THE STATE OF INCLUSIVE INSTANT PAYMENT SYSTEMS IN AFRICA

SIIPS 2024

AfricaNenda foundation

ECA

WORLD BANK GROUP

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Acknowledgments

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About this report

The State of Inclusive Instant Payment Systems (SIIPS) in Africa 2024 report is a flagship annual report by the AfricaNenda Foundation. The SIIPS report aims to inform public-sector and private-sector players in Africa and beyond about the developments in the instant retail payment system (IPS) ecosystem in Africa, including an assessment of the inclusivity of such systems, both in functionality (accessible to all end users) and governance (all licensed payment providers have fair access and design input opportunities). For this report, only systems with live transactions and functionality as of June 2024 were included. The authors gathered the data in this report directly from central banks and public or public-private instant payment system operators in Africa and from publicly available resources between January and June 2024. The findings also include insights from extensive stakeholder interviews conducted during the same period. The consumer research was conducted between February and March 2024.

Thank you

We sincerely thank the central banks of Angola, Egypt, The Gambia, Ghana, Kenya, Lesotho, Madagascar, Mauritius, South Africa, Tanzania, Tunisia, and Uganda, and the IPS operators EthSwitch (Ethiopia), Gamswitch (The Gambia), Integrated Payment Systems Ltd. (Kenya), Natswitch (Malawi), Nigeria Inter-Bank Settlement System, RSwitch (Rwanda), BankservAfrica (South Africa), Zambia Electronic Clearing House Limited (ZECHL), Zimswitch Technologies (PVT) Ltd. (Zimbabwe), and GIMAC (CEMAC) for providing data to help close information gaps.

This data has helped enrich the analysis of the IPS landscape and enable deeper insights into what is working and where inclusivity gaps remain. We invite more central banks and instant payment system operators to share data and contribute to increasing transparency and sharing knowledge that enables access to digital payments. The list recognizes contributing central banks and IPS operators in alphabetical order by country.

System	Volume and values data by central Bank
KWiK (Angola)	National Bank of Angola
IPN and Meeza Digital (Egypt)	Central Bank of Egypt
Gamswitch (The Gambia)	Central Bank of The Gambia
GIP and Ghana MMI (Ghana)	Bank of Ghana
Kenya mobile money (Kenya)	Central Bank of Kenya
LeSwitch (Lesotho)	Central Bank of Lesotho
Madagascar mobile money (Madagascar)	Banque Centrale de Madagascar
MauCAS (Mauritius)	Bank of Mauritius
RTC (South Africa)	South Africa Reserve Bank
Taifa Moja; TIPS (Tanzania)	Bank of Tanzania
Tunisia mobile money (Tunisia)	Banque Centrale de Tunisie
Uganda mobile money (Uganda)	Bank of Uganda
System	**Volume and values data by IPS operator**
EthSwitch (Ethiopia)	EthSwitch
Gamswitch (The Gambia)	Gamswitch
PesaLink (Kenya)	Integrated Payment Systems Ltd. (IPSL)
Natswitch (Malawi)	Natswitch
NIP (Nigeria)	Nigeria Inter-Bank Settlement System (NIBSS)
eKash (Rwanda)	RSwitch
Payshap (South Africa)	BankservAfrica
NFS (Zambia)	Zambia Electronic Clearing House Limited (ZECHL)
ZIPIT (Zimbabwe)	Zimswitch
GIMACPAY (CEMAC)	Groupement Interbancaire et Monétique de l'Afrique Centrale (GIMAC)

Foreword

Dr. Robert Ochola,
Chief Executive Officer,
AfricaNenda Foundation

The digital transformation in Africa continues to unfold at an incredible pace and is poised to accelerate even faster on the back of inclusive and instant payment systems (IIPS), which have the potential to reshape the continent's economic landscape. Indeed, over the last decade, Africa has seen a dramatic increase in the availability of digital payments. Since 2012, when there were just two instant payment systems on the continent, the infrastructure has grown to include 31 systems processing digital payments for 26 countries.

We are, however, just at the start of this journey. Countries need to do more to achieve their true potential and ensure these payment systems reach underserved or excluded populations.

Plato posited "A library of wisdom is more precious than all wealth, and all things that are desirable cannot be compared to it. Whoever therefore claims to be zealous of truth, of happiness, of wisdom or knowledge, must become a lover of books." This speaks to the need to document knowledge and information—the key reason why the AfricaNenda Foundation invests in the annual *State of Inclusive Instant Payments in Africa (SIIPS) report*.

Until recently, there was very little data on how inclusive Africa's instant payment systems were—meaning we did not know whether they were reaching everyone, including underserved women and low-income adults. Without that data, it is difficult to identify policies, strategies, and technical assistance programs that are effective at bringing people into the digital ecosystem. SIIPS has been changing that.

I am extremely proud of the role that SIIPS is playing in elevating the importance of inclusivity in the payment ecosystem. Inclusive systems not only provide safer, more convenient, and less expensive ways for people to receive and spend money, they also contribute to an end-to-end digital financial ecosystem that can drive economic growth.

The SIIPS 2022 and 2023 reports provided an essential public resource with expert interviews, consumer surveys, and publicly available data about the live systems on the continent, and the degree to which they are addressing the financial needs of end users. This 2024 edition, our third, continues that tradition of excellence with the addition of survey data collected directly from 12 central banks and 10 Instant Payment System's operators.

We hope these insights continue to help central banks, payment operators, and financial inclusion advocates accelerate instant payment system development and expansion so that every person in Africa has access to accessible, affordable, and useful instant payments. It is also my hope that this report will inspire action, collaboration, and innovation, as we work towards more inclusive and equitable financial systems for all.

We at AfricaNenda are here to assist every step of the way.

Foreword

Rodger Voorhies
President,
Global Growth & Opportunity,
Bill & Melinda Gates Foundation

As a lifelong advocate for financial inclusion, I know the power of compelling stories to make the case for giving people access to safe, secure, and affordable financial tools. But it is equally important to back those stories up with rigorous evidence to support decision making.

This third annual State of Inclusive Instant Payment Systems (SIIPS) in Africa report offers exactly that—an authoritative and insightful assessment of the exciting progress countries are making to expand digital payment access to all Africans. There are now 31 live instant payment systems providing digital payments capabilities to 26 countries in Africa—serving about half the population on the continent. An additional 27 countries are planning or piloting such systems. If these are deployed, then we may well be able to facilitate universal financial inclusion across the entire continent of Africa by 2030.

At the Bill & Melinda Gates Foundation, we see these systems as a key enabler for socio-economic advancement, especially for women and the poor who have often been excluded from traditional financial systems. By focusing on real-time, low-cost payment systems, AfricaNenda is helping to build the necessary infrastructure for national and cross-border transactions that will improve access and reduce the cost of financial services for everyone. They are bringing together public and private sector actors to create a financial ecosystem where payments can flow seamlessly across the continent.

Inclusive instant digital payment systems are more than just a financial tool—they are a cornerstone of digital public infrastructure (DPI). Countries that build a safe and inclusive DPI—with interoperable core components such as digital payments, ID, data exchange, and consent—will create vibrant and competitive economies. DPI has incredible potential to advance social inclusion through widespread participation in the digital economy, and we believe it is one of the most promising development strategies to help achieve the Sustainable Development Goals (SDGs).

The world is now at a critical inflection point, a time of promising momentum for DPI. At the first Global DPI Summit in Cairo in October 2024, the progress in inclusive payment systems—and the work of AfricaNenda—was highlighted as model of how countries can make rapid strides and learn from each other. This followed a series of significant global milestones for DPI and digital financial services, including the Global Digital Compact, which recognizes DPI as an accelerator for achieving the SDGs, and the Universal DPI Safeguards Framework, a set of guidelines for countries to mitigate risks and foster trust and equity in DPI implementations. Especially exciting is the pace of progress by the 50-in-5 campaign to encourage 50 countries to design, launch, and scale at least one DPI component in a safe and inclusive manner by 2028.

Leveraging payments as the most-used financial service in Africa, we join AfricaNenda in calling on financial system stakeholders to ensure that there are opportunities for everyone—including underserved populations—to access useful payment solutions and thereby more fully participate in the financial system. AfricaNenda serves as a critical resource for countries to tap when building instant, inclusive digital payment systems, which are a key part of digital public infrastructure and can deliver long-term benefits to all people. We are proud to support their work.

