidelines Standard</p> <p>Standard and Guidelines on ATM Operations in Nigeria</p> <p>Operational Rules and Regulations for the Nigeria Central Switch (NCS)</p> <p>Cash-less Nigeria (Cash Policy)</p> <p>NDIC Act of 2006</p> <p>Payment Card Industry Security Standards (PCI DSS)</p> <p>Principles for Financial Market Infrastructures (PFMI)</p>
Nigeria Deposit Insurance Corporation (NDIC)	
Payment Card industry Security Standards Council	
Committee on Payment and Settlement Systems (CPSS) & Technical Committee of the International Organization of Securities Commissions (IOSCO)	

Regulatory Body	Major Payment System Regulations
Central Securities Clearing System (CSCS)	Rules of the Central Securities Clearing System
Nigerian Stock Exchange (NGX)	Rulebook of the Nigerian Stock Exchange
Securities and Exchange Commission (SEC)	Capital Market Operators Anti-Money Laundering And Combating The Financing Of Terrorism Regulations Investments and Securities Act Guidelines on Sustainable Financial Principles for the Nigerian Capital Market
National Information Technology Development Agency (NITDA)	National Blockchain Policy for Nigeria Nigeria Data Protection Regulation (NDPR) National Policy on Fifth Generation (5G) Network for Nigeria's Digital Economy
Federal Competition & Consumer Protection Commission (FCCPC)	Federal Competition and Consumer Protection Act Federal Competition and Consumer Protection Leniency Rules FCCPC Merger Review Guidelines

3.2 Gap Analysis of the Regulatory framework

The examination of Nigeria's payment system regulatory landscape reveals significant gaps and opportunities for improvement. As can be seen from Table 7, one prominent issue is the presence of overlapping and redundant regulations, exemplified by instances like the coexistence of "Guidelines on Operations of Electronic Payment Channels in Nigeria" and "Standards and Guidelines on Electronic Channels Operations in Nigeria," as well as the pairing of "Regulation for the Operation of Indirect Participants in the Payments System" and "Regulatory Framework for Agent Banking in Nigeria." This redundancy introduces confusion among stakeholders, potentially resulting in inconsistencies during implementation. Addressing this challenge through the consolidation or merging of overlapping regulations could enhance clarity and streamline compliance efforts.

Furthermore, a critical assessment of the regulatory framework identifies potential gaps in coverage. Despite the existence of "Operational Guidelines for Open Banking in Nigeria," additional regulatory frameworks, particularly those related to data protection and privacy, may necessitate further development to instill user trust and confidence in data sharing practices.

Additionally, the regulatory landscape may not fully encompass the dynamism of the financial sector, potentially lagging behind emerging technologies such as cryptocurrency, blockchain, and innovative payment methods as will soon be discussed in subsequent sections in this report. Adapting the regulatory framework to accommodate these innovations while prioritizing financial stability and consumer protection remains imperative.

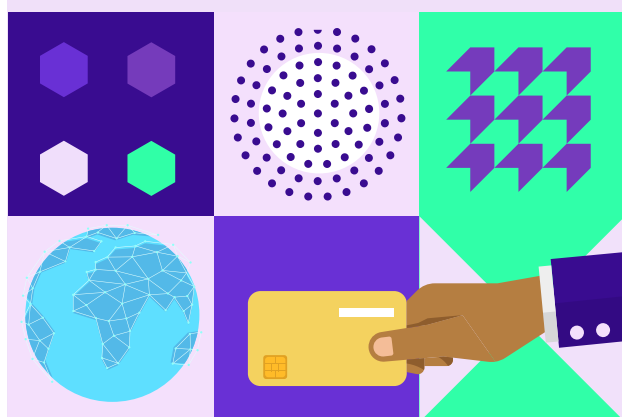


Despite the existence of "Operational Guidelines for Open Banking in Nigeria," additional regulatory frameworks, particularly those related to data protection and privacy, may necessitate further development to instill user trust and confidence in data sharing practices.

"In the months following the implementation of the cashless policy, significant growth was observed across all our businesses. This surge was particularly pronounced as many of our businesses are intricately linked with the real economy. This rapid growth phase, however, has transitioned into a stabilized state, with digitized transactions now becoming the norm within our businesses and their respective customer bases." The policy shift undeniably contributed positively to our operations, but it also left behind issues related to reliability."



Yele Oyekola
Duplo, CEO/Co-Founder



Another important point to include is that the involvement of multiple regulatory bodies in overseeing the payment system raises concerns about coordination and harmonization. Streamlining inter-agency communication and collaboration, especially locally within Nigeria, is crucial to ensuring consistent enforcement and interpretation of regulations across various stakeholders. Accessibility poses another critical concern, as the sheer volume of regulations may overwhelm both payment service providers and consumers. Efforts to simplify regulations and make them easily accessible through user-friendly formats, along with public awareness initiatives, are essential to enhance understanding and compliance.

Finally, regular assessments of the impact of existing regulations are crucial for understanding their effects on the payment system's efficiency, inclusivity, and innovation. This ongoing evaluation allows for adjustments or the introduction of new regulations that foster a dynamic and responsive regulatory environment, capable of supporting the evolving needs of the Nigerian payment system.

On this point, it should be noted that the majority of the regulatory bodies identified in **Table 7** try to ensure regulations are reassessed through revised or updated versions. The aim here is to encourage such regulatory bodies, like the CBN, to continue revising regulations as necessary within the payment system, and to encourage regulatory bodies who lag behind to reassess dysfunctional regulations which do not reflect the current context of the Nigerian payment system.


3.3 The impact of the Regulatory Framework on innovation

The complex regulatory landscape governing Nigeria's payment system yields a mixed impact on innovation, with both positive and negative aspects influencing the development and adoption of innovative solutions. On the positive side, certain regulations contribute to enhancing security and risk management, such as the "Nigerian Payment System Risk and Information Security Management Framework" and "Payment Card Industry Security Standards (PCI DSS)."

These frameworks elevate security standards, instilling trust and confidence in the payment system, thereby encouraging innovation within a safer environment. Additionally, regulations like the "Regulatory Framework for Agent Banking in Nigeria" and "Framework and Guidelines on Mobile Money Services in Nigeria" promote financial inclusion, expanding the user base for innovative payment solutions. Moreover, standards like "Standards on Nigeria Uniform Bank Account Number (NUBAN)" and "Guidelines on Transaction Switching in Nigeria" foster standardization and interoperability. These standards facilitate seamless communication between different payment systems, potentially easing the integration of new technologies and services.

However, the regulatory landscape also introduces challenges that may hinder innovation. The extensive list of regulations, such as the "Payment System Management Bill" and "Standards and Guidelines on Electronic Channels Operations in

Nigeria," imposes a significant compliance burden. This burden, particularly on smaller players, can be disruptive and costly, potentially stifling innovation. Other than this, regulatory uncertainty emerges as a negative impact, especially in addressing emerging technologies like open banking and cryptocurrency. The evolving nature of technology and potential gaps in regulations create uncertainty, leading to hesitation from potential innovators and hindering the development and adoption of new solutions. Furthermore, some regulations, like "Guidelines for Licensing and Regulation of Payments Service Holding Companies in Nigeria," may inadvertently limit competition by creating barriers to entry or favoring established players, potentially stifling innovation in the long run.



...regulatory uncertainty emerges as a negative impact, especially in addressing emerging technologies like open banking and cryptocurrency.

The impact of Nigeria's payment regulatory landscape on innovation is complex and multifaceted. When speaking to Adebowale Eyinade, Head of EChannels and Digital Collections at FSDH Merchant Bank, he gave us a short story of the impact that regulation can have on innovation. He said "when card businesses started in the country. Initially, people did not want to collect cards. If you went to banks, you'd see people being offered cards but they were unwilling to use them. But today, we are at that point where you can walk into a bank and collect your card immediately. That is an example of a way regulation has tried to balance what happens in the industry."

Striking a balance between ensuring a secure, stable, and inclusive payment system and fostering a dynamic environment for innovation is crucial and that is what regulation does for innovation as Adebowale Eyinade has said. Regularly reviewing and updating regulations to reflect the evolving technological landscape and user needs will be essential. By adopting a flexible and forward-thinking approach to regulation, Nigeria can create a nurturing environment that fosters innovation while maintaining a secure and efficient payment system for all stakeholders.

3.4 Influence and potential of emerging technologies in Nigeria's Payment system

The type of technologies in Nigeria's payment system have long been a critical factor in its advancement. From the first evolutionary Phase to the third, technological innovation and advancements have allowed the system to progress onwards. Before Nigeria introduced the Magnetic Ink Character Recognition (MICR) for example, payment processing was much more complex and cumbersome. The same was true before the introduction of the BVN and NUBAN, as those two numbering systems allowed for improved identification systems which curbed cases of identity-related risks. Similarly, the past few years has also introduced some emerging technologies which are important to highlight and elaborate upon. The main areas where emerging technologies are improving Nigeria's payment system are in blockchain technology and artificial intelligence (AI). Though the former is more utilized and in use, the latter provides the necessary step forward that will allow the payment system to unlock even more potential in the country.

Blockchain in Nigeria has garnered both a reputation for disruption and controversy. Beginning with controversy, blockchain in Nigeria became popularized in the past few years due to the rise and popularity of cryptocurrency. The Emefiele led CBN had in 2018 publicly stated that cryptocurrencies and virtual currencies are not regulated by the CBN.⁹⁶ This came as a result of the rapid growth of the popularity and participation of Nigerians in trading cryptocurrency as a form of storing value and accessing non-Nigerian markets. As at 2020, Nigeria was the third country that traded cryptocurrency the most, generating more than \$400 million worth of transactions.⁹⁷ In a survey conducted by Statista in the same year, 32% of Nigerians claimed to own cryptocurrencies (see **Figure 26**).⁹⁸ As a result of this, it was clear why the CBN felt the need to quickly handle the situation and be clear about cryptocurrency in Nigeria. By 2021, the CBN decided to unveil the eNaira in partnership with Bitt Inc. The country's own Central Bank Digital Currency (CBDC).⁹⁹

As at 2020, Nigeria was the third country that traded cryptocurrency the most, generating more than \$400 million worth of transactions.

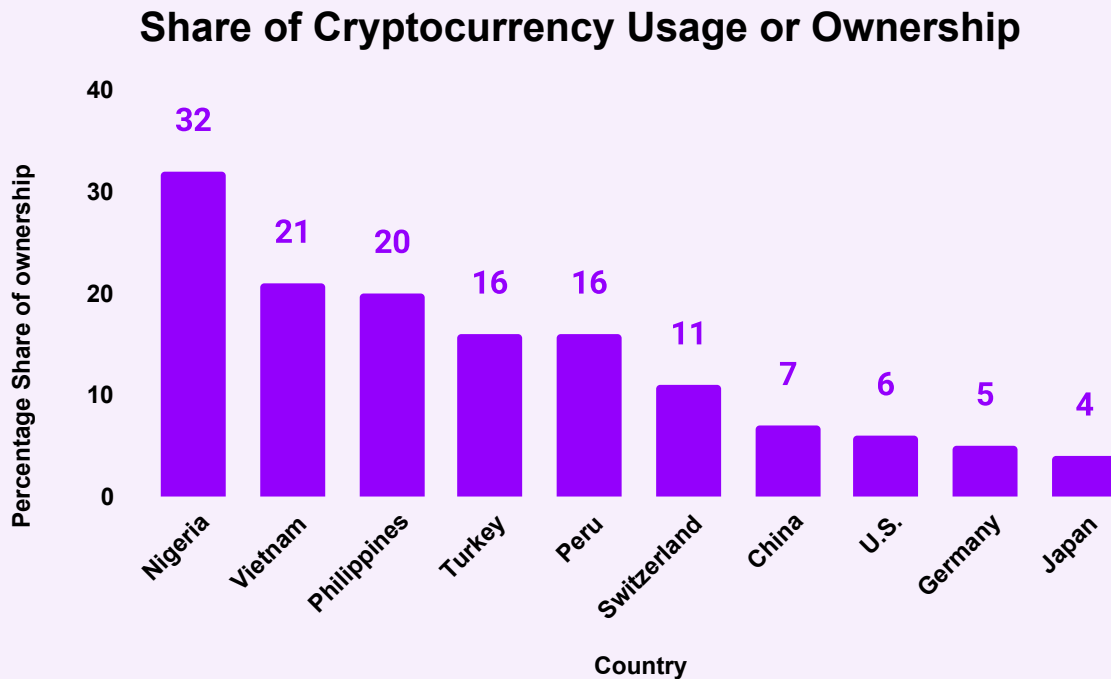
⁹⁶ See <https://www.cbn.gov.ng/Out/2018/CCD/Press%20Release%20on%20Virtual%20Currencies.pdf>

⁹⁷ See <https://www.bbc.com/news/world-africa-56169917>

⁹⁸ See <https://www.statista.com/chart/18345/crypto-currency-adoption/>

⁹⁹ See <https://www.cbn.gov.ng/Out/2021/CCD/eNaira%20Launch%20Press%20release%20%20231021.pdf>

Figure 26. Share of Cryptocurrency Ownership in 2020. *Source:* Statista



eNaira is supposed to be a digital form of the naira and has the status of being legal tender by law. The eNaira employs an account-based blockchain technology, enabling transactions to be tracked back to identified individuals or businesses when required.¹⁰⁰ The eNaira is stored digitally in the eNaira wallet and currently has 32 tech partners (see **Appendix F**). This partner agent framework was created,

according to the CBN, because “partners are instrumental in sensitizing and onboarding customers to the eNaira platform, fostering adoption and promoting financial literacy.”¹⁰¹ The incentives for partners is that for every user who successfully signs through the partner agent framework, and completes a minimum of three transactions within three months, a total of 90 naira will be paid to such partners.