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Acronyms

AFI	Alliance for Financial Inclusion
AML	Anti-money laundering
API	Application programming interface
ATM	Automated teller machine
B2B	Business-to-business
BCEAO	Banque Centrale des États de l'Afrique de l'Ouest (Central Bank of West African States)
BEAC	Banque des Etats de l'Afrique Centrale (Bank of Central African States)
BIS	Bank for International Settlements
BNR	National Bank of Rwanda
BOG	Bank of Ghana
BOM	Bank of Mauritius
BSA	BankservAfrica
CBC	COMESA Business Council
CBDC	Central bank digital currency
CBE	Central Bank of Egypt
CBK	Central Bank of Kenya
CBN	Central Bank of Nigeria
CCBG	Committee of Central Bank Governors
CDD	Customer due diligence
CEMAC	Communauté Economique et Monétaire De l'Afrique Centrale (Economic and Monetary Community of Central Africa)
CFT	Combatting of financing of terrorism
CGAP	Consultative Group to Assist the Poor
COMESA	Common Market for Eastern and Southern Africa
CPF	Combatting of proliferation financing
DFS	Digital financial service
DNS	Deferred net settlement
DPI	Digital public infrastructure
DRC	Democratic Republic of the Congo
EABC	East African Business Council
EAC	East African Community
EBC	Egyptian Banks Company
ECOWAS	Economic Community of West African States
EFT	Electronic funds transfer
EGP	Egyptian pound
eKYC	Electronic know your customer
EMIS	Empresa Interbancária de Serviços
EPAZ	Electronic Payments Association of Zimbabwe
ESAAMLG	Eastern and Southern Africa Against Anti-Money Laundering Group
FATF	Financial Action Task Force
FRA	Financial Regulatory Authority
FPS	Fast payment system
FSC	Financial Services Commission
FSCA	Financial Sector Conduct Authority
G2P	Government-to-person
GDP	Gross domestic product
GhIPSS	Ghana Interbank Payment and Settlement System
GIMAC	Groupement Interbancaire Monétique l'Afrique Centrale
GIP	GhIPSS Instant Pay
GNI	Gross national income
GBDT	Gold-backed digital token
GPS	Global Positioning System
HDCT	Human Development Cash Transfer
ICT	Information and communications technology
ID	Identity document
IDI	In-depth interview
IIPS	Inclusive instant payment system
IMF	International Monetary Fund
IPA	Instant Payment Address
IPN	Instant Payment Network
IPRS	Integrated Population Registration System
IPS	Instant payment system
ISO	International Organization for Standardization
KWiK	Kwanza Instantâneo
KYC	Know your customer
MauCAS	Mauritius Central Automated Switch
MFI	Microfinance institution
ML	Money laundering
MMI	Mobile money interoperability
MMO	Mobile money operator
MNO	Mobile network operator
MSME	Micro, small, and medium enterprise
MUR	Mauritian rupee
MVTS	Money or Value Transfer Services
NFC	Near-field communication
NFS	National Financial Switch
NIBSS	National Inter-Bank Settlement System
NIP	NIBSS Instant Payment
P2B	Person-to-business
P2P	Person-to-person
PAPSS	Pan-African Payment and Settlement System
PASA	Payments Association of South Africa
PCH PG	Payment Clearing House Policy Group
PF	Proliferation financing
POI	Point of interaction
POPI-A	Protection of Personal Information Act
POS	Point-of-sale
PPP	Public-private partnership
PSOC	Payment Service Oversight Committee
PSP	Payment service provider
QR	Quick response
RBA	Risk-based approach
RBZ	Reserve Bank of Zimbabwe
REC	Regional economic community
RNDPS	Rwanda National Digital Payments System
RPP	Rapid Payments Program
RSP	Remittance service provider
RTC	Real-time clearing
RTGS	Real-time gross settlement
RTP	Request-to-pay
RTPS	Real-time payment systems
SADC	Southern Africa Development Community
SARB	South African Reserve Bank
SDD	Simplified due diligence
SDG	Sustainable development goal
SIIPS	State of Inclusive Instant Payment Systems
SIM	Subscriber identity module
SIMO	Sociedade Interbancaria De Mocambique
SSA	Sub-Saharan Africa
SWIFT	Society for Worldwide Interbank Financial Telecommunication
SYRAD	Système de règlement automatisé de Djibouti
TCIB	Transactions Cleared on an Immediate Basis
TF	Terrorist financing
TIPS	Tanzania Instant Payment System
UN	United Nations
UNECA	UN Economic Commission for Africa
UPI	Unified Payments Interface
US	United States
US$	United States dollar
USSD	Unstructured supplementary service data
VASP	Virtual asset service provider
WAEMU	West African Economic and Monetary Union
WAMA	West African Monetary Agency
WAMZ	West African Monetary Zone
ZAR	South African rand
ZECHL	Zambia Electronic Clearing House Limited
ZiG	Zimbabwe Gold
ZIPIT	Zimswitch Instant Payment Interchange Technology
ZWL	Zimbabwean dollar

Glossary of terms

Acceptor

Any trading or service establishment that accepts, on its own behalf or on behalf of its network, the payment of goods or services via an electronic money instrument (BIS, 2003).

Acquirer

An entity or entities that hold(s) deposit accounts for card acceptors (merchants) and to which the card acceptor transmits data related to transactions. The acquirer is responsible for collecting transaction information as well as enabling settlement with acceptors (BIS, 2003).

Agents

Informal and formal service points where customers can access bank and non-bank services, such as cash-in or cash-out and pay for goods and services (FinMark Trust, 2019).

Aggregator

Third-party institutions that enable acquirers to reach smaller merchants. The third-party maintains a direct relationship with the smaller merchants and handles many of the operations and servicing aspects (World Bank, 2022a).

All-to-all interoperability

Ability to link bank accounts to mobile wallets and vice versa, bank accounts to bank accounts, and mobile wallets to mobile wallets to transfer value. All-to-all interoperability includes account-to-account interoperability as well as any other digital instruments or negotiable/fungible instruments.

App

For the purpose of this report, app refers to the front-end, in-between service that authorizes and processes payments between a user's payment portal (mobile device) and a vendor's bank or financial intermediary, including non-banks. It performs the encryption of cardholder data, authorization of payment requests, confirmation of purchases, and so on (Slesar, 2022).

Automated teller machine

Computerized telecommunications devices that provide financial institution clients with access to financial transactions in a public place (World Bank, 2020d).

B2B payments

Definition term for this report: Smaller-value transfers between businesses, such as payments for inventory and business services, especially MSME businesses, i.e., not wholesale payments.

Bank IPS

Typology term for the purpose of this report. A system that only provides access for banks and that supports instruments associated with bank accounts, including microfinance banks in Nigeria.

Bilateral prefunding

When "nostro" accounts are prefunded by connected payment service providers. These accounts are then debited as transactions occur between parts of connected providers (CGAP, 2021)[1].

Bill payments

A payment made by a person from their bank, mobile money accounts, or other financial stores of value, to a biller or billing organization via a digital payment platform in exchange for the services provided (GSMA, 2021a).

Branch

For the purpose of this report, refers to a payment service provider's storefront location with a teller that handles cash deposits, withdrawals, and payment for goods and services.

Browser

For the purpose of this report, refers to a channel for a consumer to make a payment electronically via a web page, linking the payer to the account details of their bank or financial service provider.

Central bank digital currency (CBDC)

A digital form of a central bank liability, denominated in an existing unit of account, which serves both as a medium of exchange, a store of value, and a means of payment. CBDC may be transferred either on a peer-to-peer basis or through an intermediary, which could be the central bank, a commercial bank, or a third-party agent (BIS, 2018).

Credit card

A payment instrument linked to a credit facility through a card channel and network, with defined acceptance rules, specified functionality, and user redress protocols for the channel.

Credit electronic funds transfer (EFT)

The message created whenever a payment instruction via various delivery channels (for example, the internet) is issued, crediting a customer's transaction account, to make an electronic payment to a third party (PASA, 2022a). Credit EFTs are therefore by definition push payments.

1 Nostro accounts are accounts owned by one financial institution but housed within another, where the financial institution could be a bank, MMO, or other payment service provider with stored-value accounts.

Cross border payment

A payment in which the financial institutions of the payer and the payee are located in different jurisdictions (CPMI, 2016).

Cross-domain IPS

Typology term for the purpose of this report. A system that provides for all-to-all interoperability where switching, clearing, and exchanging instruments is contained within one overarching system. Cross-domain systems provide access to banks and non-banks and support transactions from both bank accounts and mobile money accounts. All-to-all interoperability includes the ability for end users to directly transact between wallet accounts at different mobile money operators (MMOs), between mobile money accounts and bank accounts, and across bank accounts. Within one system, there are different rules to accommodate various instruments. The single system provides the governance framework and coordinates the operational functions end-to-end for the various instruments (GSMA, 2014).

Customer due diligence

Customer due diligence goes beyond customer identification and verification and is a systematic risk management concept defined in relation to elements such as developing customer risk profiles, understanding the nature and purpose of transactions and ongoing monitoring (CGAP, 2018; FATF, 2023; FATF, 2023).

Debit card

A payment instrument linked to a depository account, such as an on-demand deposit, savings, or transfer account. It can be used to make both debit and credit transactions between accounts, as well as between cards (PASA, 2022b). Although technically a pull payment, the locus of control is often with the payer, meaning debit cards can essentially function as a push payment.

Debit EFT

A payment instrument that allows the recipient to collect money from the sender's transaction account without the sender having to do anything but provide written, electronic approval through a debit order mandate (PASA, 2022b). Debit EFTs are, by definition, pull payments.

Deferred net settlement

The process whereby transaction obligations are netted off and only the balance is settled at a later stage according to a predefined cycle, either daily or more frequently (World Bank, 2021a).

Deposit-taking institution

Deposit-taking institutions include those, in the normal course of business, which solicit the acceptance of liquid (fungible) deposits from the public, subject to a contract of deposit, for the purpose of intermediation (co-mingled on the institutions balance sheet and applied to the acquisition of different asset classes and activities). Deposit-taking institutions may or may not facilitate payments and other financial services on behalf of their customers.

Digital public good

Digital public goods are open-source software, open data, open AI models, open standards, and open content that adhere to privacy and other applicable laws and best practices, do no harm by design, and help attain the Sustainable Development Goals (SDGs) (Digital Public Goods Alliance, 2023).

Digital public infrastructure

Digital public infrastructure is a set of shared digital systems that are secure and interoperable, built on open technologies, to deliver equitable access to public and/or private services at a societal scale (G20, 2023).

Direct IPS participant

Licensed payment service providers governed by the same scheme rules, and who are connected directly to the IPS with the ability to initiate a transaction in the system.

Electronic know-your-customer

eKYC refers to electronic means to conduct the customer's identification process and allows the digital or online verification of customer identity (BIS, 2020).

Emerging market segment

Lower-income people and MSMEs based in urban and peri-urban areas.

E-money

An electronically transactable currency instrument and store of value consisting of a claim against a licensed e-money issuer, collateralized by liquid commercial bank deposits or by a direct claim upon a commercial bank.

End-to-end eKYC

For the purpose of this report, end-to-end eKYC refers to when all steps of the KYC process can be conducted electronically, allowing for fully remote electronic identification and verification.

Fintech (payments)

For the purposes of this report, a payment fintech refers to a firm that is not a bank, microfinance institution, or postal service, yet provides technology-enabled digital payment services.

Inclusive instant payment system

Processes payments digitally in near real-time and are available for use 24 hours a day, 365 days a year. They enable low-value, low-cost push transactions that are irrevocable and based on open-loop and multilateral interoperability arrangements. Licensed payment providers have fair access to the system, and system participants have equal input opportunities into the system. The central bank has the ability to shape the governance.[2] End users have access to a full range of use cases, payment instruments and channels, and transparent and fit-for-purpose recourse mechanisms.

Indirect system participant

Participants who do not have a technical integration with the central switch and instead participate in the system via a direct system participant.

2 The central bank has the requisite regulatory powers and implements effective oversight arrangements on an ongoing basis to determine and take corrective action to ensure that governance arrangements are appropriate and support achievement of public policy objectives. In some country contexts, central bank might have to exercise ownership control and/or be directly represented in the board (for e.g. by nominating its serving staff or nominating an external member) to fully achieve desired governance arrangements.

Instant payment systems

IPS are retail payment systems that are multilateral and open loop and that enable at a minimum digital push payments in near real time for use 24 hours a day, 365 days a year, or as close to that as possible.

International Organization for Standardization (ISO) 20022

Introduced in 2004, ISO 20022 has become the standard exchange for new instances of electronic messaging and is used by most financial service providers for payment as well as non-payment transactions (World Bank, 2021).

Inventory and business services (B2B)

Monetary transfers between two business entities. The payment size ranges from large-value payments associated with large intra-industry transactions to retail payments between micro, small, and medium enterprises (the focus of this report)—for instance, payment for inventory supplies provided by one business to another (World Bank, 2020b).

Irrevocable

A transfer which cannot be revoked by the transferor and is unconditional (BIS, 2003).

ISO 8583

The most common messaging standard for card payments, ISO 8583 was established by the ISO in 1987 (World Bank, 2021).

Issuer

The payment service provider who issues payment cards or other payment instruments to the payer and processes payments initiated with these instruments (Paytechlaw, 2024).

Know-your-customer

KYC forms part of the broader customer due diligence (CDD) process. It generally refers to a commercial compliance concept and can be understood as the process whereby institutions collect information or attributes about a potential customer and establish the veracity of this information using reliable, independent source documents, data, or information (CGAP, 2018; Financial Inclusion Global Initiative, 2021).

Low-value payments

IPS definition term for the purpose of this report. Transactions of less than US $5.

Merchant payments

Retail payments associated with the purchase of goods and services from a business, irrespective of the size, where the payer is a consumer, and the payee is a business (World Bank, 2021a).

Mobile money

A service in which a mobile phone is used to access financial services, where value is stored virtually in a transaction account issued by an e-money issuer.

Mobile money IPS

A system that only provides access to mobile money providers and that supports instruments associated with mobile money accounts. This type of system has some form of common scheme rules and standards that form the basis for clearing and settlement of transactions between customers of the participating MMOs. However, they may be based either on a centralized infrastructure or based on some form of bilateral and multilateral arrangements between participating MMOs.

Mobile money operator

A mobile network operator, or an entity that has partnered with a mobile network operator, that provides mobile money services, a pay-as-you-go digital medium of exchange and store of value that operates independently of a traditional banking network (IMF, 2022).

Multilateral interoperability

The permission structure for payment instruments belonging to a given system to be used in platforms developed by other systems, including in different countries. Multilateral interoperability involves a situation in which payment instruments that belong to a given system may be used in platforms developed by other systems, including in different countries. Multilateral interoperability involves the coexistence of multiple attributes, which can be combined in various ways. These attributes fall into three broad dimensions: technical, semantic, and business interoperability (BIS 2021)[3]. The nature of the business interoperability rules determines whether a payment system is multilateral, but does not dictate the number of providers, platforms, systems, or jurisdictions.

Near-field communication

A standards-based, short-range (that is, a range of a few centimeters) wireless connectivity technology that enables simple and safe two-way interactions between electronic devices, allowing end users to perform contactless transactions, to access digital content, and to connect electronic devices with a single touch (BIS, 2020b).

Network effect

Overall utility of digital payment products and services depends on the number of individuals, businesses and entities using it: the more users adopt a product, the more value each user receives (Giuliani, 2022).

Not-on-us transaction

Not-on-us transactions are those where the issuing and acquiring payment service providers are different institutions. These transactions require processing through external networks for clearing and settlement (such as a switch), as they involve moving funds between payment service providers, rather than being confined to a single payment service provider's internal systems.

On-us transaction

Transactions that stay within one payment service provider's core processing platform and on an internal subsidiary ledger without clearing or settling between separate financial institutions. That is, it is an internal transaction between customer accounts within a single financial institution or within a financial services group.

3 Technical interoperability involves the technical connections and exchange of data, whereas semantic interoperability requires data to be interpreted and acted upon consistently (BIS, 2021). Business interoperability involves commercial agreements that provide standing rules and assurances for the exchange of different commercial instruments and associated risks between different schemes, platforms, and participants, including in different jurisdictions (World Bank, 2012).

Open application programming interface

The method for software programs to communicate with one another that is designed to conform to published data formats and standards and is made widely available, allowing other companies to integrate seamlessly into the payment system (CGAP, 2022a).

Open loop

An open-loop payments system is one in which any licensed payment service provider that fulfills the scheme rule criteria may participate. An open-loop system implies interoperability, exclusive bilateral arrangements, closed-loop systems and on-us or inter group processes fall outside this definition.

Overseer

A person who continually monitors the system and assesses how safely and efficiently it is operating (BIS, 2016). They are responsible for assessment and monitoring of the system and enforcement of laws and regulations to promote safe and efficient payments. The system overseer can enforce policy mandates and is the main arbitrator of fairness or application of the scheme rules (CGAP, 2021).

Payment service provider

An intermediary that processes payments on behalf of the payer and payee.

Payment system operator

Responsible for transmitting payment instructions, calculating settlement positions and other operational activities, such as the daily management of systems, and processing in line with the scheme rules and governance directives. Their responsibilities also include ensuring the quality of service, operational risk mitigation, and the maintenance of standards (CGAP, 2021).

Payment system operator interoperability

The foundation for the interoperability of IPS participants via a centralized switching or clearing layer, facilitated by a third party (payment system operator). In some countries, but not all, the third party is an aggregator (CGAP, 2016). The payment system operator can be a private entity or government owned. Interoperability is achieved when providers connect to the switch.

Point of interaction (POI)

The initial point in the merchant's environment (e.g. POS, vending machine, payment page on merchant website, QR code on a poster, etc.) where data is exchanged with a consumer device (e.g. mobile phone, wearable, etc.) or where consumer data is entered to initiate an instant credit transfer (ERPB, 2020).

Point-of-sale device

A specialized device that is used to accept payments (for example, a card reader) at a retail location where payments are made for goods or services (GSMA, 2021a).

Proxy ID

An identifier (for example, e-mail address, mobile phone number) that may be used in lieu of the payer's or payee's transaction account information. These allow the public and the business sector to transact in a seamless manner while initiating a payment (World Bank, 2021d).

Pull payment

The payee initiates (pulls) the transfer of funds from the payer's account (BIS, 2016).

Push payment

The payer initiates (pushes) the transfer of funds from an account to the payee (BIS, 2016).

Quick response (QR) code

A square-shaped pattern consisting of a set of unique white and black blocks, representing information on the recipient or other transaction details. QR codes can be scanned by any smart device or can be entered manually into an unstructured supplementary service data to support transactions (BTCA, 2021).

Real-time payment

The value transfer is assured to be instant (within seconds).

Real-time settlement

When transactions are settled continuously as they occur (World Bank, 2021a).

Recourse mechanisms

The mechanisms in place for end users using the IPS to raise grievances and have them heard and resolved or redressed (CGAP, 2013).

Regulatory harmonization

Regulatory bodies in two or more countries agree to a set of regulatory frameworks/ standards and/or establish a similarity in processes/services.

Remittances

Cross-border, person-to-person payments of relatively low value that are typically recurrent transfers (BIS, 2022b).

Retail payments system

A funds transfer system that typically handles a large volume of relatively low-value payments in such forms as cheques, credit transfers, direct debits and card payment transactions (CPMI, 2016).

Reversal fraud

An end user intentionally initiates a payment reversal or chargeback for a legitimate mobile transaction they've made, with the intention of receiving a refund while retaining the purchased goods or services (GSMA, 2024a).

Risk-based approach to AML/CFT/CPF

A risk-based approach to AML/CFT/CPF means that countries, competent authorities and financial institutions are expected to identify, assess and understand the ML/TF/PF risks to which they are exposed and take AML/CFT/CPF measures relative to those risks in order to mitigate them effectively (FATF, 2023).

Salaries and wages

Periodic transactions from businesses to compensate employees for work rendered (for example, payroll and other compensation-related incentives; (World Bank, 2021a).

Settlement agent

Responsible for moving the settlement value in commercial or sovereign currency between system participants (CGAP, 2021).

Smishing

A social engineering attack that uses fake mobile text messages to trick people into downloading malware, sharing sensitive information, or sending money to cybercriminals (IBM, 2024).

Social disbursements

A payment by a government to a person's transaction account, often for social disbursements, such as grant or subsidy payments (GSMA, 2021b).