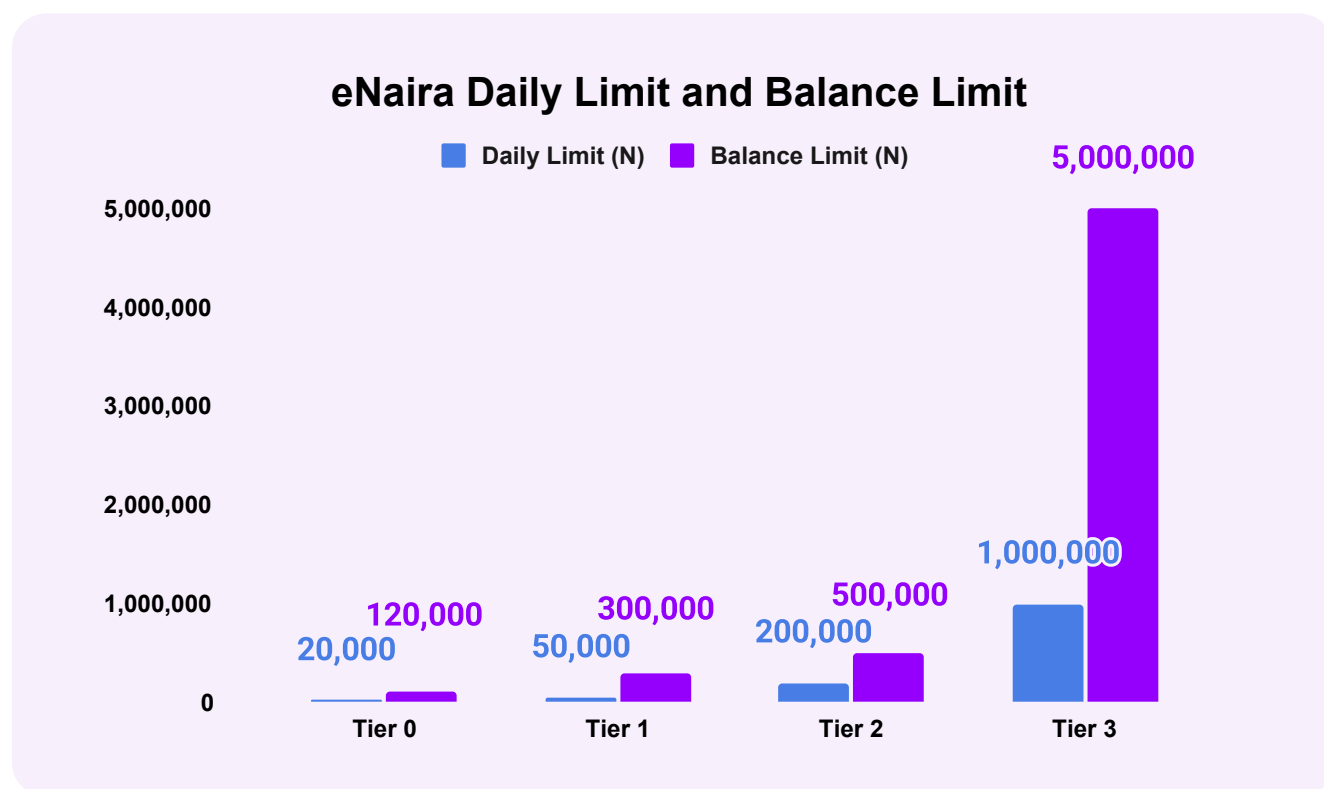
The eNaira employs an account-based blockchain technology, enabling transactions to be tracked back to identified individuals or businesses when required.



¹⁰⁰ See <https://www.imf.org/en/Publications/WP/Issues/2023/05/16/Nigerias-eNaira-One-Year-After-533487>

¹⁰¹ See <https://enaira.gov.ng/partner-agents/>

Figure 27. Limits for the four eNaira Tiers. *Source:* CBN



The eNaira was created taking into account the regulatory framework of Nigeria's Blockchain Policy, Cyber Security Policy, Digital Economy Policy (NITDA), and the Broadband Policy (Ministry of Communications and Digital Economy). As can be seen from **Table 8**, there are different identification measures employed by the eNaira depending on one's category. The same category also defines what a person or entities account limit is. When it comes to the technology itself, the International Monetary Fund (IMF) published

report on the performance of the eNaira after a year of operation.¹⁰²

The report states that no major risk factors were identified, with the eNaira having no downtime or outage for a full year. When it comes to wallet downloads, retail downloads amounted to 860,000 as at end-November 2021. Merchant wallet downloads stood at 100,000 downloads. Unfortunately however, 98.5% of wallets have not been used once (see **Figure 27**).



¹⁰² See <https://www.imf.org/en/Publications/WP/Issues/2023/05/16/Nigerias-eNaira-One-Year-After-533487>
¹⁰¹ See <https://enaira.gov.ng/partner-agents/>

Table 8. eNaira Know Your Customer (KYC) Requirements. Source: CBN¹⁰³ & IMF¹⁰⁴

Tier	Client Category	Requirement to Open eNaira Wallet	Means of Identification	Account Limits
0	Retail (inclusive of individuals without bank account)	Phone number	No identify information required except for phone number	<ul style="list-style-type: none"> Daily transaction limit - 20,000 naira Balance limit - 120,000 naira
1	Retail (inclusive of individuals without bank account)	Phone number (national id number verified)	Basic identify information (e.g., photo, name, date of birth); no evidence required; no verification required	<ul style="list-style-type: none"> Daily transaction limit - 50,000 naira Balance limit - 300,000 naira
2	Retail (individuals with bank account)	Bank verification number (BVN)	Basic identify information (e.g., photo, name, date of birth); evidence required for submitted information; customer to be verified through official databases	<ul style="list-style-type: none"> Daily transaction limit - 200,000 naira Balance limit - 500,000 naira
3	Retail (individuals with bank account)	Bank verification number (BVN)	Full identify information and evidence (including proof of address and physical presence in the address) in pursuant to CBN's AML/CFT Regulation 2009. Risk-based verification done.	<ul style="list-style-type: none"> Daily transaction limit - 1,000,000 naira Balance limit - 5,000,000 naira
Merchant		Existing bank account, TIN, BVN of MD/CEO, email address, business certificate	Full KYC requirement in pursuant to CBN's AML/CFT Regulation 2009.	<ul style="list-style-type: none"> No limit

¹⁰³ See <https://www.cbn.gov.ng/out/2013/ccd/3%20tiered%20kyc%20requirements.pdf>
¹⁰⁴ See <https://www.imf.org/en/Publications/WP/Issues/2023/05/16/Nigerias-eNaira-One-Year-After-533487>

Blockchain has also become much more popular outside of blockchain. The National Information Technology Development Agency (NITDA) recently released the National Blockchain Policy for Nigeria which serves to regulate and determine the use of blockchain in Nigeria. The Policy serves as a comprehensive framework for the widespread adoption of blockchain technology across diverse sectors within the Nigerian economy. With the overarching goal of enhancing efficiency, transparency, and security, the policy specifically targets key areas such as finance, healthcare, education, and logistics.

Within the financial services sector, the policy is designed to establish a regulatory foundation that facilitates the seamless integration of blockchain technology. Simultaneously, it places a strong emphasis on safeguarding consumer interests and ensuring the stability of the overall financial system. To promote innovation within the fintech sector, the policy includes provisions for financial support and incentives aimed at startups and pioneers in the field such as Zone. Moreover, it encourages financial institutions to incorporate blockchain technology into their operations, fostering collaboration with international entities to establish global standards and best practices for blockchain adoption in financial services.

According to a study by Enhancing Financial Innovation and Access (EFInA), blockchain contributed \$1.1 billion to Nigeria in 2021, and another \$2.6 billion in 2022.¹⁰⁵ EFInA also states that blockchain usage could increase Nigeria's GDP by \$29 billion by 2030 (see **Figure 28**).

"Artificial intelligence (AI) is definitely a technology that has derived a lot of attention and we have started creating pipelines as to how we can leverage it. NFC is not well spoken of but it is also important, when you think about the future of connectivity and contactless payments. In the future, people will also be able to make payments using their watches as is already happening in countries outside Nigeria. Open Banking has also come to stay with us. Same with blockchain and biometrics."



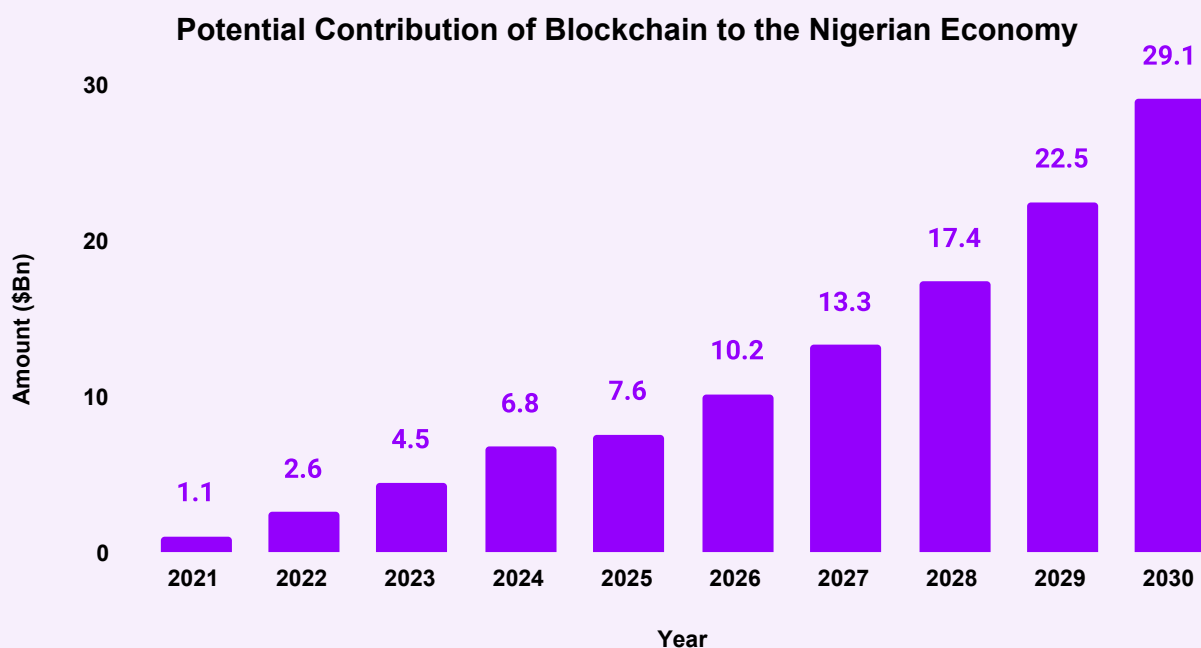
Adebowale Eynade
Head of E-Channels & Digital
Collections at FSDH Merchant Bank



They also state that payments and financial instruments using blockchain will contribute about 1% to GDP by 2030. When it comes to access to payments, EFInA indicates that P2P transfers and payments in remittances could be deployed to improve financial inclusion.

¹⁰⁵ See <https://www.efina.org.ng/wp-content/uploads/2021/04/Full-EFInA-Report-Potential-of-Blockchain-for-Financial-Inclusion-in-Nigeria-1.pdf>

Figure 28. Potential Contribution of Blockchain to Nigeria’s Economy (2021 – 2030). *Source: EFInA*



Another area where blockchain could be deployed by the same report is through supply chain financing, input financing, micro and decentralized lending, micro savings and investments, and real estate assets. As can be seen from the use-cases in **Table 9**, more and more companies are

continuously aiming to prove the blockchain case. Should they succeed, the \$29 billion potential might be achieved thereby seeing the payment system receive, account and disburse all such transactions.



Table 9. Blockchain use-cases in Nigeria. Source: EFInA¹⁰⁶

Blockchain use-case category	Private sector players
Payments and cryptocurrency	<p>Busha</p> <p>Buy coins</p> <p>Quidax</p> <p>Luno</p> <p>Coinapps</p> <p>Bitsika</p> <p>Bit Pesa</p> <p>KuBitx</p> <p>Paxful</p> <p>Flash</p>
Lending	<p>Afex</p> <p>Openfactor</p>
Land registration and real estate	<p>Seso Global</p> <p>House Africa</p>
Commodity Exchange and Trading	<p>Afex</p> <p>Binkabi</p>
Supply Chain	<p>Interswitch</p> <p>Sterling</p>

¹⁰⁶ See <https://www.efina.org.ng/wp-content/uploads/2021/04/Full-EFInA-Report-Potential-of-Blockchain-for-Financial-Inclusion-in-Nigeria-1.pdf>

When it comes to artificial intelligence (AI), the technology in the payment system in the country is still evolving. The biggest use-case in Nigeria where AI is gaining momentum in the payment system is in the Insurtech space. In the InsurTech space, companies like Casava, ETAP, Octamile, Curacel, and Evolutics are amongst those who are experimenting with the potential of the deployment of AI in Nigeria.¹⁰⁷ AI in Insurtech will be used to analyze complex customer data to

improve profitability and determine a good customer from a bad one.¹⁰⁸ Like credit companies who need to know a good customer from a bad one, better decision making can be improved through big data that is properly analyzed by AI and machine learning. Besides Insurtech, AI can also enhance other payment system components such as customer relations through the use of chat-bots and robo-advisors for financial institutions.

¹⁰⁷ See <https://nairametrics.com/2022/08/11/top-5-nigerian-insurtech-startups-by-funds-raised-since-2021/>

¹⁰⁸ See <http://ijeie.jalaxy.com.tw/contents/ijeie-v11-n1/ijeie-v11-n1.pdf#page=43>

3.5 Interview with OnePipe CEO, Ope Adeoye/Founder

OPE ADEOYE

CEO,
OnePipe



Q: *In a previous interview conducted by TechCabal, it was mentioned that OnePipe initially aimed to create an API Gateway connecting Banks and Fintech under a uniform standard for core open banking. However, it seems there was a pivot from this decision. Could you please elaborate on the challenges that led to this pivot? Additionally, which specific aspect of embedded payments OnePipe is currently focusing on?*

Yeah, so full disclosure, I wouldn't exactly say we pivoted. I'll just say the pressures of having to demonstrate growth in the short to mid-term has made us kind of jump to the end, where we would have preferred not to be so soon, and start investing efforts in those things. Broadly speaking, **we really just want OnePipe to be a set of APIs for interacting with banks directly.** That's a positional long term play. It is purely infrastructure.

It means that if somebody wanted to launch a payment product, then they should be able to consume OnePipe APIs to do it faster.

OnePipe envisions itself as a game-changer, positioning itself as the intermediary between banks and entities seeking to build unique products, offering a single API for every bank's offerings. While we'd have loved the luxury of sticking strictly to that long term vision; reality showed us it was going to be a time-consuming process of negotiating deals with individual banks, surfacing their APIs, and the gradual setup of the base infrastructure. To address this, OnePipe considered an interim approach. Instead of pursuing deals with multiple banks at the same time, the company chose to halt at the third bank, gather available data and functionalities, and focus on collaborating with startups willing to build on this foundation.

However, OnePipe encountered yet another surprise as, even at the third bank, they found that startups were not attracted to their offerings, seeking a more extensive portfolio. Adapting to this challenge, OnePipe decided to build its own products, such as PaywithTransfer for payments and Growtrade (created in partnership with Support Microfinance Bank & another startup called WeKurnect) for credit in FMCG. This strategy allowed them to showcase the platform's capabilities, drive growth in the short term, and generate revenue independently of third-party collaboration. The decision to build these homegrown products while still expanding the bank base has positioned OnePipe on bank number seven.

So, "pivot" in this context refers to an accelerated shift towards launching products that OnePipe initially wanted others to launch, driven by the need to demonstrate growth within a shorter time frame. The ongoing challenge is to balance the expansion of the bank base with showcasing and driving new products and achieving short-term growth.

Q: Why did you choose the FMCG and commercial mobility industries for your Growtrade and PaywithTransfer products, and what trends have you observed in these industries from the time you started until now in 2023-2024?

We often emphasize that cash is the adversary, not competitors. The informal sector heavily relies on cash, making up a significant portion of the market still untouched by Fintech. Fintech penetration is still estimated at 10% to 18% of the total potential. Despite the growth in agency banking, cash withdrawal remains prevalent even with Fintech facilitating it. Considering cash as the primary challenge and acknowledging the cash dependence in the informal sector, we

delved into understanding the key sectors driving informal businesses. Research revealed that Fast-Moving Consumer Goods (FMCG) and mobility represent a substantial chunk, constituting around 30-40% and 20-30%, respectively. Identifying the cash dependence in these sectors, we explored how specific products could alleviate this reliance.

Recognizing that pure-play payments often fall short, we noticed the prevalent use of informal, trust-based credit in these sectors. Businesses typically operate on trust, where retailers borrow goods from distributors and promise repayment within a short period, marked up at a significant percentage. Traditional banks, while offering credit, lack visibility into these informal businesses. This insight led to the creation of GrowTrade, a solution blending wallets, payments, and credit. Distributors provide retailers with a bank account for purchasing goods, ensuring automatic payments for each transaction. The system offers transparency into the retailer's business while incorporating credit in a controlled environment.

The idea is to negotiate with banks to facilitate credit where the borrowed amount is exclusively used for transactions between retailers and distributors. This unique blend of wallets, payments, and credit tailored for the FMCG sector showcases how OnePipe can be effectively utilized for bespoke use cases, addressing the challenges of the cash-driven informal sector. This approach extends beyond pure payments and can be customized for various sectors like agriculture and mobility, making OnePipe a versatile solution for eliminating cash dependence in the informal economy.

Q: What key performance indicators (KPIs) and metrics does OnePipe use for internal data analysis and tracking growth? Can you provide insights into your growth over the past two years based on these indicators?

Initially, we faced challenges as we realized we needed to focus on one aspect rather than biting off more than we could chew. In terms of metrics, our North Star evolved over time. Initially, we measured success by the number of banks onboarded. As we progressed, we shifted focus to API calls per month, then transaction value processed, and later, the number of accounts managed. However, these metrics didn't fully translate to money in the bank for us, leading us to prioritize net revenue per month as our primary metric.

Despite achieving each milestone we set, such as managing 12 million accounts and processing over 3 billion USD annually, we acknowledged that these accomplishments did not translate proportionally to revenue. Consequently, our immediate metric shifted to net revenue per month.

Q: What challenges have you faced in deploying your banking as a service product in the Nigerian payment system, particularly in negotiations with banks? Additionally, how do existing regulations and policies in Nigeria impact or facilitate your operations in the broader context?

The primary challenge we faced with banks, initially, was the skepticism about our legitimacy. Banks questioned, "Who are you to walk into our office and ask for credit and debit API access?" Despite an initial attempt to establish credibility through my past career, it became

evident that this alone wouldn't suffice. We realized that even with established relationships, we would encounter significant delays in dealing with compliance, internal control, and legal issues, as this domain was relatively new and opinions varied widely.

To address this challenge, we decided to obtain a license, positioning ourselves as a regulated entity similar to banks. When approaching banks, our proposition changed to offering a white-label platform. We urged them to consider OnePipe as their own, with us working behind the scenes to support their operations. The idea was to help them navigate the challenges of the informal sector by providing a custom solution like Growtrade. To build trust, we suggested a vendor-client relationship as a way to start. We let them brand our platform, treating us as vendors creating tailored solutions for their customers. After working together for a few years, we could then discuss launching our own products. Two members of our founding team are also trustees of Open Banking Nigeria, allowing us to be both a trusted vendor and an authority on open banking.

Regarding the regulatory environment, we believe official open banking adoption would significantly benefit the ecosystem. Open banking would bring legitimacy for everyone in the API infrastructure space and provide a structured framework enforced by regulators. Instead of waiting for regulatory enforcement, we encouraged banks to join Open Technology Foundation (OTF) as members, taking a proactive approach to defining the standards and business models. Our strategy involved suggesting that banks become members of OTF, signaling their commitment to an ecosystem-driven approach. This preemptive action, we argued, would prepare them for eventual CBN regulations.

The last operational guidelines hinted at the importance of the ecosystem defining business models, and we anticipate explicit specifications and deadlines in future regulations.

In summary, our initial challenge with banks was establishing legitimacy, which we addressed by obtaining a license and proposing a white-label platform. We also navigated the evolving regulatory landscape by encouraging banks to join OTF, fostering a proactive approach to open banking standards and preparing for future regulations.

Q: Are there any plans for Growtrade and PaywithTransfer to expand beyond Nigeria, and if so, could you share details about your expansion strategy?

Regarding African expansion, an attempt in Kenya revealed the complexities of navigating different markets and regulatory landscapes.

Recognizing the unique challenges in each African market, we decided to solidify our position in Nigeria before revisiting expansion plans.

Moreover, we are reconsidering the traditional African expansion model, contemplating a strategy that involves global partnerships to address diverse currencies and international use cases. This approach, characterized by banking-as-a-service principles, focuses on creating value across regions, such as connecting Nigerians in Germany with Nigerian businesses through existing bank partnerships.

Our strategy emphasizes measured growth, prioritizing revenue generation in Nigeria before contemplating global partnerships as an alternative to a traditional African expansion. This approach reflects a careful consideration of market dynamics and currency diversity rather than a hurried expansion.

Market dynamics and future outlook



4.1 Impact of new payment trends and industry disruptions on customer behavior

As has been shown and proven in this report through previous sections, Nigeria's payment system has evolved consistently across three phases. The focus of this report are the new trends we see post-2020, or the third evolutionary phase of Nigeria's payment system. From **Table 6** and **Appendix D**, we clearly observe the growth and declines of certain performance metrics which evidently give us a better picture of the payment system. It is evident that the tremendous growth of Mobile App Transfers, Online Transfers, MMOs, and the NIP together paint a clear picture that Nigeria's payment system is becoming much more cashless and much more dependent on digital systems to properly function. The implication this has on customer behavior must have also been influenced somewhat, from the first to the third evolutionary phases.

The disruptors identified in the previous sections also make it clear that the new trends are not only observed by local stakeholders but also newer stakeholders who continuously invest in the businesses leading the execution of the payment trends we see. As noted, 8 Nigerian companies were able to raise \$1.17 billion between 2021 and 2022. To put this into perspective, the total estimated private investments in Africa in 2021 was around \$4.8 billion¹⁰⁹ and \$5.2 billion in 2022.¹¹⁰

The 8 Nigerian disruptors accounted for 11.7% of all private African investments between 2021 and 2022. These are funds that were used to influence customer behavior, preferences and choices. In this sense, if there is a place in the continent where payments should have influenced customer behavior, Nigeria would be a clear case study. And that is exactly what this section will elaborate on. How exactly has customer behavior been shaped as a result of the payment trends and disruptions identified in this report?

In a study conducted in Ilorin, Kwara State to assess the effect of e-payment on consumers' buying and payment experiences in retail outlets, the researchers found that there is a significant relationship between e-payment and buying experience.¹¹¹ According to the study, e-payment facilitates reliability, responsiveness and the assurance of purchase by customers in retail outlets.



¹⁰⁹ See <https://briterbridges.com/africa-investment-report-2022-by-briter-bridges>

¹¹⁰ See <https://www.bbc.com/news/world-africa-56169917>

¹¹¹ See http://www.academicexcellencesociety.com/impact_of%20e-paymentsystem_on_buying.pdf

When it comes to consumer adoption of POS, another study in Awka, Anambra State showed that the acceptance of the technology was dependent on customers' perceived ease of use and perceived usefulness in relation to their day to day activities. That is, customers were more inclined to adopt the normal usage of POS if they perceived that using the POS, or the agents attached, was very straightforward.

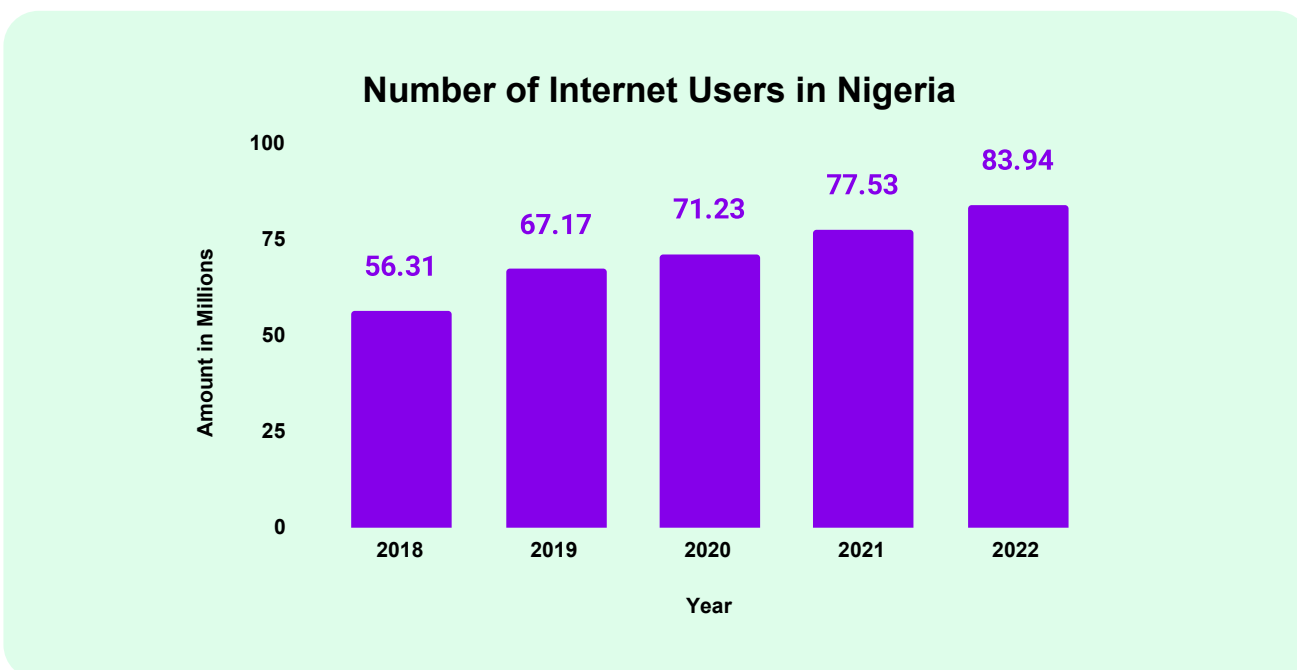
When it comes to explanations as to why customers are opting for internet banking over waiting in lines at ATMs, a 2021 study of customer satisfaction of First Bank Nigeria Plc, a tier 1 bank, revealed that a 1% increase in internet banking platform increases customer satisfaction by 30%. This is opposed to a 1% increase in the ATM payment platform which increases customer satisfaction slightly lower at 27%. What this means is that it makes much more effort to satisfy Nigerian customers

in the payment space using traditional payment channels, than it does over the newer digital payment channels.

These results must be taken in context, as the adoption and changes in customer behavior in the country also correlates with another important variable - internet user penetration. In 2018, there were 56.31 million Nigerian internet users in 2018 and 83.94 million in 2022 (see **Figure 29**).¹¹² This is a 49% increase which clearly influenced the simplification of the digitization of Nigeria's payment system.

As revealed by two researchers at the College of Business & Management Studies at Kaduna's Polytechnic, another important influence to this growth that cannot be denied is the behavioral change that COVID-19 itself forced upon customers, which made online payments a much more straightforward behavior to adopt post-2020.¹¹³

Figure 29. Number of Internet Users in Nigeria (2018 - 2022). *Source:* Statista



¹¹² See <https://www.statista.com/statistics/183849/internet-users-nigeria/>

¹¹³ See Dauda, S., & Nma, J. A. (2021). The impact of COVID-19 on customers' online banking and e-payment usage in Nigeria. *International Journal of Intellectual Discourse*, 4(3), 363-380.

4.2 Analysis of customer acquisition trends and preferences

Customer acquisition trends vary across the different payment system categories identified in Section 3.2 and **Table 3**. The biggest customer acquisition adversary the payment system still experiences is the prevalence of the cash economy which many Nigerians have been used to. According to Power Africa, customer acquisition in the digital payments landscape is limited due to the under-developed digital payments landscape in itself which can be attributed to low financial inclusion, low mobile money awareness and restrictive regulations.¹¹⁴ This can be seen as the average cost of cash handling activities across all sectors in the country stood at 9.1% in 2018. Even at that, acquiring a customer in different parts of the country comes with different layers of complexities.

The market landscape for PSBs, for example, is a tightly contested one. The customer base for PSBs in the country is around 30 million according to GSMA.¹¹⁵ PSBs have a unique licensing position that specifies them to provide access points to consumers in rural areas. Given this position, customer growth for PSBs is highest in rural areas because of the amount of unbanked and underbanked adults in those areas. The problem with such a customer base however, from a business perspective, is their profitability and potential for high-value transactions over the long run.

The main revenue channels for PSBs are cash-in cash-out (CICO), transaction fees from cash transfers and collections. Innovation with this revenue model is difficult as these are the revenue models defined by the existing regulatory framework. For this reason, PSBs would not be able to offer credit to their customer base even though they might be the closest access to finance such customers might have.

In a similar vein, the cost of acquiring customers in the north is also much higher due to the amount of people excluded in the financial system.¹¹⁶ The cost is higher because a lot of energy and resources would have to be put into financial literacy and education. These are resources that would otherwise have been used for improving core business products and services.