Sovereign currency IPS

Typology term for the purpose of this report. CBDC IPS combines a sovereign currency instrument and value transfer system that can provide a unified digital value transfer mechanism between commercial instrument systems, institutional stakeholders, and individuals within an economy.

Switching

Refers to the operation of switch technology that enables safe and efficient transactions. Switch operators transmit, reconcile, confirm, and net transactions between participants (collectively, these make up the clearing function); submit instructions for real-time or deferred transfer of final funds (settlement initiation); and perform other operational functions, including managing disputes and monitoring for fraud (CGAP, 2021).

System governance body

Responsible for strategic direction, including any explicit inclusivity mandate (pro-poor governance), and accountability of IPS participants. Their function is related to control over scheme management (Cenfri, 2020).

System owner

Responsible for and entitled to receive all the benefits and risks associated with ownership of the system (BIS, 2003).

Taxes and fees

Obligations that individuals pay to central, regional, and local public administrations, such as tax payments or utility payments (World Bank, 2021a).

Tiered KYC

Tiered KYC is a form of simplified CDD in which account functionality and CDD requirements increase progressively in line with one another, which means that as more KYC requirements are met, greater functionality is allowed (GSMA, 2019b).

Transfers and remittances

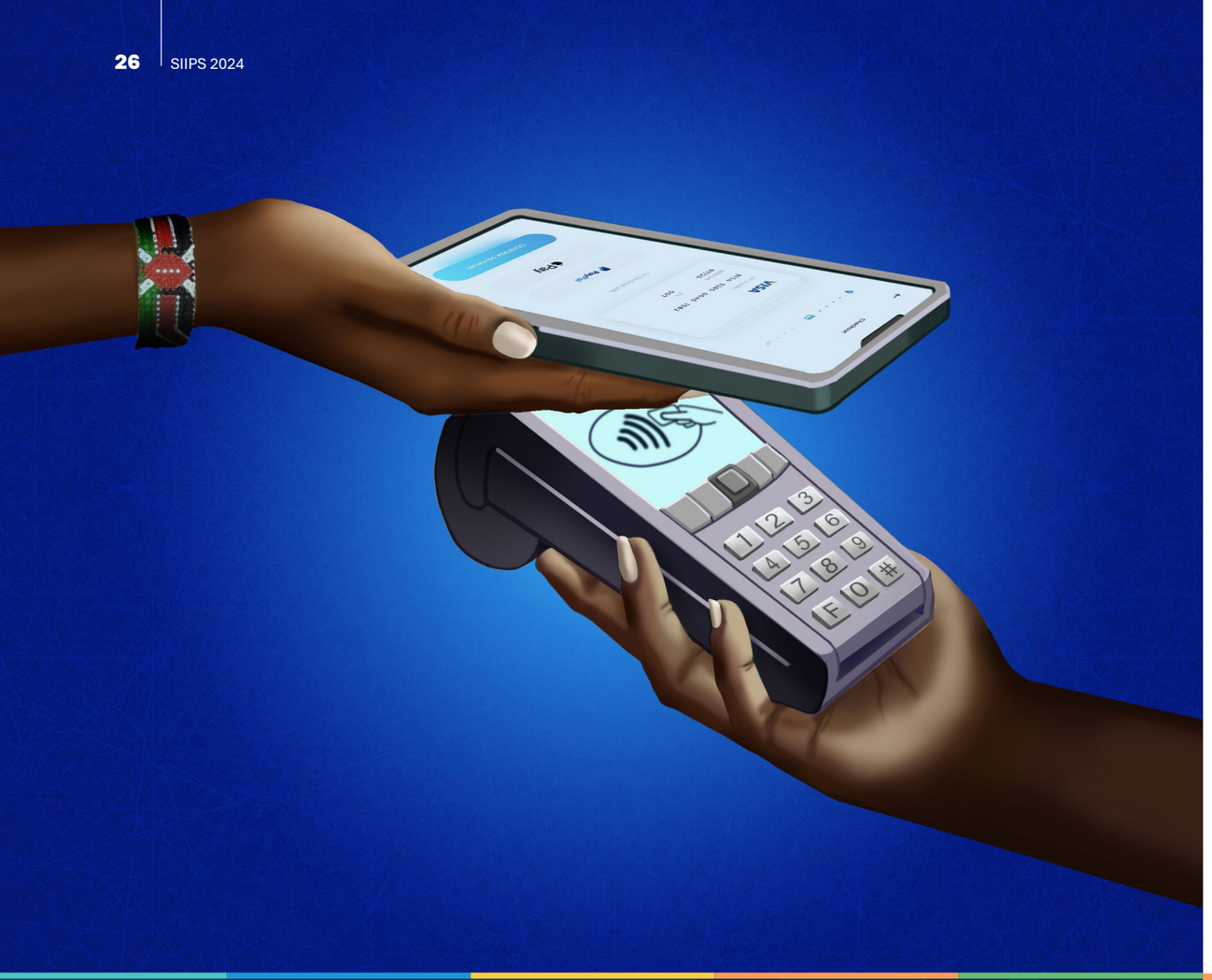
Transfers of money to family members or friends without an underlying economic transaction (for example, remittances sent from one person's transaction account to another (World Bank, 2021a).

Unstructured supplementary service data

Part of the Global System for Mobile Communications protocols for second-generation digital cellular networks and devices. This communication channel was adapted to accommodate financial transactions by enabling customers to send defined instructions to mobile financial services providers along with their personal identification number for authentication, while enabling the provider to send responses to clients and confirm transactions (CGAP, 2015).

Vishing

A type of cyberattack that uses voice and telephony technologies to trick targeted individuals into revealing sensitive data to unauthorized entities (TechTarget, 2023b).



Executive Summary

Tracking progress toward inclusive instant payments

One of the most powerful aspects of account ownership is that it equips people to receive and to make digital payments, which are proven to bring significant economic benefits. People with an account are better able to safely and conveniently manage their finances, including unexpected dips in income, by having a safe place to store and save income, and to receive financial support from a geographically dispersed network of friends and family (Jack & Suri 2014; Riley 2018).

Ensuring these benefits of digital payments accrue to everyone in Africa requires dramatic expansion in the share of adults who can access and use them. Digital payments cannot be limited to the 55% of Africans who are financially included but must also be available to the 45% who currently are not—over 400 million adults on the continent. Yet one of the reasons why they are limited is because the payments infrastructure on the continent is not yet fully inclusive—neither in terms of geographic coverage nor in terms of accessibility and affordability.

In this third annual *State of Inclusive Instant Payment Systems (SIIPS) in Africa 2024* report, AfricaNenda analyzes the efforts to make instant digital payments more available and accessible in Africa through the development of inclusive instant payment infrastructure. Using a combination of supply-side and demand-side sources, we offer an in-depth look at the public-sector and private-sector instant payment systems (IPS) in Africa and assess the inclusivity of such systems, both in functionality (accessible to all end users) and governance (all licensed payment providers have fair access and design input opportunities).

For this report, only systems with live transactions and functionality as of June 2024 were included, as determined through data collected between January and June 2024 directly from central banks, from public or public-private instant payment system operators, and from publicly available resources. The findings also include insights from extensive stakeholder interviews and from end-user research conducted between February and March 2024 in Algeria, Ethiopia, Guinea, Mauritius, and Uganda. Finally, the report includes detailed case studies from Mauritius, South Africa, Tanzania, and Zimbabwe.[4] Together, these sources provide an overview of key trends, barriers, and opportunities for IPS inclusivity in Africa.

What is an instant payment system and when does it become inclusive?[5]

Instant payment systems (IPS) are retail payment systems that are **open loop** and that enable **irrevocable**, **low-value,** digital credit push transactions in **near real time** for use **24 hours** a day, **365 days** a year. IPS and Fast Payment Systems (FPS) are synonyms.

Inclusive instant payment systems (IIPS) process payments **digitally in near real-time** and are available for use **24 hours** a day, **365 days** a year. They **enable low-value, low-cost** push transactions that are **irrevocable** and based on **open-loop and multilateral interoperability arrangements**. Licensed payment providers have **fair access** to the system, and system participants have **equal input opportunities** into the system. The **central bank** has the ability to shape the **governance**.[6] End users have access to **a full range of use cases, payment instruments, and channels**, as well as transparent and fit-for-purpose **recourse** mechanisms.

For a full description of the AfricaNenda 2024 IPS Inclusivity Spectrum and the criteria that constitute the different levels of inclusivity, see pages 36-37 of this Executive Summary.

4 MauCas in Mauritius, PayShap in South Africa, Tanzania Instant Payment System (TIPS) in Tanzania, and ZIPIT in Zimbabwe.

5 The definitions used in this report are in principle aligned with the definition of the 2016 Fast Payments report by Committee on Payments and Market Infrastructures: "... fast payments can be defined as payments in which the transmission of the payment message and the availability of final funds to the payee occur in real time or near-real time and on as near to a 24-hour and 7-day (24/7) basis as possible." The SIIPS IPS definition seeks to emphasize a few specific aspects that are relevant from a financial inclusion context in several low-income countries—notably, mobile money accounts and push payments. Given this, even solutions that enable users of different mobile money providers to make and receive transfers in real time are considered under this definition, though the limitations of such arrangements are recognized in the different categorizations of IIPS. FPS could also include pull transactions.

6 The central bank has the requisite regulatory powers and implements effective oversight arrangements on an ongoing basis to determine and take corrective action to ensure that governance arrangements are appropriate and support the achievement of public policy objectives. In some country contexts, the central bank might exercise ownership control, and/or be directly represented on the board (for e.g. by nominating its serving staff or nominating an external member) to fully achieve desired governance arrangements.

The resulting analysis of these information sources shows that the availability and maturity of instant payment systems has increased in the past year—a promising outcome. Yet there is still more to do to ensure that IPS are reaching everyone on the continent, including women and the poor. At present, the report shows that no IPS in Africa has reached a mature level of inclusivity. Instead, according to the AfricaNenda 2024 Inclusivity Spectrum detailed on pages 12-13 of this Executive Summary and Chapter 2 of the full report, more systems have reached basic or progressed levels of inclusivity.

Specifically, most IPS still do not support a broad range of use cases (e.g., person-to-person (P2P), person-to-business (P2B), business-to-business (B2B), government-to-person (G2P), etc.) across a variety of participant types. Nor do they yet provide effective recourse options to end users. Thus, there is still an urgent need for IPS to evolve into inclusive IPS (IIPS) if they are to effectively deepen financial inclusion in Africa.

By enabling easy and instant transfer of money between people, businesses, and governments, IIPS can evolve to serve as key **digital public infrastructure** (DPI) in Africa.

What is Digital Public Infrastructure?

DPI is a concept recently endorsed by the G20 to unify the efforts around building the infrastructure of the digital era. It has been defined as "a set of shared digital systems that are secure and interoperable, built on open technologies, to deliver equitable access to public and/or private services at a societal scale" (UNDP, 2023b).

GPFI clarifies for the financial context, "... 'system' should be interpreted broadly to include protocols, frameworks, and governance arrangements that market players rely on and use to provide products and services to their customers. Conceptually, DPIs could be seen as a core set of foundational systems that enable intensive use and provision of digital services across a range of economic and social interactions and actors. What constitutes a DPI could vary by country context, but, in general, includes digital ID, digital payments, and data exchange in the financial sector" (GPFI, 2023).

The following pages detail how the landscape of IPS in Africa has evolved in the past year, including how much progress they have made along the Inclusivity Spectrum. The previous SIIPS reports highlighted the importance of market innovations—offered by bank and non-bank IPS participants—for reaching underserved groups with trustworthy payment services. This report reiterates those findings and emphasizes how convenient access and diverse use cases drive end-user adoption. This edition also showcases how regulatory reforms related to electronic know-your-customer processes (eKYC) and fintech licensing can help IPS evolve into IIPS.

An evolving landscape

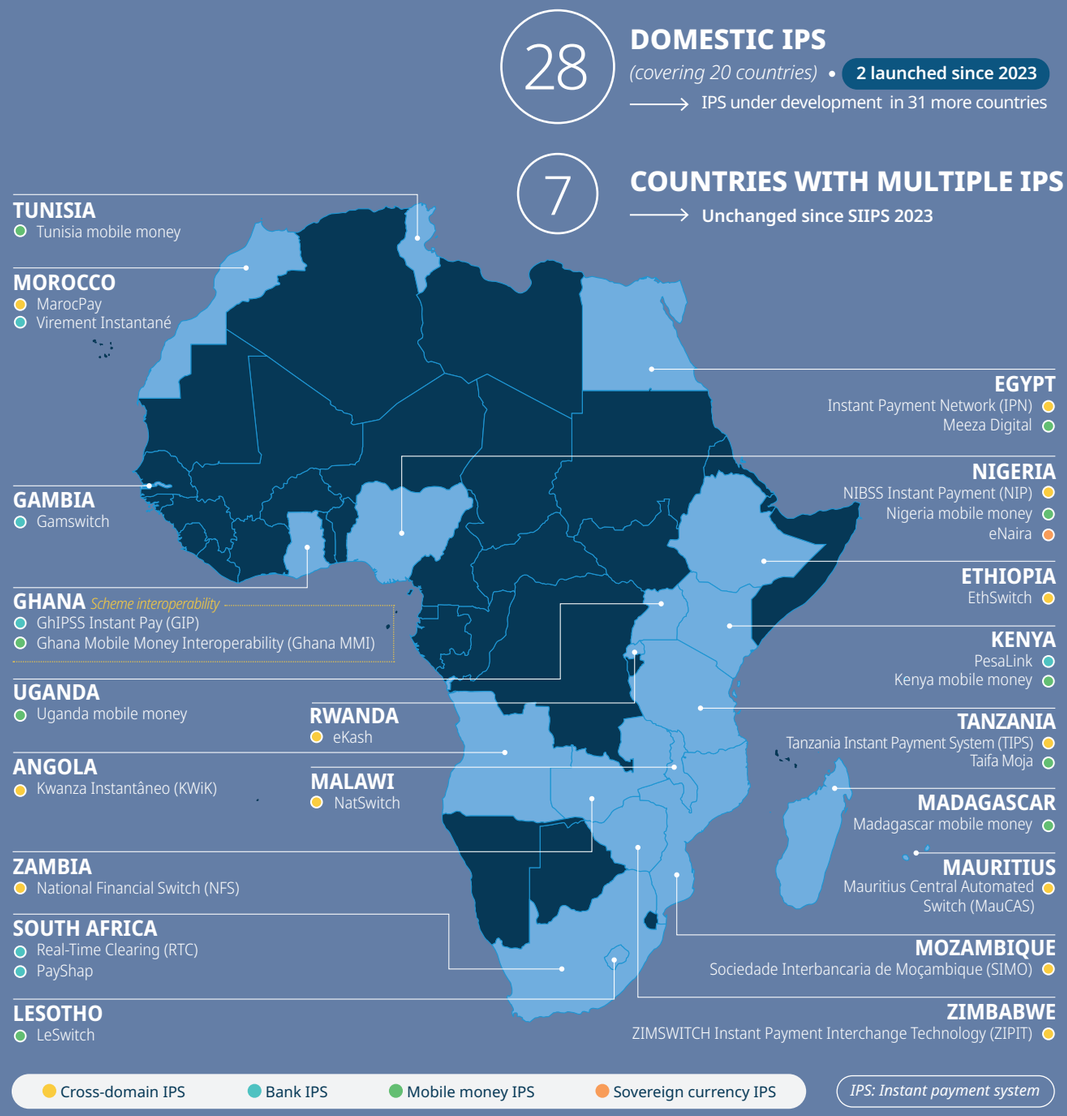
Over the last year, the IPS landscape in Africa has evolved to include 28 domestic IPS and three regional IPS, bringing the total number of live and operating IPS to 31 (see Map 0.1):

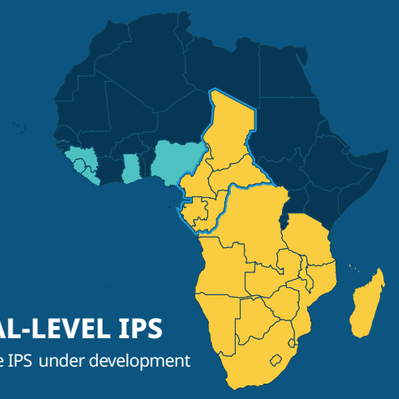
Box 0.1 | Changes since SIIPS 2023

- Between July 2023 and June 2024, two new systems launched: KWiK in Angola and LeSwitch in Lesotho.
- Three systems included in the 2022 and 2023 IPS landscapes were removed after the 2024 research found that they did not fulfill the definitional requirements for inclusion. They are SYRAD (Djibouti), which is not fully operational; NamPay (Namibia), which is not available 24/7/365; and Somalia Instant Payment Network, which is undergoing modernization but is not yet fully operational.
- Two systems in the Arab Republic of Egypt were reclassified—IPN from a bank to a cross-domain system, and Meeza Digital from a cross-domain to a mobile money system.

Cross-domain systems allow both bank and non-bank participants, while mobile money systems only allow mobile money provider participation.

Map 0.1 | Active domestic IPS in Africa as of June 1, 2024





3
REGIONAL-LEVEL IPS
→ 4 more IPS under development

GIMACPAY
CEMAC countries: Cameroon, Central African Republic, Chad, Republic of Congo, Equatorial Guinea, Gabon.

TRANSACTIONS CLEARED ON AN IMMEDIATE BASIS (TCIB)
SADC countries: Angola, Botswana, Comoros, Congo Dem. Rep., Eswatini, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Tanzania, Zambia, Zimbabwe.

PAN-AFRICAN PAYMENT AND SETTLEMENT SYSTEM (PAPSS)
WAMZ pilot countries: The Gambia, Ghana, Guinea, Liberia, Nigeria, Sierra Leone.

Of the 31 systems that are now live, 14 are cross-domain systems. That means they provide all-to-all interoperable payment processing and clearing between different types of payment service providers (PSPs), such as between a bank and a mobile money provider. In addition, seven of the IPS are bank IPS and nine are mobile money IPS. The eNaira in Nigeria remains the only sovereign currency IPS in Africa.