9.1%

average cost of cash handling activities across all sectors in the country stood in 2018

¹¹⁴ See https://pdf.usaid.gov/pdf_docs/PA00WBPK.pdf

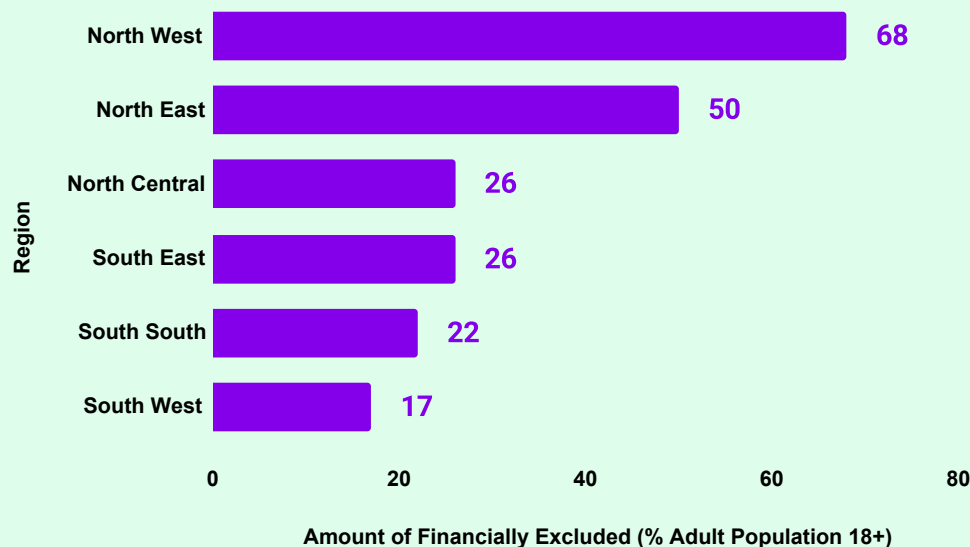
¹¹⁵ See https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2022/03/Nigeria_CIU_R_WEB.pdf

¹¹⁶ See <https://efina.org.ng/wp-content/uploads/2021/10/A2F-2020-Final-Report.pdf>

The north west has 68% of its adult population excluded from the payment system (see **Figure 30**). Similar instances stand in the north east where 50% of the adult population are also outside the payment system. This is in contrast to any of the three southern regions where the most excluded region only has 26% of its adult population excluded from the financial payment system.

The same situation is true for women as more Nigerian women, 40%, are excluded from the financial system entirely relative to men, at 32%. For these kinds of customer base, agency banking will be a much more progressive customer acquisition strategy as it will be the most cost-effective whilst providing the sufficient amount of customer satisfaction as we have seen in the studies in Section 6.1.

Figure 30. Financially Excluded Adults by Regions in Nigeria. *Source:* EFInA



Furthermore, the quality of customers for many businesses in the payments system, such as those identified in Section 3.4 and 3.5, might still be quite low with only 10.4 million business owners in Nigeria having the capacity to employ others out of 49.3 million business owners in the country. The quality of business ownership will directly translate to transaction value, which, at the end of the day, is what determines the type of products and technologies to be deployed in the payment system. In an environment like this, the need for business and economic growth generally

becomes beneficial to the payment system as well as businesses growing means much more payment activity happening which then spirals into the ability to attract more funding based on credible use-cases of innovative business payment models in the country. The major consolation for continuity here is that the market is still a very large one, approximately \$31.28 billion by 2028,¹¹⁷ and the winners will be businesses that are able to evolve as more Nigerians are financially included and digitized.

¹¹⁷ See <https://www.statista.com/outlook/dmo/fintech/nigeria#transaction-value>

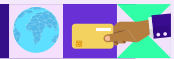
4.3 SWOT Analysis – Identification of key opportunities and challenges

Table 10. SWOT Analysis of Nigeria's Payment System

	Strengths	
<ol style="list-style-type: none">1. The continuous increase in both volume and value of digital payment transactions signifies a substantial shift away from traditional methods, reflecting the country's embrace of modern payment technologies.2. Increasing smartphone usage, particularly in remote areas, is driving the adoption of mobile app transfers and mobile money services. This trend enhances accessibility and convenience for users across diverse geographic locations.3. Nigeria's payment system benefits from a multi-layered regulatory framework involving institutions like the Central Bank of Nigeria (CBN) and the Nigeria Deposit Insurance Corporation (NDIC). This structure ensures stability, security, and consumer protection within the financial ecosystem.4. The incorporation of technologies such as blockchain, exemplified by the introduction of eNaira, presents opportunities for further advancements in the payment sector, potentially increasing efficiency and security.5. A noteworthy surge in total transaction values indicates a growing reliance on digital payment methods. This positive trend towards a cashless economy underscores the confidence users have in the security and efficiency of	<p>digital transactions.</p> <ol style="list-style-type: none">6. The payment ecosystem boasts a diverse range of channels, including mobile apps, USSD, online transfers, and mobile money operators. This diversity accommodates various user preferences, fostering healthy competition and ongoing innovation.7. The significant growth in mobile app transfers, driven by initiatives like PSV2020 and PSV2025, reflects sustained user trust and preference for mobile applications in financial transactions. This points to the effectiveness of efforts to promote digital payment adoption.8. Regulatory measures such as the "Regulatory Framework for Agent Banking in Nigeria" and "Framework and Guidelines on Mobile Money Services in Nigeria" have played a role in expanding financial inclusion. This inclusivity creates opportunities for innovative solutions tailored to a broader user base.9. Substantial investments in Nigerian fintech companies, including Flutterwave, Opay, and Kuda, signify a strong market interest and financial support for the growth and development of the payment sector. These investments contribute to the sector's vibrancy and potential for further expansion.	



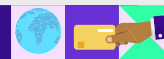
Opportunities



1. Expanding access to digital financial services has the potential to increase financial inclusion, specifically targeting unbanked or underbanked populations. This opportunity aligns with broader financial inclusion goals by the CBN.
2. Fostering a supportive environment for innovation within the payment system opens avenues for the development of new solutions and enhanced operational efficiency. This approach encourages creativity and adaptability to emerging technologies.
3. Collaboration between stakeholders, including financial institutions, fintech companies, and the government, presents an opportunity to accelerate progress in the payment sector. Partnerships can leverage collective expertise and resources for comprehensive and sustainable development. Educating the public about digital payment options and addressing security concerns through awareness campaigns can promote wider adoption. Increased public understanding enhances confidence in digital transactions.
4. The introduction of blockchain technology, exemplified by the eNaira and the National Blockchain Policy, provides an opportunity for secure and transparent transactions. Blockchain integration can contribute to increased efficiency and trust in the payment system.
5. The evolving use of AI in the Insurtech space creates opportunities for enhanced decision-making, risk assessment, and customer profiling. This technological advancement contributes to the development of more sophisticated and personalized financial services.
6. Opportunities exist to streamline and simplify the regulatory framework, reducing compliance burdens and enhancing clarity. This simplification could encourage innovation, particularly benefiting smaller players in the payment sector.
7. The continuous growth in fintech investments provides opportunities for further development and expansion of payment solutions. This investment influx contributes to the sector's vibrancy.
8. Collaboration among regulatory bodies and stakeholders can lead to a more coordinated approach, ensuring consistent interpretation and enforcement of regulations. Improved collaboration enhances the effectiveness of the regulatory framework, fostering a more stable and predictable environment for the payment system.



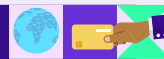
Weaknesses



1. The declining use of traditional methods like NEFT transfers and cheques suggests a gradual shift away from paper-based transactions. However, this decline may pose challenges for users accustomed to these methods, requiring continued infrastructure maintenance.
2. The incomplete adoption of cashless methods is attributed to limited awareness and access, particularly for individuals without smartphones or internet connectivity. This digital divide hampers the goal of achieving comprehensive cashless transactions.
3. Complex and overlapping regulations, including the "Payment System Management Bill" and "Standards and Guidelines on Electronic Channels Operations in Nigeria," can be confusing for stakeholders. The redundancy in regulations may stifle innovation and create challenges for businesses navigating the regulatory landscape.
4. Gaps in the regulatory framework are observed concerning newer technologies such as cryptocurrency and open banking. The absence of comprehensive regulations for these innovations creates uncertainty, potentially hindering their integration into the payment system.
5. The extensive regulatory requirements place a burden on industry players, with smaller entities facing challenges in compliance with regulations like the "Payment System Management Bill" and "Standards and Guidelines on Electronic Channels Operations in Nigeria." This burden may impede the agility of smaller players in the payment sector.
6. Emerging technologies, including open banking and cryptocurrencies, face regulatory uncertainties. The lack of clear guidelines may deter potential innovators and hinder the full realization of the innovation potential within the payment system.
7. Channels like Central Pay (CPay) experience declining volumes, possibly due to limited awareness or a preference for alternative payment solutions. The lack of promotion and visibility poses a challenge to adoption and may impede the utilization of certain payment channels.



Threats




1. Increased reliance on digital payments exposes the system to cybersecurity threats. The growing risk of cyberattacks necessitates the implementation of robust security measures to safeguard the integrity of the payment ecosystem.
2. The rapid evolution of technologies may outpace existing regulations, creating challenges for both compliance and innovation. Adapting regulations to keep pace with technological advancements is essential to maintain a secure and compliant payment environment.
3. Economic fluctuations can impact consumer spending patterns and the adoption of new payment methods. The payment system is vulnerable to changes in economic stability, requiring adaptability to mitigate potential disruptions.
4. The presence of international payment service providers poses competition to domestic players. To stay competitive, continuous improvement and innovation are necessary to meet the evolving demands of the market.
5. Gaps in the regulatory framework, especially concerning emerging technologies like blockchain and cryptocurrencies, may pose threats to the stability and security of the payment system. Addressing these regulatory gaps is crucial to mitigate potential risks associated with technological advancements.
6. The decline in traditional payment methods may face resistance from users accustomed to established practices. Initiatives such as education and awareness campaigns are essential to facilitate a smoother transition to digital alternatives and overcome user resistance.
7. External factors, such as global economic downturns or fluctuations, can impact the stability of the payment system. Monitoring global economic trends is crucial to anticipate and mitigate potential threats arising from external economic factors.
8. Intense competition within the payment sector, both locally and internationally, may create challenges for smaller or newer entrants. Strategies for differentiation and continuous innovation are necessary to navigate competitive pressures and ensure sustainability in the market.

4.4 Projections for the future of the Nigerian payment landscape

The projections for the future look more positive for stakeholders in the digital payment landscape than those participating in traditional payment channels. As many more Nigerians will be integrated into digital payments, as a result of internet penetration, online transfers and mobile app transfers will continue to grow.

Around 140 million Nigerians are expected to use smartphones by 2025. As at 2019, only about 40 million Nigerians were using smartphones though there were more than 195 million cellular subscriptions in 2021.^{[118][119]} Smartphone usage is more important to track as there is a correlation between smartphone usage growth and online and mobile app transfers as this report has shown.

The alternative lending landscape, or P2P lending, is expected to grow steadily at a CAGR of 27.4% between 2023–2027.¹²⁰ As at 2022, the alternative lending market was already valued at \$146.6 million. The situation is similar in the BNPL landscape as the market is expected to grow to \$3.3 billion by 2024 and \$5.6 billion by 2029.¹²¹ Though the potential for growth is huge, it is also important to note that the major risk in this landscape is still the fact that some loans will still be non performing. Between 2007 to 2021, Nigeria's non-performing loans averaged \$3.4 billion.¹²² Though traditional banks carry the bulk of these non-performing loans, the customer risk in the credit ecosystem still exists and mitigating such risks requires improved risk assessments of customers.



Smartphone usage is more important to track as there is a correlation between smartphone usage growth and online and mobile app transfers as this report has shown.

¹¹⁸ See <https://www.statista.com/statistics/467187/forecast-of-smartphone-users-in-nigeria/>

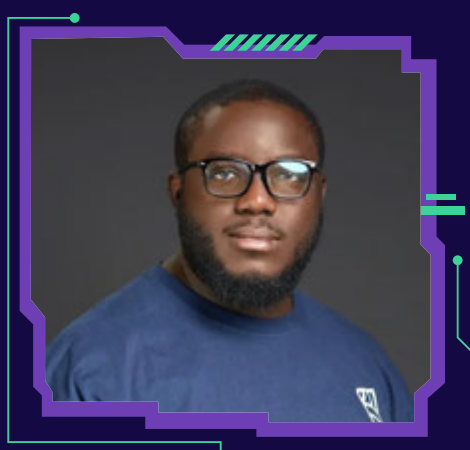
¹¹⁹ See <https://www.statista.com/statistics/501044/number-of-mobile-cellular-subscriptions-in-nigeria/>

¹²⁰ See <https://nairametrics.com/2023/11/25/nigerias-alternative-lending-market-to-grow-by-45-to-212-9-million-in-2023-report/>

¹²¹ See <https://www.globenewswire.com/news-release/2024/02/28/2836686/0/en/Nigeria-Buy-Now-Pay-Later-Market-to-Reach-US-5-59-Billion-by-2029-with-CAGR-of-11-2.html>

¹²² See <https://www.ceicdata.com/en/indicator/nigeria/nonperforming-loans>

"Kora's overarching goal is to be a comprehensive, one-stop-shop, fostering alignment between global businesses and local markets, while also connecting local businesses to operate globally. This ambition extends beyond Nigeria, recognizing Africa as a continent of diverse countries. Kora aims to empower any global merchant, such as Airbnb, Uber, and Apple, to effortlessly expand their services across all African countries, tapping into major markets. Simultaneously, Kora envisions providing local merchants with the capability to engage globally. This involves facilitating their interaction with global merchants, enabling currency collection, and collaborating with partners to achieve this."



Ayodeji Osisami
CFO, Kora



The mobile money market, driven by USSD and mobile wallet technology, is equally expected to grow in the years to come, at a market growth rate of 26.37% from 2024-2032.¹²³ The card payments market is also set to increase, with card-based payments and e-commerce driving this market. With a market of around \$22 billion and a CAGR of 25% between 2022-2026, for card payment schemes, Verve, Mastercard and Visa will continue to expand their market share as the customer base increases yearly. It seems unlikely for any other card payment scheme to unsettle the top three card payment schemes due to the high barrier of entry in the card payments ecosystem. Despite this growth opportunity, the foreign exchange situation needs to improve if not Nigerians traveling abroad will essentially have useless bank cards outside Nigeria due to the extremely low limits of USD-denominated transactions.¹²⁴

Cryptocurrency might have another turbulent year as the CBN continues to hamper down on the ecosystem due to issues of money laundering, the financing of terrorism and the foreign exchange crisis.^{[125][126][127]} Though the guidelines on operations of bank accounts for Virtual Assets Service Providers (VASPs) has been released, it is still unclear whether the CBN will get to a position whereby they are able to take a decisive stand regarding cryptocurrencies in the country.¹²⁸ This stance is quite unnerving as more than 10 million Nigerians own digital currencies, the highest in Africa by a big margin.¹²⁹

¹²³ See <https://www.imarcgroup.com/nigeria-mobile-money-market>

¹²⁴ See <https://afridigest.com/south-africa-nigeria-reveal-future-payments-africa/>

¹²⁵ See <https://www.reuters.com/article/idUSL1N2KB1Q4/>

¹²⁶ See <https://www.reuters.com/world/africa/nigerian-central-bank-lifts-ban-crypto-trading-2023-12-23/>

¹²⁷ See <https://www.thecable.ng/fx-crisis-efcc-cbn-should-clamp-down-on-crypto-platforms-says-onanuga>

¹²⁸ See <https://www.cbn.gov.ng/Out/2024/FPRD/GUIDELINES%20ON%20OPERATIONS%20OF%20BANK%20ACCOUNTS%20FOR%20VIRTUAL%20Asset%20Providers.pdf>

¹²⁹ See <https://africa.businessinsider.com/local/markets/top-5-african-countries-with-the-most-cryptocurrency-holders/2tvh7r5#:~:text=Yes%2C%20in%20Nigeria%2C%20more%20than,%E2%80%9CDigital%20currencies%E2%80%9D%20keywords%20on%20Google.>

Nigerian businesses in the payment system also have to gear up as the past few years have shown that business models have to always fit the market to survive. The shut down of companies such as Pivo, Lazerpay, Payday, Zazuu, and Vibra indicate that adaptability and resilience is fundamental for survival.¹³⁰ Given the economic climate, survival is more than just the ability to be funded. Knowing how to not lose customers in periods of lower economic and payments activity is also crucial. Due to the dynamic nature of the country, business owners and stakeholders in the payment space would have to be both data-driven and creative whilst enduring seasons of turbulence.

The future of payments in Nigeria is definitely one that is both electronic and digital.¹³¹ Even if less Nigerians acquire smartphones, the prevalence and innovation of super-agents and MFBs ensure that more and more Nigerians become participants in the ever-growing payment system. At the same time, the role of sound regulations that are predictable and inclusive of different stakeholders in the system will ensure that there is a smooth steady upward trajectory in the payment ecosystem.

¹³⁰ See <https://nairametrics.com/2023/12/28/after-raising-over-70-million-these-nigerian-startups-shut-down-in-2023/>

¹³¹ See <https://www.mckinsey.com/industries/financial-services/our-insights/the-future-of-payments-in-africa>

4.5 Projections for the future role of emerging technologies

An examination of transaction volumes, monetary values, and performance metrics within Nigeria's payment system, as has been done in this report, reveals key insights into the future impact of emerging technologies, specifically blockchain technology and artificial intelligence (AI). Like mentioned before, the growth in mobile app transfers, driven by initiatives like PSV2020 and PSV2025, along with the cashless policy implemented by the CBN, signifies a sustained shift in user behavior towards mobile applications as the preferred and trusted means of financial transactions. This momentum is expected to persist, supported by increasing smartphone penetration, internet usage, and the inherent convenience associated with digital payments.

The introduction of the eNaira, Nigeria's Central Bank Digital Currency (CBDC), represents a notable acknowledgment of blockchain technology's potential. While the eNaira has shown positive performance in terms of uptime and stability, its relatively low usage indicates room for growth. The National Blockchain Policy further emphasizes the country's dedication to integrating blockchain across various sectors, with potential applications in finance, healthcare, education, logistics, and more. EFINA's projections regarding blockchain's contribution to Nigeria's GDP suggest a promising future for this technology in the payment landscape.

In the field of artificial intelligence, its impact is evident in the InsurTech space, where companies like Casava, ETAP, Octamile, Curacel, and Evolutics leverage AI to analyze intricate customer data, enhance profitability, and improve decision-making processes. This application of AI in risk assessment and customer profiling is anticipated to extend beyond the insurance sector, potentially influencing other areas within financial services, contributing to more informed decision-making and personalized services.

Finally, while the regulatory environment in Nigeria positively contributes to security and risk management, it presents challenges, particularly for smaller players. The extensive list of regulations and compliance requirements may act as a barrier to entry, potentially hindering innovation especially in the blockchain ecosystem where the CBN itself has chosen to play through the eNaira. Balancing security with innovation is crucial, necessitating regular reviews and updates to the regulatory framework to reflect technological advancements and user needs, creating an environment conducive to both security and innovation.

4.6 Recommendations for stakeholders

From our explanation of the evolution of Nigeria's payment system in this report, it is important to note that there are 8 main stakeholders in the Nigerian payment system including:

1. Central Bank of Nigeria (CBN)
2. Nigeria-Interbank Settlement System (NIBSS)
3. Nigeria Deposit Insurance Corporation (NDIC)
4. Banks
5. Switching Companies
6. Fintech Companies
7. Securities and Exchange Commission (SEC)
8. Consumers

Each of these stakeholders are significant in contributing to the general success of the system as a whole. As seen throughout this report, the 8 stakeholders need to continuously collaborate with each other if the system is to evolve and meet the constantly changing demands on the system itself. **Table 11** provides both the relevance of each stakeholder to the payment system, as well as, the recommendations for each.

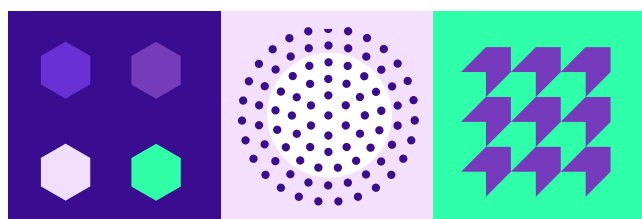


Table 11. Recommendations for Stakeholder

Stakeholder	Relevance in the Payment System	Recommendations
Central Bank of Nigeria (CBN)	<p>The Central Bank of Nigeria (CBN) serves a multifaceted role in the financial landscape, encompassing various crucial functions. Primarily, it acts as the regulatory and oversight authority, formulating and implementing monetary policies to uphold the stability, integrity, and efficiency of the payment system. Another pivotal responsibility is the issuance and management of the national currency to maintain a sufficient supply of legal tender. The CBN actively manages risks associated with payment and settlement systems to safeguard financial stability and plays a significant role in fostering financial inclusion by developing policies that enhance access to financial services for all segments of the population. As the primary regulator, it establishes frameworks, guidelines, and policies governing payment systems, ensuring their safety and efficiency.</p> <p>Furthermore, the CBN exercises its influence in monetary policy, maintaining price stability and managing inflation through various instruments that indirectly impact digital payments. Beyond that, it is dedicated to ensuring the overall smooth functioning and stability of the financial system, including the payment system, to protect consumers and instill confidence. Lastly, the CBN takes measures to uphold consumer protection, developing and enforcing regulations to safeguard users against fraud, errors, and unfair practices within the digital payment system.</p>	<p>Balancing Innovation and Stability: Foster an environment that encourages innovation in the payment system while maintaining financial stability and consumer protection. This can be achieved through a risk-based supervisory approach and by promoting industry-wide adoption of cybersecurity standards.</p> <p>Regulatory Clarity for Emerging Technologies: Provide clear and timely regulatory guidance for emerging technologies like blockchain and open banking. This reduces uncertainty for innovators and facilitates the responsible integration of these technologies into the payment system. The CBN should consider establishing a regulatory sandbox environment for testing innovative solutions.</p> <p>Financial Inclusion Focus: Develop and implement targeted initiatives that promote financial inclusion for the unbanked and underbanked population. This could involve collaborating with fintech companies on solutions tailored for low-income segments and geographically isolated areas.</p>

Stakeholder	Relevance in the Payment System	Recommendations
Nigeria Deposit Insurance Corporation (NDIC)	<p>The Nigeria Deposit Insurance Corporation (NDIC) assumes a critical role in bolstering the stability and confidence within the financial system. Primarily, it provides deposit insurance to depositors in licensed banks, shielding them from financial losses in the event of a bank failure. This protective measure indirectly extends to fortifying trust in the broader payment system, which relies on the security of bank deposits. Collaborating with the Central Bank of Nigeria (CBN), NDIC actively participates in the supervision of licensed banks, ensuring their safe and sound operation. Its multifaceted functions include insuring deposits in financial institutions, conducting risk assessments to ensure stability, managing the resolution process in case of bank failures, and advocating for consumer protection to ensure fair treatment for depositors. In essence, NDIC plays a crucial role in safeguarding the financial system by insuring deposits, implementing measures to prevent and manage bank failures, and thereby contributing to overall consumer confidence in the payment system.</p>	<p>Deposit Protection for Digital Currencies: Consider extending deposit insurance coverage to digital wallets or accounts associated with eNaira or other potential central bank digital currencies (CBDCs). This will enhance user confidence and trust in digital payment methods.</p> <p>Consumer Awareness Campaigns: Partner with the CBN and consumer protection agencies to develop and distribute educational materials that raise awareness about deposit insurance and user rights within the digital payment system.</p> <p>Risk Management Framework for Fintech Companies: Develop a risk management framework specifically tailored to the unique risks associated with fintech companies operating in the payment space. This framework should consider factors like data security, operational resilience, and anti-money laundering (AML) compliance.</p>

Stakeholder	Relevance in the Payment System	Recommendations
Banks	<p>Banks serve as fundamental pillars in the financial landscape, assuming various roles and responsibilities. Functioning as custodians of funds, they hold deposits and offer diverse financial services to customers. In the realm of payment processing, banks play a crucial role in facilitating electronic funds transfer, managing transactions, and overseeing payment services like NEFT, RTGS, and mobile banking. Integral to the payment system, banks actively assess and manage risks associated with transactions, ensuring the security and integrity of the entire system while adhering to regulatory guidelines set by the Central Bank of Nigeria (CBN) and other relevant authorities.</p> <p>Their pivotal role extends to providing the infrastructure for financial transactions, maintaining accounts, and offering a range of payment services, thereby contributing to financial stability and liquidity within the payment ecosystem. Whether through traditional services like account management, card issuance, and point-of-sale (POS) transactions or by embracing digital solutions such as mobile and internet banking, banks are at the forefront of facilitating secure and efficient electronic payments. Additionally, as financial intermediaries, they play a crucial role in credit creation, acting as intermediaries between depositors and borrowers and contributing to the overall stability of the financial system.</p>	<p>Digital Onboarding and Account Management: Streamline digital onboarding processes and offer user-friendly mobile banking apps to attract new customers, especially the unbanked population. This can leverage the high mobile phone penetration rate.</p> <p>Investment in Agent Banking Networks: Expand agent banking networks in rural and underserved areas to reach geographically isolated populations (especially regions in the north). Partner with established players or leverage the PSB framework for agent banking.</p> <p>Security and Fraud Prevention: Implement robust cybersecurity measures to protect customer data and financial information. Invest in fraud detection and prevention systems to minimize losses and maintain customer trust.</p>

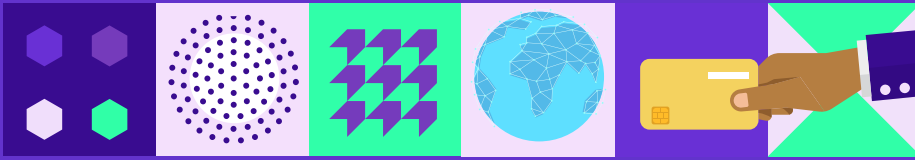
Stakeholder	Relevance in the Payment System	Recommendations
Switching Companies	<p>Switching companies are important in the payment ecosystem through their multifaceted functions. They specialize in the seamless routing of transactions across diverse payment channels and networks, ensuring efficient communication.</p> <p>By fostering interoperability, these companies enable different payment systems to collaborate, allowing customers to transact seamlessly across various platforms. A significant aspect of their responsibilities is the implementation of robust security protocols to safeguard transactions and sensitive information during the switching process. In the broader context of the payment system, switching companies enhance efficiency and interoperability by facilitating communication between diverse channels. Their contribution extends to bolstering transaction security through the integration of advanced encryption and authentication measures. Supported by these switching companies, interconnected systems enable customers to access and utilize a wide array of payment services seamlessly.</p> <p>Specific functions of switching companies encompass routing electronic payment transactions, authorization processing based on network regulations, and the facilitation of settlement by transferring funds between the accounts of the payer and payee.</p>	<p>Integration with Emerging Technologies: Upgrade infrastructure to seamlessly integrate with emerging technologies like blockchain and open banking APIs. This facilitates faster transaction processing, improved transparency, and potential for new payment solutions.</p> <p>Standardization: Advocate for industry-wide adoption of standardized protocols for data exchange and communication within the payment system. This ensures smooth interoperability between different payment channels and platforms offered by various PSPs.</p> <p>Cybersecurity Collaboration: Collaborate with the CBN, NIBSS, and other stakeholders to establish best practices and implement robust cybersecurity measures to safeguard the switching infrastructure from cyber threats.</p>

Stakeholder	Relevance in the Payment System	Recommendations
Fintech Companies	<p>Fintech companies play a pivotal role in reshaping the financial landscape with their diverse functions. At the core of their operations is a commitment to innovation, as they introduce new technologies, applications, and solutions to elevate financial services and payment experiences. With a strong focus on financial inclusion, fintech companies strive to expand access to financial services, especially in underserved or unbanked populations.</p> <p>Prioritizing user experience, these companies design user-friendly interfaces and streamlined processes to enhance overall customer interactions. In the payment system, fintech companies drive innovation by introducing novel technologies like mobile wallets, peer-to-peer payments, and blockchain solutions. Beyond technological advancements, they actively contribute to financial inclusion by reaching populations that traditional banking may have overlooked. Fintech companies often engage in collaborative efforts with banks and other stakeholders, fostering partnerships to create synergies and positively disrupt the payment landscape. Many fintech companies strategically address the needs of the unbanked and underbanked through user-friendly and affordable financial services, forming partnerships with established banks, mobile network operators, and other players in the financial ecosystem to leverage existing infrastructure and extend their reach to a broader customer base.</p>	<p>Focus on Financial Inclusion: Develop innovative solutions that address the specific needs of the unbanked and underbanked population, considering factors like low literacy rates and limited internet access in certain regions. Partner with established banks or PSBs to leverage their agent networks and reach.</p> <p>Offline Payment Solutions: Develop innovative solutions that enable secure offline payments, catering to users in areas with limited or no internet connectivity. This could involve leveraging features like Near Field Communication (NFC) or QR codes for offline transactions.</p> <p>USSD-based Mobile Payment Solutions: Develop user-friendly USSD-based mobile payment solutions for basic transactions, catering to users without smartphones or reliable internet access. This can build on the existing success of mobile phone use.</p> <p>Data Security and Customer Education: Prioritize data security by adhering to the Nigeria Data Protection Regulation (NDPR) and implementing best practices for data storage and management. Educate users on data privacy, responsible online behavior, and how to identify and report suspicious activity.</p>