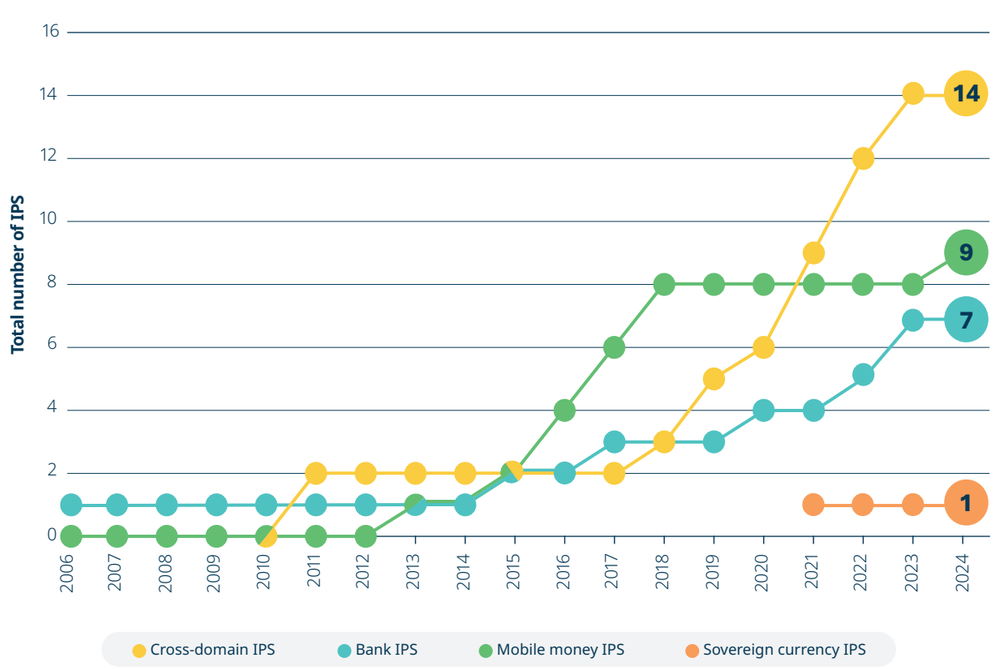
Box 0.2 | The dominant IPS types are shifting

All IPS in Africa fall into one of four "types": **cross-domain** IPS, **bank** IPS, **mobile money** IPS, and **sovereign currency** IPS. The IPS type is based on its interoperability arrangements, which in part defines the PSPs it allows to participate: bank IPS only support banks, mobile money IPS only mobile money operators (MMOs), and cross domain IPS a range of participants. Sovereign currency IPS combine a central bank digital currency instrument and a value transfer system that can provide a unified digital value transfer mechanism between commercial instrument systems, institutional stakeholders, and individuals within an economy.

The balance in the African IPS landscape has shifted since 2010 from bank-based systems to mobile money systems to cross-domain systems (see Figure 0.1):

- Nine mobile money systems launched between 2012 and 2018.
- Cross-domain systems have gained in popularity, with eight new systems launched since 2020.

Figure 0.1 | IPS types over time (n=31)



Seven countries (Egypt, Ghana, Kenya, Morocco, Nigeria, South Africa, and Tanzania) have multiple live IPS. Ghana is still the only country where the domestic schemes are interoperable with one another. There is notable progress towards inter-scheme interoperability, however. Regulators in Egypt, Kenya, Tanzania, and Uganda have all supported the call for interoperability through amended regulations. In Kenya, there are plans underway to integrate the bank and mobile money systems more seamlessly, while TIPS in Tanzania, following a unique approach, has added all MMOs as direct participants.

In addition to the live domestic systems, there are three live regional systems; that number is unchanged since 2022. The regional systems are GIMACPAY in the CEMAC region,[7] the Pan-African Payment and Settlement System (PAPSS),[8] and the Southern Africa Development Community (SADC) Transactions Cleared on an Immediate Basis (TCIB).[9] Of these, two are cross-domain (GIMACPAY, TCIB) and one is bank-based (PAPSS).

The market is poised to expand as new IPS in development come online. Thirty-one countries across the continent are developing new IPS: 27 of these countries do not have an IPS currently, and four of these countries are upgrading existing IPS capabilities. The 31 countries poised to gain IPS capabilities include the eight countries in the West African Monetary Union (WAEMU) region, which will gain domestic interoperability capabilities once a regional system that is currently in pilot has been fully rolled out.

Other regional initiatives include one covering all 15 members of the Economic Community of West African States (ECOWAS)—the WAEMU system is set to interconnect with it. Regional IPS initiatives have also been underway for several years in the Common Market for Eastern and Southern Africa (COMESA) and in the East African Community (EAC), though these systems are not yet live.

If all the planned domestic and regional IPS projects come to fruition, only Eritrea will lack domestic IPS functionality.

7 GIMACPAY covers six countries: Cameroon, Central African Republic, Chad, Republic of Congo, Equatorial Guinea and Gabon.

8 PAPSS is live in the West African Monetary Zone (WAMZ) pilot countries: The Gambia, Ghana, Guinea, Liberia, Nigeria, and Sierra Leone. Djibouti has integrated to the system and more countries are in the pipeline, but it is unclear whether any retail transactions are currently processed.

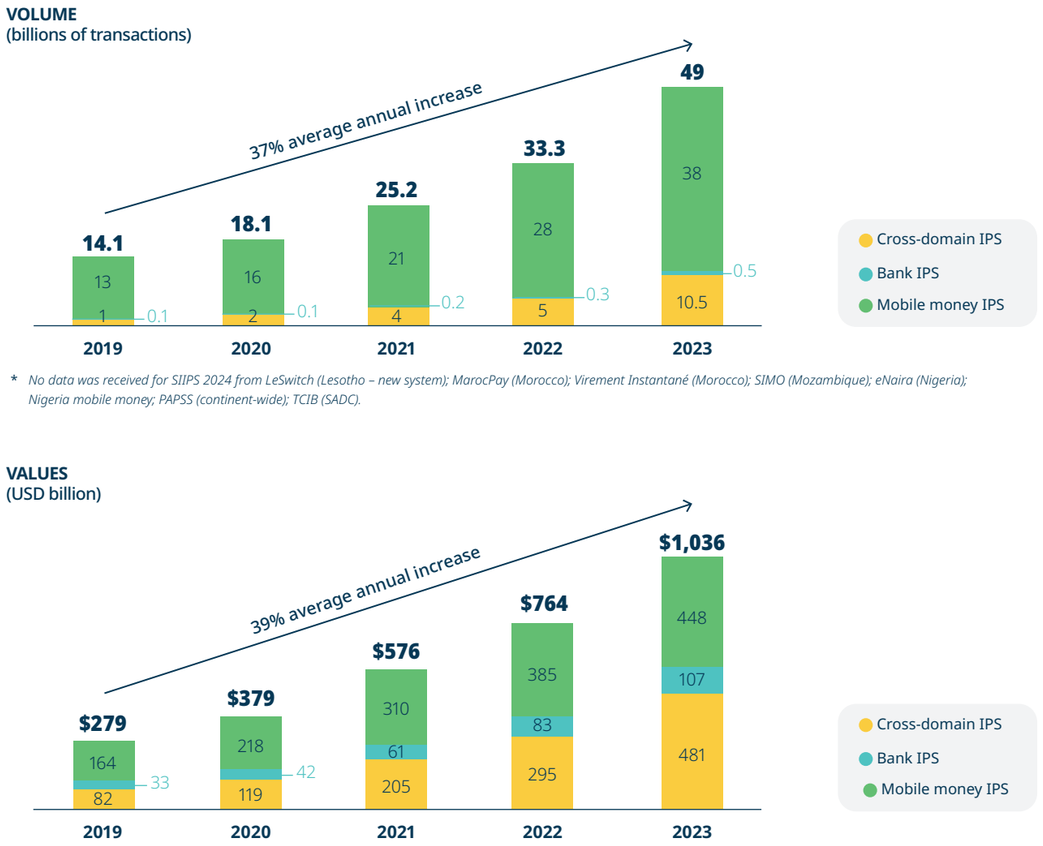
9 TCIB is currently live in one corridor between Namibia and Zimbabwe but is set to expand to the rest of SADC: Angola, Botswana, Comoros, Democratic Republic of Congo, Eswatini, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Seychelles, South Africa, Tanzania, and Zambia.

Reaching new heights in volumes and values

In 2023, live IPS in Africa processed 49 billion transactions, the highest volume yet. The value transacted increased at an average annual growth rate of 39% between 2019 and 2023 to over US $1 trillion in 2023 (see Figure 0.2).

Not-on-us transactions, an indicator of interoperable transaction values, were equal to 10% or more of Gross National Income (GNI) in five countries in 2023. When looking at aggregate system volumes, IPS in two countries (Kenya and Uganda) processed values equivalent to more than 100% of GNI.

Figure 0.2 | Transaction volumes and values (n=23)*



* *No data was received for SIIPS 2024 from LeSwitch (Lesotho – new system); MarocPay (Morocco); Virement Instantané (Morocco); SIMO (Mozambique); eNaira (Nigeria); Nigeria mobile money; PAPSS (continent-wide); TCIB (SADC).*

Note: The total transaction volumes and values may be underestimated. The data in Figure 0.2 came from written survey inputs by central banks and/or IPS operators. Overall, 23 surveys were returned. The data for eight IPS were unavailable. LeSwitch (Lesotho) was only officially launched in 2024. TCIB (SADC) did not provide volumes and values in its survey response. Central banks/IPS operators of six additional IPS did not submit survey, resulting in missing values for the following systems: MarocPay (Morocco), Virement Instantané (Morocco) (both Bank Al-Maghrib), SIMO (Mozambique) (Bank of Mozambique), Nigeria mobile money, eNaira (Nigeria) (both Central Bank of Nigeria), and PAPSS (Afreximbank). Information about these systems relied on desktop research. As the eNaira is the only sovereign currency IPS and the data is missing, this category was excluded from the analysis.

Improving performance across channels, instruments, and use cases

IPS become more inclusive as they increase the variety of channels, instruments, and use cases they support, and thereby fulfill the payment requirements of end users. The picture in SIIPS 2024 largely shows similar dynamics to those seen in SIIPS 2022 and 2023:

Mobile-based channels are the most popular. Mobile phone applications, or apps, have since 2023 overtaken USSD as the most widely supported channel—at least 30 IPS support them. This is consistent with the general shift towards smartphone technologies, which can offer a more personalized user experience and can be outsourced to third-party technology providers, including fintechs. Yet this focus on smartphones may create a digital inclusion divide between people who have them and those who still use feature phones.