Stakeholder	Relevance in the Payment System	Recommendations
Securities and Exchange Commission (SEC)	<p>The Securities and Exchange Commission (SEC) in Nigeria assumes a crucial role in the oversight and regulation of the capital markets, encompassing investment and securities trading activities. This oversight indirectly extends to the payment system, facilitating the smooth settlement of investment transactions. Furthermore, the SEC is instrumental in crafting regulations governing the interaction of fintech companies with the capital markets, ensuring compliance and investor protection in the realm of investment-related services. Its multifaceted functions include the regulation and oversight of securities and capital markets to uphold investor protection and fairness, licensing and supervision of capital market operators, and the formulation of policies and guidelines for the securities industry. In the broader financial landscape, SEC's influence extends to the payment system, particularly with regard to emerging technologies, securities, and investments. Through its regulatory role, SEC contributes to maintaining a fair and secure financial environment, ensuring transparency, and upholding the interests of investors.</p>	<p>Regulatory Clarity for Fintech in Capital Markets: Provide clear and timely regulations for how fintech companies can interact with the capital markets and offer investment-related services. This fosters innovation while mitigating potential risks associated with new technologies.</p> <p>Collaboration with CBN: Collaborate with the CBN to ensure a coordinated approach to regulating the intersection of payments and securities markets. This avoids regulatory gaps and inconsistencies that could hinder innovation.</p> <p>Investor Protection Measures: Develop and enforce investor protection measures specific to digital investment platforms and robo-advisors offered by fintech companies. This safeguards investors from potential fraud or misconduct.</p>

Stakeholder	Relevance in the Payment System	Recommendations
Consumers	<p>Consumers play a pivotal role in the payment ecosystem, serving various functions that shape the landscape of financial transactions. As users of Payment Service Providers (PSPs), both individuals and businesses employ diverse payment methods to conduct transactions, manage finances, and procure goods and services. The dynamic preferences and needs of consumers act as catalysts for innovation, influencing the development of the payment system. Additionally, consumers actively engage with financial services, spanning payments, banking, and investment tools.</p> <p>They contribute valuable feedback, advocating for their financial needs and participating in initiatives that promote financial inclusion and access to services. Security awareness is paramount, as consumers play a crucial role in safeguarding themselves against fraud and unauthorized use of payment credentials. By adhering to security measures and reporting suspicious activities, consumers actively contribute to the overall integrity of the payment system. Consumers not only drive the demand for diverse payment services but also influence market trends, adopt new technologies, and significantly contribute to the evolution and growth of the payment system.</p>	<p>Choosing Reliable Service Providers: Research and choose reputable payment service providers with a strong track record of security and customer service.</p> <p>Securing Login Credentials: Practice strong password hygiene and avoid using the same password for multiple accounts. Be cautious of phishing attempts and never share personal information or login credentials with unverified sources.</p> <p>Staying Informed: Educate yourself about your rights and responsibilities within the digital payment system. This includes understanding dispute resolution mechanisms and reporting procedures in case of fraud or errors.</p>

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Glossary



- **Bank Verification Number (BVN)** – The Bank Verification Number (BVN) is an 11-digit identifier assigned uniquely to each individual, consistently shared across all banking institutions for that person.
- **Nigerian Uniform Bank Account (NUBAN)** – The NUBAN, a 10-digit account number format, enables the presenting bank to conduct verifications and guarantees the accurate transmission of funds between the intended accounts. This system emphasizes precision, organization, and financial efficiency.
- **Real-Time Gross Settlement System (RTGS)** – The Real-Time Gross Settlement (RTGS) is a banking payment system that enables the immediate and irreversible settlement of electronic funds transfers. It is constructed based on SWIFT standards, enhancing secure, convenient, and swift interconnection with other payment system infrastructures, both domestically and globally.
- **Deferred Settlement (Netting) System** – The Deferred Settlement (Netting) System is a financial tool employed within the banking system, allowing the postponement of payments and other financial commitments to a future date for settlement.
- **Nigerian Inter-Bank Settlement System (NIBSS)** – The Nigeria Inter-Bank Settlement System Plc (NIBSS) operates within the Nigerian financial sector to fulfill its defined mandate including functioning as a service-oriented institution facilitating same-day clearing and settlement of inter-bank transfers and payments. NIBSS also plays a crucial role in providing infrastructure for the automated processing and settlement of transactions such as deposit placements, Treasury Bills Transactions, and Naira settlement on inter-bank foreign exchange transactions. Additionally, the NIBSS aims to initiate and develop a comprehensive nationwide network for electronic or paperless payments, funds transfer, and transaction settlement. Its overarching goal is to establish a framework that enhances the overall efficiency of funds transfer services.

- **Nigeria Automated Clearing System (NACS)** – NACS functions as the automated clearing system for the comprehensive banking and financial sector, encompassing both electronic instruments (ACH) and paper-based instruments such as derivatives/images (Cheques). It has facilitated the implementation of the Cheque Truncation System, wherein physical clearing instruments are transformed into electronic format at an initial stage within the bank of the first deposit (Presenting Bank). Only the electronic format, comprising images and MICR data, is then transmitted to the Clearing House, while the original physical instrument is securely stored by the Presenting bank.
- **Central Securities Clearing System (CSCS)** – The Central Securities Clearing System serves as the Clearing and Settlement House for both the Nigerian Capital Market and the Nigerian Stock Exchange (NSE).
- **Card/Payment Scheme Operators** – Entities in charge of designing and operating payment systems, like credit card networks. They establish rules and standards for transactions within their network, managing processes for debit, credit, and prepaid card transactions.
- **Mobile Money Operators** – Companies offering financial services via mobile devices, enabling users to store, send, and receive money, pay bills, etc. These operators facilitate diverse financial transactions through mobile phones, such as money transfers, bill payments, and occasionally savings or loans.
- **Switching & Processing Operators** – Operators facilitating the secure and efficient routing of electronic payment transactions among various entities. They act as intermediaries, directing transactions between banks, merchants, and other financial institutions, ensuring smooth transfers between payers and payees.

- **Payment Solution Service Providers (PSSP)** – Providers offering comprehensive electronic payment solutions, including software and platforms for online, mobile, and electronic transactions. This category encompasses companies providing services such as e-wallets, online payment gateways, and merchant aggregation platforms.
- **Payment Terminal Services Providers (PTSP)** – Entities offering services related to payment terminals, the devices used for payments through cards or other electronic means. PTSPs may handle maintenance, deployment, and other services associated with these physical devices, such as Point-of-Sale (POS) terminals and Automated Teller Machines (ATMs).
- **Super-Agent Operators** – Intermediaries in the distribution of financial services, particularly in mobile money or electronic payment systems. Super-agents broaden the reach of financial services by collaborating with agents at the grassroots level. They serve as master agents managing networks of smaller agents in rural or underserved areas.
- **Payments Service Holding Operators** – Holding companies that own or control various entities involved in payment services, such as banks, mobile money operators, or PSSPs. These operators own subsidiaries or affiliates specializing in different aspects of the payment ecosystem, creating a diverse portfolio within the payment services sector.
- **ATM Transactions** – Refers to the quantity and monetary value of transactions conducted through Automated Teller Machines (ATMs). Monitoring these statistics provides insights into the prevalence of cash withdrawals and other financial activities via ATMs. It is relevant because it offers information on cash dependency, ATM accessibility, and patterns of cash withdrawals.

- **POS Transactions** – Point-of-Sale (POS) transactions encompass payments made using debit or credit cards at merchant terminals. Statistics in this realm unveil the frequency and value of electronic payments at physical retail locations. It is relevant because it indicates the adoption of electronic payments for physical purchases, spending trends, and the acceptance of cashless options by merchants.
- **Internet (Web)/Online Transfers** – These statistics encompass the quantity and value of transactions executed over the internet or online platforms, encompassing various online payment methods and e-commerce transactions. It is important because it highlights the growth of digital payments, financial inclusion through internet access, and preferred online payment methods.
- **NEFT Transfers** – National Electronic Funds Transfer (NEFT) pertains to the electronic transfer of funds between banks. NEFT statistics provide insights into the volume and value of interbank transactions. The NEFT statistics reflect the utilization of high-value, real-time electronic transfers for business and government transactions.
- **RTGS Transfers** – Real-Time Gross Settlement (RTGS) is a funds transfer system where money is moved between banks in real-time. Statistics for RTGS transfers offer insights into high-value, time-sensitive interbank transactions. It is relevant because it indicates activity in high-value financial transactions and interbank settlements.
- **USSD Transfers** – Unstructured Supplementary Service Data (USSD) transfers involve mobile-based transactions using short codes. Statistics in this category mirror the popularity and usage of mobile-based financial services. USSD transfers demonstrate the penetration of mobile-based financial services, particularly in areas with limited internet access.

- **Mobile App Transfers** – These statistics represent transactions conducted through mobile applications offered by banks or financial institutions, reflecting the adoption and usage of mobile apps for financial activities. It is important because it reflects the adoption of smartphone-based banking and the preference for mobile payments.
- **Direct Debits** – Direct debits involve automatic withdrawals from a bank account for bill payments or recurring transactions. Statistics in this category reveal the frequency and value of such automated transactions. Direct debits illustrate the usage of automated bill payments and subscription services.
- **MMOs** – This category includes statistics related to transactions conducted through mobile money operators, indicating the usage and adoption of mobile-based financial services beyond traditional banking. MMOs data indicates the reach and activity of mobile money services, serving as a vital tool for financial inclusion in underserved areas.

Appendix



Appendix A – Chronological evolution of Nigeria’s Payment System. Source: CBN

Period	Year	Chronology of Nigeria’s Payment System
Phase I – Pre-PSV	1993	Implementation of MICR
	1994	Establishment of NIBSS
	1996 – 1997	Setting up of Technical Committee on Automation and appointment of consultant for NACS
	2002	Full implementation and live operation of NACS Reduction of the clearing cycle to T+3 and T+5 for local and upcountry instruments, respectively
	2003	Guidelines on e-banking
	2004	Establishment of switching companies and interoperability of /shared ATM/POS New Settlement Framework (for Cheque Clearing)
	2005	Cheque Standard and Cheque Printer accreditation Scheme Reconstituted National Payments System Committee and set up technical sub-committee
Phase II – PSV 2020	2006	Payments System Vision 2020
	2008	Harmonization of clearing cycles (upcountry and local) at T+2 (Three working days) Deployment of NACS to Port Harcourt Clearing Zone
	2009	Deployment of NACS to Kano, Ibadan and Enugu Issuance of Mobile Payment Regulatory Framework Guidelines on Transaction Switching Guidelines on Stored Value/Prepaid Cards

Period	Year	Chronology of Nigeria's Payment System
	2010	Direct Debit Rules
		Cheque cap of N10 million
		Migration to EMV Cards
		Guidelines on ATM Operations
		Nigeria Uniform Bank Account Number (NUBAN)
	2011	Issuance of cashless policy circular
		Issuance of Guidelines for card issuance and usage in Nigeria
		License of 6 PTSPs for deployment and maintenance of POS
	2012	Commencement of charges on cash withdrawal/deposit above the cash-less policy threshold in Lagos
		Implementation of cheque truncation in Lagos
		Reduction of clearing cycle from T+2 to T+1 in Lagos
	2013	Nationwide implementation of Cheque Truncation
		Reduction of clearing cycle to T+1 from T+2
		Setting of N150,000 limit on encashment of 3rd party cheques
		Licensed 10 additional PTSPs
		Issuance of Clearing House sanctions to instill discipline among the participating members
		Deployment of new RTGS and Scripless Securities Settlement System
		Compliance monitoring with Payment Card
	2014	Issuance of Guidelines for the regulation of Agent Banking in Nigeria
		Issuance of revised Guidelines for card issuance

Period	Year	Chronology of Nigeria's Payment System
	2015	<p>Implementation of industry e-reference portal</p> <p>Abolished fees on cash deposit above the Cash-less Policy threshold</p> <p>Sensitization Campaign On Cash-Less Policy in preparation of take-off of the cashless initiative in the remaining 30 states of the Federation</p> <p>Implementation of Bank Verification Number (BVN) Scheme</p> <p>Issuance of Guidelines on International Money Transfer services in Nigeria</p> <p>Nationwide Rollout of Cashless Policy to the Remaining 30 States</p> <p>Exposure Draft on the Standards and Guidelines on Electronic Channels Operations in Nigeria</p> <p>Exposure Draft on The Guidelines on Transactions Switching in Nigeria</p> <p>Circular on the Implementation of the Global Mobile Payments Monitoring & Regulation System</p>
	2016	<p>Guidelines on International Mobile Money Remittance Service in Nigeria</p> <p>Extension of BVN for Nigerian Banks' Customers in Diaspora (Revised)</p> <p>Guidelines for the Operation of Treasury Single Account (TSA) by State Governments in Nigeria</p> <p>Exposure Draft on the Guide to Charges for Banks and Other Financial Institutions in Nigeria</p> <p>Guidelines on Operations of Electronic Payment Channels in Nigeria</p> <p>Guidelines on Transaction Switching in Nigeria</p> <p>BVN Registration of Farmers Under CBN Anchor Borrowers Programme (ABP)</p> <p>Circular on the Implementation of Interchange Fee</p>

Period	Year	Chronology of Nigeria's Payment System
	2017	<p>Guidelines on Securities Settlement in Nigeria</p> <p>Exposure Draft of the Guidelines for Nigerian Clearing System Rules, 2016 (Revised)</p> <p>Exposure Draft of the "Guidelines for the Direct Debit Scheme and Bills Payments in Nigeria</p> <p>Exposure Draft of the Guidelines on Instant (Inter-bank) Electronic Funds Transfer Services in Nigeria</p> <p>Further Clarification on the enforcement of GIFMIS Revenue Reference Numbers</p> <p>Extension Of Settlement Banking Arrangement To All The Clearing Sessions</p>
	2018	<p>Sanctions on Erring Banks e-Payments Service Providers for Infractions of Payments System Rules and Regulations</p> <p>Regulation For Direct Debit Scheme In Nigeria, 2018 (Revised)</p> <p>Regulation For Bill Payments In Nigeria, 2018</p> <p>The Circular on the Regulatory Framework for the Use of Unstructured Supplementary Service Data (USSD) in the Nigerian Financial System</p> <p>Exposure Draft of the Nigerian Payments System Risk and Information Security Management Framework</p> <p>Circular on Extension of the Regulatory Framework for the Use of Unstructured Supplementary Service Data (USSD) in the Nigerian Financial Sector</p> <p>Compliance with Cybercrime (Prohibition, Prevention, etc.) Act 2015: Collection and Remittance of Levy for the National Cybersecurity Fund</p> <p>Shared Agency Network Expansion Fund Initiative: Regulatory Data Rendition Requirements</p> <p>Amendment To The Regulatory Framework For Bank Verification Number Operators and Watch-list For The Nigerian Banking Industry</p>

Period	Year	Chronology of Nigeria's Payment System
Phase III – PSV 2025	2019	<p>Exposure Draft of Regulatory Requirements for Non-Bank Merchant Acquiring in Nigeria</p> <p>Regulation on Instant (Inter-Bank) Electronic Funds Transfer Services in Nigeria</p> <p>Circular on the Revised Nigerian Cheque Standard (NCS) and Nigerian Cheque Printers Accreditation Scheme (NICPAS)</p> <p>Circular on the Exposure Draft of New CBN Licensing Regime (Licence Tering) for Payment System Providers</p> <p>Exposure Draft for the Revised Standards on Nigeria Uniform Bank Account Number (NUBAN) Scheme for Banks and Other Financial Institutions in Nigeria</p> <p>Exposure Draft on the Regulation for the Operation of Indirect Participants in the Payments System</p> <p>Exposure Draft for the Regulation on End to End Electronic Payment of Salaries, Pensions & Other Remittances, Suppliers & Revenue Collections in Nigeria (Revised 2018)</p> <p>Request for Information on Proposed PSV 2030</p> <p>Regulation on Electronic Payments and Collections for Public and Private sector in Nigeria</p> <p>Regulation for the Operation of Indirect Participants in the Payments System</p> <p>Re:Implementation of the Cash-less Policy</p> <p>Circular on Pre-Authorisation of Cards in Nigeria</p>
	2020	<p>Guideline on Nigerian Payments System Risk and Information Security Management Framework</p> <p>Revised Standards on Nigeria Uniform Bank Account Number (NUBAN) for Banks and Other Financial Institutions</p> <p>Guidelines on Operations of Electronic Payment Channels in Nigeria</p>

Period	Year	Chronology of Nigeria's Payment System
	2021	Exposure Draft of Regulatory Framework for Sandbox Operation
		New Licence Categorisation for Nigerian Payments Service Providers
		Receipt of Diaspora Remittances: Additional Operational Guidelines
		Receipt of Diaspora Remittances: Additional Operational Guidelines 2
		Issuance of the Framework for Regulatory Sandbox Operations
		Framework for Quick Response (QR) Code Payments in Nigeria
		Circular on the Regulatory Framework on Open Banking in Nigeria
		New License Requirements for the Payments System
	2022	Regulatory Framework on Non-bank Merchant Acquiring in Nigeria
		Supervisory Framework for Payment Service Banks
		Framework and Guidelines on Mobile Money Services in Nigeria
	2023	Guidelines for Licensing and Regulation of Payments Service Holding Companies in Nigeria
		Operational Guidelines for Open Banking in Nigeria
		Guidelines for Contactless Payments in Nigeria Regulatory Framework for the Agent Banking in Nigeria
		Transaction Limits on Contactless Payments

Appendix B – Complete list of Payment Service Providers. Source: CBN¹³²

Card/Payment Scheme Licenses	Mobile Money Operators Licenses	Switching & Processing Licenses	Payment Solution Service Providers (PSSP) Licenses	Payment Terminal Services Providers (PTSP) Licenses	Super-Agent Licenses	Payments Service Holding Licenses
<ol style="list-style-type: none"> 3Line Card Management Limited Afrigo Financial Services Limited American Express International Mastercard International Payattitude Unionpay International Verve International Visa International Service Association 	<ol style="list-style-type: none"> Abeg Technologies Limited Chams Mobile eTranzact International Limited Fortis Mobile Money Limited Funds And Electronic Transfer (FETS) Limited Hedonmark Management Services Limited KongaPay Technologies Limited (Formerly Zinternet Limited) Mkudi Limited NowNow Digital Systems Limited (Formerly Contec Global Infotech Limited) Opay Digital Services Limited (Formerly Paycom Nigeria Limited) Pagatech Limited PalmPay Limited Parkway Projects 	<ol style="list-style-type: none"> Zone Payments Network Arca Payments Company Limited Chamswitch Limited Coralpay Limited Technology Nigeria Limited eTranzact International Limited Flutterwave Technology Solutions Limited Habaripay Limited Hydrogen Payment Services Limited Interswitch Limited Network International Paystack Payment Limited 	<ol style="list-style-type: none"> Afara Partners Limited Angala Financial Technologies Limited Appmart Integrated Limited Zone Limited Artha Fintech Limited Betastack Technology Limited Bud Infrastructure Limited Caliphone Limited Capricorn Digital Limited CBI Technologies Ltd Cellulant Nigeria Limited Centric Gateway Limited Ceviant Payments Nigeria Limited Clane Company Nig. Ltd. Cyberspace 	<ol style="list-style-type: none"> 3Line Card Management Limited Appmart Integrated Limited Betastack Technology Limited Capricorn Digital Limited CBI Technologies Ltd Clane Company Nig. Ltd. Dot Financial Inclusion Technologies Limited Egole Pay Limited Fidesic Nigeria Limited Nomba Financial Services Limited (Formerly Cosmic Intelligence Lab Limited) Onecard Topup Services Limited Reedpriceman Technologies Limited Shago Payments Ltd Spout Payment 	<ol style="list-style-type: none"> 3Line Card Management 5554 Technologies Limited Accelerex Networks Limited Africa Mama Atrn Limited Africave Technologies Limited Airtel Mobile Commerce Nigeria Limited (Airtel) Allstream Information Technology Solutions Limited Angala Financial Technologies Limited Appmart Integrated Limited ATN Wayya Limited Betastack Technology 	<ol style="list-style-type: none"> Interswitch PSHC Nigeria Limited

¹³² See <https://www.cbn.gov.ng/Paymentsystem/PSPs.asp>

	14. Teasy International Company Ltd. 15. Visual ICT Limited 16. VTNetwork Limited 17. Xpress MTS Limited	12. Remita Payment Service Limited 13. Teamapt Limited 14. Terra Switching & Processing Company Limited 15. Unified Payment Services Limited 16. Xpress Payments Solution Limited	16. Demerge Nigeria Limited 17. Dot Financial Inclusion Technologies Limited 18. Easypay International Limited 19. Egole Pay Limited 20. Ercas Integrated Solutions Limited 21. E-Settlement Limited 22. Eyowo Integrated Payments Limited 23. Fincra Technologies Limited 24. Flutterwave Technology Solutions Limited 25. Fountain Payment Systems Solution 26. Gemspay Limited 27. Global/Accelerex Limited 28. Gpay Instant Solution Limited 29. GTP Client Services Limited 30. Helipay Africa Integrated Service Ltd. 31. ICAD Concord Limited 32. Infiniti Segments Limited	15. Swift Link-NZ Global Services Ltd 16. Waxed Mobile Nigeria Ltd 17. Netplusdotcom Nigeria Ltd 18. Wi-Pay 19. Bizdesk Global Solutions Limited 20. Citiserve Limited 21. Computer Warehouse Group 22. Etop Nigeria Limited 23. Fidesic Nigeria Limited 24. Global Accelerex Limited 25. Intellifin Solution Limited 26. Netop Business Systems Limited 27. Soti Investments Limited 28. Proprius Limited 29. C24 Limited 30. Callphone Limited 31. Cyberspace Limited 32. Karrabo Financial Solutions Limited 33. 3Gee Pay Limited 34. Konepay Nigeria Limited 35. Itex Integrated Services Limited 36. Funds and Electronic Transfer (FETs) Limited	12. C24 Limited 13. Callphone Limited 14. Capricorn Digital Limited 15. CBI Technologies Ltd 16. Ciroserve Payments Limited 17. Citiserve Limited 18. Clane Company Nig. Ltd. 19. Connectpoint Technology Solutions Limited. 20. Crowd Force Limited 21. Dot Financial Inclusion Technologies Limited. 22. Egole Pay Limited. 23. Errand P Limited. 24. E-Settlement Limited. 25. Fountain Payment Systems Solution. 26. Fucil Datatech

			<p>33. Irecharge Technology Innovations Limited</p> <p>34. Irofit Technologies Limited</p> <p>35. Itex Integrated Services Limited</p> <p>36. Konetpay Nigeria Limited</p> <p>37. Kora Payments Limited</p> <p>38. Leadremit Limited</p> <p>39. Moneta Technology Ltd</p> <p>40. Multigate Payment Limited</p> <p>41. Netapps Technologies Limited</p> <p>42. Netplusdotcom Nigeria Limited</p> <p>43. Nomba Financial Services Limited (Formerly Cosmic Intelligence Lab Limited)</p> <p>44. One Payment Limited</p> <p>45. Onepipe.io Services Ltd</p> <p>46. Parkway Projects Limited</p> <p>47. Payfixy Nigeria Limited (Formerly Innovate 1 Pay Limited)</p> <p>48. Payode Services Limited</p> <p>49. Paysure</p>		<p>Limited.</p> <p>27. Gwills Payments Service Limited.</p> <p>28. Infibranches Technology Limited.</p> <p>29. Innovectives Limited.</p> <p>30. Interswitch Financial Inclusion Services Limited.</p> <p>31. Irofit Technologies Limited.</p> <p>32. Itex Integrated Services Limited.</p> <p>33. Kadick Integrated Limited.</p> <p>34. Lukeport Nigeria Limited.</p> <p>35. Microsystems Investment And Development Limited.</p> <p>36. Moneymaster Limited.</p> <p>37. Nigerian Postal Service (NIPOST) .</p> <p>38. Nomba Financial Services Limited</p>	
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			<p>Technologies Limited</p> <p>50. Payu Payments Nigeria Limited</p> <p>51. Pethahiah Rehoboth International Limited</p> <p>52. Prophius Limited</p> <p>53. Orios Networks Limited</p> <p>54. Redtech Limited</p> <p>55. Resident Fintech Limited</p> <p>56. Rexel Limited</p> <p>57. RoutePAY Fintech Limited</p> <p>58. Saanapay Corporate Investments Management Limited (SAANACORP)</p> <p>59. Shago Payments Ltd</p> <p>60. Simplify International</p> <p>61. Synergy Limited Soft Alliance & Resources Limited</p> <p>62. Spay Business Solutions Limited</p> <p>63. Spout Payment Solutions</p> <p>64. Stanbic Financial Services Limited</p> <p>65. Swift Link-NZ Global Services Ltd.</p> <p>66. Teinnovate</p>	<p>(Formerly Cosmic Intelligence Lab Limited)</p> <p>39. Paycluster Technology Limited.</p> <p>40. Paygo Limited.</p> <p>41. Shago Payments Ltd.</p> <p>42. Spout Payment Solutions.</p> <p>43. Swift Link-Nz Global Services Ltd..</p> <p>44. Traction Payments Ltd.</p> <p>45. Vatebra Pay Limited.</p> <p>46. Waxed Mobile Nigeria Ltd..</p> <p>47. Yello Digital Financial Services.</p>	
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			67. Capital Limited Unlimit Nigeria Ltd 68. Upperlink Limited 69. Vas2net Technologies Ltd 70. Venture Garden Nigeria Limited 71. Vestrapay Nigeria Limited 72. Voguepay Web Solution Limited 73. Waxed Mobile Nigeria Ltd 74. Waya Multilinks Technologies Limited 75. Woven Finance Limited			
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Appendix C – Official list of International Money Transfer Operators as of 2019. Source: CBN¹³³

Location	Operator	Local City / Foreign Country
Local	1) Colony Capital Limited	Lagos
	2) eTranzact Limited	Lagos
	3) Flutterwave Technology Solutions Limited	Lagos
	4) Fortified Fronts Limited (in Partnership with e-2-e Pay Limited)	Lagos
	5) Funds & Electronic Transfer Solution	Lagos
	6) Interswitch Limited	Lagos
	7) Moneygram	Lagos
	8) Naira Gram LLC (operating in Nigeria as NGN Gram Limited)	Lagos
	9) Nigeria Postal Service (NIPOST)	Abuja
	10) Nouveau Mobile Limited	Lagos
	11) Pagatech Limited	Lagos
	12) Paycom Nigeria Limited	Lagos
	13) Shift Financial Services Limited	Abuja
	14) Simplify International Synergy Limited	Abuja
	15) TCF Limited	Lagos
	16) Venture Garden Nigeria	Lagos
	17) Vtnetwork Limited	Ibadan
	18) Xpress Payment Solutions Limited	Lagos
Foreign	1) Aftab Currency Exchange Limited	United Kingdom
	2) Azimo Limited	United Kingdom
	3) Belyfted Limited	United Kingdom

¹³³ See <https://www.cbn.gov.ng/Paymentsystem/InternationalMoneyTransferOperators.asp>

Location	Operator	Local City / Foreign Country
	4) Capermit UK Limited	United Kingdom
	5) Centrexcard Limited	United Kingdom
	6) Chime INC.	United States
	7) CP Express Limited	United Kingdom
	8) DT&T Corporation Limited	United Kingdom
	9) Fiem Group LLC DBA Ping Express	United Kingdom
	10) First Apple Inc.	United States
	11) Funtech Global Communications Limited	United Kingdom
	12) Global Currency Travel & Tours Limited	United Kingdom
	13) Homesend S.C.R.L.	Belgium
	14) Idt Payment Services Inc.	United States
	15) Immeuble Wari Limited	Senegal
	16) Makeba Inc.	United States
	17) Paypal Inc.	United States
	18) Remit Hub Café Limited	United Kingdom
	19) Remitly Inc.	United States
	20) Ria Financial	Senegal
	21) Small World Financial Services Group Limited	United Kingdom
	22) Trans-Fast Remittance LLC	United States
	23) Transferto Mobile Financial Services Limited (Thunes)	United Kingdom
	24) Volopa Financial Services (Scotland) Limited	Scotland
	25) Weblink International Limited	United Kingdom
	26) Western Union	Morocco

Location	Operator	Local City / Foreign Country
	27) Worldremit Limited	United Kingdom
	28) Xpress Money Services Limited	United Kingdom

Appendix D – Expanded Y-o-Y Growth Implications and Trend Analysis based on data from Table 6

NIBSS Channel	Expanded Y-o-Y Growth Change implication and Trend
ATM Transactions	<ul style="list-style-type: none"> Shift towards digital payments like POS terminals, mobile wallets, and online transfers as transaction volume decreases. This means there is increased access to smartphones and the internet by Nigeria as the two facilitate the use of alternative mobile payment options. Better convenience and security of digital payments through the decline of the transaction volume of ATMs. There is a growing cashless economy as the cost of managing physical cash is reduced and financial inclusion is promoted, thereby enabling faster and more efficient transactions.
Internet (Web)/Online Transfers	<ul style="list-style-type: none"> The growth in both the transaction volume and value of web and online transfers suggests that the digital payment infrastructure has improved in the two years, allowing for businesses to promote online payments. There is also a growing consumer awareness and trust in digital platforms as users have clearly become more savvy and used to payments online. The increase also suggests that e-commerce, bill payments and peer-to-peer (P2P) transactions are growing in Nigeria. In contrast to ATM transactions, this growth shows how there is a shift in traditional payment methods to digital ones, suggesting that the specific needs of the demographic in Nigeria today is one that prefers digital payments.