- **After the app channel**, the largest share of IPS support other self-initiated channels, namely browsers (supported by 24 systems) and USSD (supported by 23 systems). The latter does not require a smartphone but comes with security concerns due to a lack of message encryption.
- **Human-assisted channels** (through mobile money and banking agents) are next in line in terms of widespread support—available in 21 IPS (mobile money agents) and 20 IPS (bank branches). These channels are expensive to maintain but are crucial in markets with lower digital payment awareness, or for populations with low levels of financial literacy.
- **Channels relying on digital financial service provider technology**, notably QR codes, point of sale (POS), automated teller machines (ATMs), and near-field communication (NFC), are the least-supported channels, though IPS are increasingly aware of their potential—17 IPS support QR codes, 15 support POS, 14 support ATMs, and seven support NFC, aided by the development of tap-on-phone technology, among others.

E-money instruments remain the most common, followed by EFT. Twenty IPS support e-money instruments,[10] followed by 18 that support credit EFT,[11] and that support debit EFT.[12] Ten IPS support debit cards,[13] one supports CBDC (eNaira).

The P2P use case is universal; **P2B and P2G availability are increasing** (see Figure 0.3). All 31 IPS serve end-user needs for fast and convenient P2P use cases. P2B use cases are also on the rise, now supported by 24 systems. As one of the most important drivers of IPS scale, the P2B use case is key to an inclusive instant payment system. However, neither individual nor merchant end users may experience a strong value proposition compared to cash, especially in countries with nascent digital payment markets and limited e-commerce adoption. Making P2B transactions as user-friendly and quick as possible can help with the transition for both individuals and merchants. Beyond P2P and P2B payments, private-sector employers are digitalizing wage and salary payments, which the nation's IPS can enable. Nineteen systems support bill (P2B/P2G) payments. Government-to-person (G2P) payments are, however, only supported by six IPS.[14]

Cross-border functionality is rare. Only six IPS offer it.[15]

10 KWiK, IPN, Meeza Digital, EthSwitch, Ghana MMI, Kenya mobile money, Natswitch, MauCAS, MarocPay, SIMO, Nigeria mobile money, eKash, Taifa Moja, TIPS, Tunisia mobile money, Uganda mobile money, NFS, and GIMACPAY.

11 IPN, EthSwitch, Gamswitch, Ghana MMI, GIP, PesaLink, Natswitch, MauCAS, Virement Instantané, SIMO, NIP, Nigeria mobile money, eKash, RTC, TIPS, GIMACPAY, TCIB, and PAPSS.

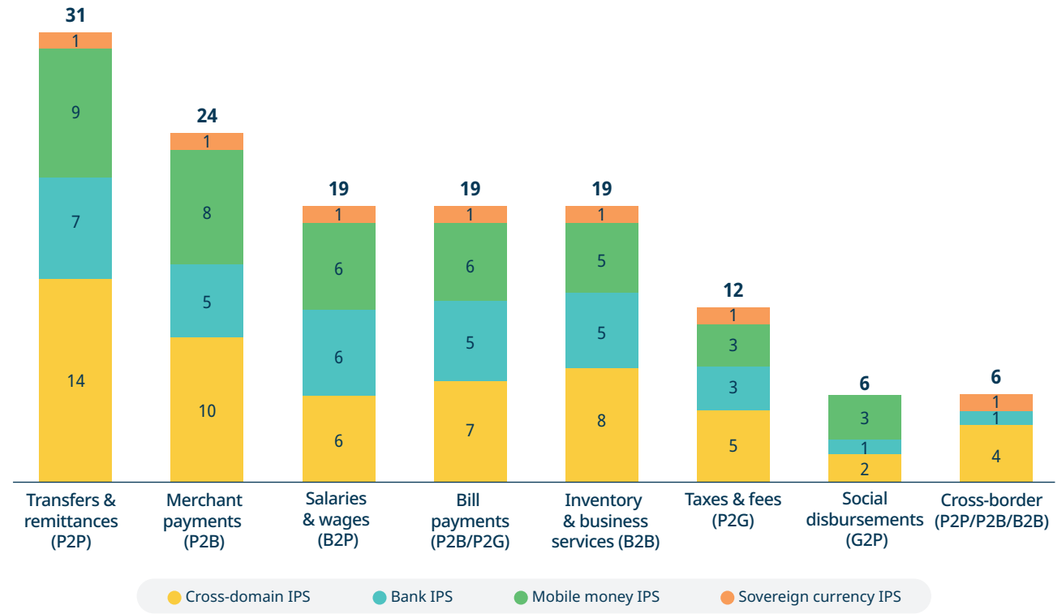
12 IPN, Meeza Digital, EthSwitch, Gamswitch, GIP, PesaLink, MauCAS, Virement Instantané, NIP, Nigeria mobile money, GIMACPAY, TCIB, and PAPSS.

13 IPN, Meeza Digital, EthSwitch, Gamswitch, Natswitch, SIMO, NIP, NFS, ZIPIT, and GIMACPAY.

14 Ghana MMI and GIP, Madagascar mobile money, MarocPay, NIP, and Uganda mobile money.

15 The regional systems GIMACPAY, PAPSS, and TCIB, together with Madagascar mobile money, MauCAS, and NIP.

Figure 0.3 | Enabled use cases by IPS type, multiple mentions (n=31)



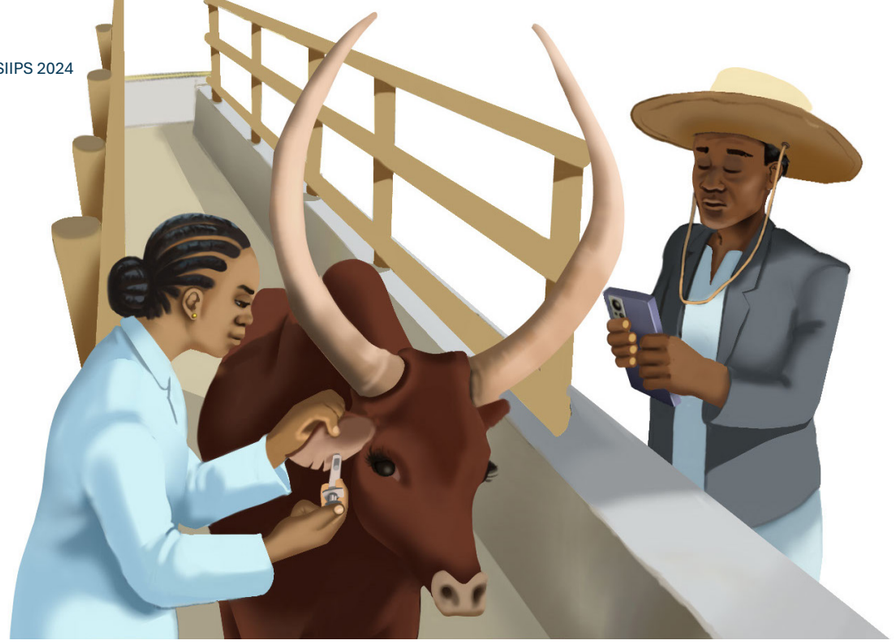
Banks and MMOs remain the most common direct IPS participants; fintechs mostly participate indirectly

The scope of participation in IPS is broadening. Banks have been the most prominent direct participants in bank IPS to date, and they continue to be well-represented. Mobile money IPS, in turn, have MMO participants at their core. With the rise of cross-domain systems, however, the landscape of participants is broadening to more systematically include banks, MMOs, microfinance institutions (MFI), and other non-bank PSPs. Four IPS now include all four of these categories: NIP (Nigeria), NFS (Zambia), ZIPIT (Zimbabwe), and GIMACPAY (CEMAC).

Notably, GIMACPAY unites 105 participants, including 53 banks, 11 MMOs, 27 non-bank PSPs, and 14 MFIs. Fintechs, for their part, still face hurdles to joining as direct participants.[16] The IPS scheme rules set out the participation conditions, but the regulatory framework, and especially the PSP licensing approach, ultimately dictates which types of institutions can qualify as direct or indirect participants in a system.

Currently, all countries with live IPS in Africa have adopted some approach to regulating fintechs in their jurisdictions based on the specific activities those fintechs engage in. Regulators may apply direct licensing, indirect licensing (for example, through partnerships with licensed financial institutions), alternative tools such as regulatory sandboxes, or a complementary mix of these approaches. Due to bottlenecks in licensing reforms, however, fintech participation (other than MMOs) is still limited unless they partner with direct participants to provide front- or back-end services. Currently, only 11 out of 31 systems have non-bank PSPs that are not mobile network operator-led MMOs, including IPN (Egypt), Meeza Digital (Egypt), EthSwitch (Ethiopia), GIP (Ghana), MauCAS (Mauritius), MarocPay (Morocco), eNaira (Nigeria), NIP (Nigeria), NFS (Zambia), ZIPIT (Zimbabwe), and GIMACPAY (CEMAC).

16 For the purposes of this report, a payment fintech refers to a firm that is not a bank, microfinance institution, or postal service, yet provides technology-enabled digital payment services. The topic is further explored in Chapter 5.



More IPS have achieved progressed inclusivity, but gaps remain

Aggregating the various characteristics of the IPS in Africa allows us to map them along an IPS Inclusivity Spectrum. This spectrum includes basic, progressed, and mature inclusivity levels, according to whether they offer certain functionality and meet certain criteria (see Figure 0.4 for complete definitions and mapping). The SIIPS 2024 IPS Inclusivity Spectrum shows the following:

- Twelve IPS are at a **basic** level of inclusivity, meaning that they enable the channel(s) most used by the population, and they at least enable P2P and P2B use cases. Notably, the mobile money systems are all at the lower spectrum of inclusivity even though their footprints in their markets are large. This is because they do not provide cross-domain interoperability. Their industry-led origins also often mean the central bank is not involved in governance.