NEFT Transfers

- Though the transaction volume decreased for NEFT, the value increased. This might be because of larger transactions or specific situations where other options were not suitable. This suggests that though there might be a diversification within the digital payment industry, some kinds of large transactions still cannot be processed through new alternative methods. Specific industries, who transfer large sums, might see the growing need of NEFT even as other industries adopt alternative payment methods.

RTGS Transfers

- Given the trend from the previous channels, it is no surprise that RTGS declined. This is because RTGS is typically used for high-value and time-critical transactions between banks and financial institutions.
- This decline also suggested that there is a streamlining of the payment system with reduced reliance on a specific method like the RTGS. Through cheaper alternatives, it means that transactions are equally becoming cheaper to execute.

USSD Transfers

- Though the foundational importance of USSD transfers in Nigeria cannot be taken for granted, its growth in 2021 and 2022 will decline as a result of the rise of mobile apps and smartphone penetration. This does not mean that USSD will somehow disappear as USSD cost-effectiveness still makes it the better option for non-smartphone users and those in rural settings in Nigeria. USSD transfers will continue to be the preferred option for Nigerians who do not have access to more advanced digital options.

Mobile App Transfers

- Perhaps the most obvious change, the growth in both mobile app volume and value clearly shows the influence of both PSV2020 and PSV2025. Though the cashless policy of the CBN leading to the 2023 elections might have aided in this increase, it seems like a trend that has come to stay. The obvious implication here is that users are growing more confident in using mobile applications to make transfers. This both shows the innovation and competition from the entire payment system, from banks to fintechs. The trend shows that this growth will continue to be steady as the PSV2025 supports this very pattern.

Direct Debits

- What the growth in both value and volume of direct debits means is a growing adoption of automated bill payments and recurring transactions. Through direct debits, automated transactions in the country allow for traceable records of payment, allowing for increased business revenue for different companies, as well as, customer retention as the ease of this payment method makes it reliable.

Automated Clearing House (ACH)

- Salary disbursements and inter-business transactions are part of the main reasons why ACH value and volume grew. ACH, though not growing exponentially, might be serving a complementary role in the payment system. Co-existing with other channels that are exponentially growing like the mobile app transfers. The main thing the growth in ACH clearly states however, is the clear reliance on electronic transfers in Nigeria and the possible future expansion of e-payments itself.

Automatic Direct Debit (ADD)

- Just like with the RTGS transfers, the decline in ADD transaction volume and not value might be because it is primarily used for large-volume transfers between business and institutions. ADD is however still relevant in the payment system because it caters for the needs of a niche role in the payment system – the high-value transactions.

Cheque

- The decline in cheques has been steady since the transition into the cashless policy in 2011/12. The decrease in both the value and volume of transactions might be because of perceived disadvantages of cheques being less convenient and more time-consuming compared to alternatives. Cheques will however remain valuable for businesses and individuals without access to digital alternatives, as stated for USSD transfers.

Central Pay (CPay)

- The growth of many other payment solutions might have impacted CPay's growth. As shown in Table 4, other payment gateway players have captured a significant amount of the market and have become favorites for many businesses and customers. Besides that, there might be limited awareness of Cpay itself thereby causing reduced adoption. This is opposed to other more well known companies who have marketed their solution for consumers, and are well known for being reliable payment gateways.

eBills Pay

- Like many other channels with declined transaction volumes but increased transaction value, eBills Pay had larger bill transactions. This might be because users are consolidating multiple smaller bills like, utility bills, into singular eBills Pay transactions. Though eBills Pay offers a convenient payment option, it might get even more transaction value if it is specifically purposed for the payment of multiple bills at once.

Mobile Money Operators (MMOs)

- The rising smartphone penetration in Nigeria has facilitated widespread usage of mobile money platforms for diverse financial transactions, enhancing convenience and accessibility, particularly for individuals in remote or unbanked areas. As users become more familiar with and trusting of mobile money services, their adoption is expected to persist. This surge in mobile money usage signifies a potential shift towards mobile-centric financial services, emphasizing financial inclusion and fostering innovation and competition in the sector. The trend analysis underscores the dominance of mobile money in Nigeria's payment landscape, a trajectory likely to continue as smartphone access expands, government initiatives promote financial inclusion, and mobile money operators innovate to meet evolving user needs. Continuous improvement in services, user-friendly interfaces, and competitive fees will be crucial for mobile money operators to sustain and attract a growing user base.

NIBSS Instant Payment (NIP)

- The implications for the Nigerian Payment System are multifaceted. The surge in NIBSS Instant Payment (NIP) usage brings about faster and more efficient transactions, offering instantaneous fund transfers between bank accounts and surpassing traditional methods. This not only enhances convenience but also triggers increased innovation and competition among financial institutions, potentially leading to improved user experiences and lower fees. Moreover, the shift towards cashless transactions aligns with the broader trend of mobile-driven and digital payments, reducing reliance on physical cash and mitigating security risks while fostering transparency through clear and traceable electronic records. The trend analysis underscores the growing dominance of NIP transfers, expected to persist as mobile banking and apps continue to proliferate, user preferences prioritize convenience and security, and government initiatives actively promote cashless transactions.

Point of Sale (POS)


- The Point-of-Sale (POS) transactions offer enhanced convenience and speed, providing faster and more convenient payment options compared to traditional cash methods, thereby reducing checkout times and improving overall customer experience. The increased security afforded by card payments through POS terminals is a notable benefit, mitigating the risk of theft or loss associated with handling cash. Additionally, the adoption of POS systems contributes to improved record keeping and financial management for both businesses and consumers. The shift towards cashless transactions, in alignment with the broader trends of mobile-driven and digital payments, not only reduces reliance on physical cash but also brings potential advantages such as decreased security risks and lower transaction costs. For businesses, the efficiency gains from faster transactions and reduced cash handling translate into increased operational efficiency and cost savings. The trend analysis indicates a clear trajectory towards the heightened adoption of POS transactions in the Nigerian payment system, driven by factors like the expanding POS infrastructure, growing card penetration, and continued government initiatives promoting cashless payments.

Appendix E – Numerical table of Performance Metrics¹³⁴

Data Source	Performance Metric	2021 Volume (numerical)	2021 Volume	2022 Volume (numerical)	2022 Volume	2021 Value (N) numerical	2021 Value (N)	2022 Value (N) numerical	2022 Value (N)
CBN E-Payment Statistics	ATM Transactions	1,599,187,337.00	1.59 billion	1,506,991,903.00	1.51 billion	₦21,230,934,547,926.60	21.23 trillion	₦32,648,023,588,216.20	32.64 trillion
	Internet (Web)/Online Transfers	10,321,579,925	10.32 trillion	14,063,927,436	14.06 trillion	₦545,039,685,403,942.00	545.03 trillion	₦783,660,029,415,336.00	783.66 trillion
	NEFT Transfers	172,792,505	172.79 billion	88,468,437	88.46 billion	₦410,171,471,820,963.00	410.17 trillion	₦477,366,944,460,363.00	477.36 trillion
	RTGS Transfers	1,042,115	1.04 billion	288,216	288.21 million	₦588,206,008,267,591.00	588.20 trillion	₦73,706,479,398,538.40	73.70 trillion
	USSD Transfers	552,911,557	552.91 billion	516,080,595	516.08 billion	₦5,179,896,509,758.23	5.17 trillion	₦4,494,448,168,094.12	4.49 trillion
	Mobile App Transfers	831,540,635	831.54 billion	1,861,362,984	1.86 trillion	₦53,208,272,485,553.60	53.20 trillion	₦111,122,110,680,403.00	111.12 trillion
	Direct Debits	103,275,936	103.27 billion	151,011,103	151.01 billion	₦23,011,791,142,706.00	23.01 trillion	₦26,409,371,273,656.00	26.40 trillion
NIBSS Industry Statistics	Automated Clearing House (ACH)	20996.959	20.9 billion	23900.377	23.9 billion	₦16964.3986	16.9 trillion	₦18886.98	18.8 trillion
	Automatic Direct Debit (ADD)	21.99	21.99 thousands	20.48	20.48 thousands	₦136.69	136.69 billion	₦229.17	229.17 billion
	Cheque	4454.37	4.45 billion	4073.618	4.07 billion	₦3220.41	3.22 trillion	₦3205.04	3.20 trillion
	Central Pay (CPay)	271.54	271.5 thousand	111.68	111.68 thousand	₦2343.08	2.34 billion	₦1637.82	1.63 billion

¹³⁴ Note that this is in the Appendix to avoid confusion as both the CBN and NIBSS have different ways of presenting their data. The CBN presents the data yearly while NIBSS presents it monthly. NIBSS also reduces the number of decimal places which might make it seem as if the figures are in thousands or millions, when they are in billions and trillions.













	eBills Pay	1196.22	1.19 billion	885.89	885.89 million	₹2278.72	2.27 trillion	₹2801.55	2.80 trillion
	Mobile Money Operators (MMOs)	284501.72	248.5 million	714597.976	714.5 million	₹8066.53	8.06 trillion	₹19418.47	19.4 trillion
	NIBSS Instant Payment (NIP)	3473.19	3.47 billion	5140.1	5.14 billion	₹271959.64	271.95 trillion	₹387075.943	387.07 trillion
	Point of Sale (POS)	982.83	982.83 million	1149.96	1.14 billion	₹6433.45	6.43 trillion	₹8390.45	8.39 trillion

				
<ol style="list-style-type: none">1. Verve2. Paystack3. Mastercard4. SystemSpecs (Remita)5. Flutterwave6. Interswitch7. XpressPayment8. Coralpay9. Unified Payment10. Pay Attitude11. Venture Garden12. Clicktell13. Touch and Pay14. VTNetwork15. Itex Integrated Services LTD16. FIC Exchange Plc17. Chams Holding Company18. Unlimint19. Convexity20. Cowrie21. IQ Mellon22. Secure ID23. Sandstream24. Digcey25. Quantum Payments and Solutions Ltd26. Bullnet Mobile27. Datamining28. IGS innovative29. Yada System30. Bellmonie31. Gluwa32. Kwik Transact				
				

¹³⁶ See <https://enaira.gov.ng/list-of-enaira-tech-partners/>

Appendix G – Explanation of Bank Performance Metrics



















BANK PERFORMANCE EXPLANATIONS

CUSTOMERS DEPOSITS	PROFIT AFTER TAX	TOTAL ASSETS	GROSS LOANS	NON-PERFORMING LOANS (NPLS)	NGX MARKET CAPITALIZATION*
 <p>An upswing in customer deposits is generally positive, reflecting trust, potential for growth, and improved liquidity for a bank. However, considerations include the cost of deposits, especially if interest rates rise significantly, and the need for sufficient loan demand to generate substantial returns.</p>	 <p>An increase in Profit After Tax is generally positive, reflecting the bank's ability to generate more income than expenses. This indicates strong financial performance and effective management, allowing the bank to invest in growth, improve services, and provide better returns to shareholders.</p>	 <p>A growth in Total Assets suggests an expansion in the bank's overall size and scale. This could result from factors such as increased deposits, loans issued, or acquisitions. However, a rapid increase might raise concerns about excessive risk-taking.</p>	 <p>An uptick in Gross Loans indicates the bank is extending more credit, supporting economic activity. However, rapid loan growth requires monitoring to ensure lending standards are maintained, preventing a potential increase in non-performing loans in the future.</p>	 <p>An increase in NPLs is a negative sign, suggesting a rise in loans where borrowers are not meeting payment obligations. This can impact the bank's profits and reduce its capital reserves.</p>	 <p>A larger market capitalization for a bank is generally positive, indicating a higher market value for its shares. This reflects strong investor confidence and market leadership, instilling confidence in investors and attracting a larger shareholder base. Benefits include easier access to capital through share issuance and an enhanced overall reputation.</p>
 <p>A decrease in customer deposits can be concerning, signaling a potential loss of confidence, reduced liquidity, and limited growth for a bank. However, assessing the reason for the decline and exploring alternative funding sources can offer a more nuanced perspective.</p>	 <p>A decline in PAT could signal financial challenges, potentially stemming from increased expenses, a decrease in revenue, or higher provisions for potential loan losses.</p>	 <p>A decrease in Total Assets may signify a contraction in the bank's business, possibly due to a shrinking loan portfolio, asset sales, or loan defaults.</p>	 <p>A decline in Gross Loans may result from a slowing economy, heightened risk aversion, or loan repayments exceeding new loans issued.</p>	 <p>A decrease in NPLs is positive, indicating effective credit risk management. However, a very low NPL ratio should prompt scrutiny to ensure it doesn't result from overly cautious lending practices.</p>	 <p>A smaller market capitalization doesn't necessarily signify poor performance. It might stem from factors like the bank's newness or niche focus, and investors might be waiting for a stronger track record. However, drawbacks include limited access to capital and a less prominent public image.</p>

*Consider market capitalization alongside metrics such as profitability, asset quality, and loan growth for a comprehensive view of a bank's health. Comparative analysis with peers in the Nigerian banking sector adds valuable context.

Appendix H – Major Payment Service Providers in Nigeria

MAJOR PAYMENT SERVICE PROVIDERS PLAYERS

CARD PAYMENT SCHEME	MOBILE MONEY OPERATORS	SWITCHING & PROCESSING LICENSES	PAYMENT SOLUTION SERVICE PROVIDERS (PSSP)
  	  	   	 
PAYMENT TERMINAL SERVICES PROVIDERS (PTSP)	SUPER-AGENT		PAYMENT SERVICE HOLDING LICENSES
 	  		

- The approach employed in crafting this report is predominantly quantitative, emphasizing data that is verifiable and dependable.
- For analyzing important players in the payment ecosystem in Section 3.4, market size, number of users, transaction value, number of merchants and number of agents were used as metrics to know the biggest players from the smaller ones. The sources for these numbers were a combination of company reports and news reports.
- For the performance metrics in Section 4, the NIBSS database was used to gather the ACH transfers, ADD, Cheque, CPay, eBills Pay, MMOs, NIP and POS transfers. We collected the ATM transactions, Online transfers, NEFT transfers, TRGS transfers, USSD transfers, Mobile App transfers, and Direct debit data from the CBN E-Payments Statistics. Together, these 14 performance metrics gave us a clear understanding of the performance of the industry.
- For the analysis of the performance of the biggest banks in Nigeria, we used the 2022 annual reports were used to gather data on profit after tax, total assets, customers' deposits, gross loans, non-performing loans, and the Nigerian stock exchange (NGX) market capitalizations of some of the biggest deposit money banks in Nigeria



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