- Nine IPS, covering 13 countries,[17] have reached a **progressed** level of inclusivity, in that they fulfill the basic-level criteria, plus (i) allow all licensed PSPs to utilize the system, (ii) engage in pro-poor governance through joint decision-making, and (iii) include the central bank in governance. They have made strides towards providing non-bank participants with a seat at the decision-making table through the creation of working groups and forums. In doing so, these systems acknowledge the rising market share of non-banks in their respective digital payment markets.

- No system is **mature** yet, meaning that no IPS meets the above criteria in addition to enabling all use cases, setting standards to ensure end-user recourse, and operating according to cost-recovery or not-for-loss principles, so that end-user transaction fees are as low as feasibly possible. NIP in Nigeria currently has the highest likelihood of reaching mature inclusivity in the short-term, as it has integrated all use cases and only falls short on providing additional recourse channels for end users. Recourse is the most complex criteria to implement, as it requires additional resources, monitoring, and continuous participant engagement. So far, only the eNaira provides a direct channel for customer disputes in the system itself.

- Ten IPS are **not ranked** as they do not fulfill the basic criteria of inclusivity, primarily due to not enabling the P2B use case.[18]

- This spread across the Inclusivity Spectrum reflects progress since 2023, when 12 IPS were not ranked, 15 were at the basic level, and only five at the progressed level.

17 Due to the GIMAC regional scheme enabling inclusivity in six countries.

18 KWiK, IPN, PesaLink, LeSwitch, Virement Instantané, eKash, PayShap, Tunisia mobile money, PAPSS, and TCIB.

Figure 0.4 | Mapping IPS across the Inclusivity Spectrum

* The two Ghana systems jointly achieve progressed level.

End-user insights underscore the need for reliability and convenience to drive habitual payments

End-user research conducted for SIIPS 2022 and 2023 showed a lack of phone ownership and internet access as barriers to access, but that IPS functionality and reliability could go a long way toward building trust and promoting more habitual usage of digital payments.

This year, the study sample focused on low-income people and micro, small, and medium-sized enterprises (MSMEs) that are typically underserved by payments providers, but who live in urban and peri-urban areas where payment services are available, and who could benefit from greater use of digital payments. Research was conducted in Algeria, Ethiopia, Guinea, Mauritius, and Uganda.

The 2024 end-user research show similar trends to 2023 from that year's sample countries of Cameroon, Malawi, Morocco, Rwanda, and Senegal. Specifically, most individual users in the sample who are already using digital payments tend to make one at least once a week. A quarter of surveyed digital payment users in Guinea and Uganda use digital payments every day. As for MSME users, in Guinea they are driving high levels of daily usage, whereas in Uganda, MSMEs and individuals demonstrate similar daily usage levels. Algeria is the only surveyed country where almost half of the sample use digital payments less than once a week.

> **"Families won't approve this freedom and this technology."***
>
> — Female, non-user of digital payments, Algeria
>
> **Disclaimer: This quote reflects the views of the speaker and should not be interpreted as the opinion of the entire Algerian sample or of the AfricaNenda Foundation.*

Gender, age, and workforce participation influence usage rates. Female respondents, for example, report that their low literacy levels, low incomes, and lack of financial independence discourage them from using digital payments. Age also affects usage patterns, with respondents younger than 30 using digital payments most frequently. How users receive income also matters. Across the sample countries, respondents with infrequent income sources use digital payments less than those with regular incomes.

Respondents highlighted several barriers that limit their current usage rates, and drivers that could help to increase them. They include:

Access: The biggest barriers to digital payment usage for the study sample include a lack of access to a transaction account or to an agent or branch; lack of documentation (such as an ID) to open an account or initiate a transaction; high perceived financial services costs;[19] a lack of mobile phone and/or internet access—unreliable mobile networks in particularly stood out for some respondents; and a lack of literacy, including digital literacy, which makes it difficult to read the instructions and navigate user interfaces.

> **"I discovered it as people were using it, I was hearing people talking about Provider A, so that's how I started using it too."**
>
> — Female, digital payments user, Guinea

19 In countries across Africa, such as Guinea, Kenya, and Niger, financial inclusion initiatives such as the removal of minimum fund requirements, the creation of various low-cost transaction accounts, and the reduction of agent fees, as well as the increase in mobile money service providers with lower costs have increased digital payment access (Beck, et al., 2023).

Early use: Early usage is most likely for respondents who receive their income directly into an account, whose family and friends use digital payments, or—in the case of small businesses—whose customers want to pay money digitally. End users who do not use digital payments despite having accounts and the means to pay transaction fees require a compelling reason to shift their behavior away from cash.

Five key barriers that prevent the shift to early use, include: (i) data privacy concerns, (ii) lack of need, (iii) lack of trust, (iv) perceived high costs compared with cash, and (v) lack of awareness and knowledge about digital payments.

Habitual use: Convenience is the main factor that motivates early users to become habitual users. These individuals and small business owners value the ability to access digital payments from anywhere, the time it saves them, and the safety against theft. Yet barriers still stand in the way of end users transitioning from early or ad-hoc use to habitual use. Chief among these are: (i) unreliable mobile networks that disrupt user experiences; (ii) difficulty correcting or reversing transactions in the case of a mistake or fraud; and (iii) limited acceptance of digital payments. A lack of consistent help from service providers exacerbates the second issue, especially for surveyed users who lack financial or digital confidence, and thus worry about making mistakes. Furthermore, fraud and scams continue to undermine trust, again exacerbated by poor customer service and recourse. Finally, transaction costs can also be a barrier in some countries.

> **"The math you have to do is the value of your time to run your business or go to a bank just to save the money you pay for the transaction you are making."**
>
> — Male, digital payments user, Ethiopia

Key trends and opportunities for promoting inclusivity

In the coming years, several key trends will influence the evolution of the IPS landscape in Africa, each bringing unique opportunities to build inclusivity and, with it, habitual usage. These trends play off at the market, scheme, and end-user levels (see Table 0.1):

Market conditions shape the environment in which an IPS and its stakeholders operate. These conditions include internet infrastructure and smartphone penetration. Three key trends are likely to significantly affect the market environment in the coming years:

1. The foundational role of DPI as a concept.
2. Domestic payments digitalization.
3. Key regulatory frameworks related to eKYC and fintech licensing.

The **IPS systems** on the continent are characterized by accelerated domestic roll-out prioritizing mobile phone solutions; the regional IPS systems, in contrast, are seeing comparatively delayed roll-out.

For **individual end users**, habitual use will likely remain inhibited, except for those who receive digital payments regularly, including government payments, private sector wage payments, or digital payments for agricultural goods. PSPs and IPS operators should stay aware of user trends and use them to inform their actions.

Table 0.1 | Key trends and opportunities

Market trends	Why important?	Opportunities for generating IPS inclusivity
1. The DPI concept shapes the IPS debate more explicitly	DPI has high priority in the global discourse due to its positioning as a foundation of digitalization.	• Take advantage of the momentum around DPI to position IPS schemes as an inclusive and sustainable element of digital public infrastructure. This could give IPS access to strategy development and capacity support. It could also provide a platform for collaboration with other ecosystem stakeholders—such as those working on digital ID and data exchange—to agree on standards that cut across the digital economy.
2. IPS and financial inclusion depend on mature national digital infrastructure	USSD time-outs or network errors undermine user trust, even if PSPs are not to blame. Increasing end-user trust therefore requires access to reliable mobile networks and internet connectivity, and therefore service quality. Without it, countries will struggle to increase IPS inclusivity.	• Adjust digital payment services to leverage the gains from digitalization by deploying modern payment acceptance and transfer options. • Co-create infrastructure upgrade plans in places where the existing eco-system does not yet support the transition beyond USSD and develop interim workarounds such as offline payments or near-field communication (NFC) tags. • Increase trust through transparency around payment status and adequate recourse channels.
3. IPS innovation will continue to be constrained by regulation and under-use of data to inform IPS processes	Most regulatory frameworks in Africa cannot yet accommodate IPS-relevant innovation. Key pain points are inadequate licensing categories within which to house fintech activities, as well as a lack of clarity and guidance on the permissibility of eKYC.	• Advocate for and offer input into regulatory reform processes to ensure IPS stakeholder realities are considered. • Centralize the KYC facility within the IPS to improve the CDD processes of IPS participants. This centralization will make data available to all participants for KYC purposes. Include end-user consent mechanisms. • Build a consistent approach to data collection to enable data-for-decision-making around IPS governance, required features, participant and end-user onboarding transaction risk analysis, etc.
Scheme trends	**Why important?**	**Opportunities for generating IPS inclusivity**
1. Regional IPS face roll-out delays	Regional IPS are even more complicated to set up than domestic IPS. Even the live systems continue to face challenges. It may take well over a decade for all regional IPS to achieve live status and sustainable usage rates. In the meantime, private, closed-loop, cross-border solutions are filling the gaps.	• Prepare domestic IPS for regional integration and focus on solving forex, data sharing, and cooperation challenges, thereby paving the way for faster deployment of regional IPS. • Build the value proposition for regional IPS, either to double up as domestic IPS if no such domestic system exists, to bring interoperability for all PSPs and end users for both domestic and cross-border functionalities, or to solve key bottlenecks for remittances and trade payments in the cross-border context, such as foreign exchange inefficiencies.[20]
2. Dramatic increase in instant payment capacity	Whether an IPS evolves to become DPI depends on the business model and the number and type of participants it can attract. The volume of new IPS under development on the continent means that multiple solutions will battle each other for scale. There is the possibility that such competition will undermine IPS business models if it results in more expensive instant payment services for end users.	• Leverage competition between PSPs to improve the value proposition of the system, including by meeting unmet needs of large PSPs.[21] • Optimize the business model through appropriate IPS design (such as, for example, hub-spoke models) and participation strategy.
3. IPS prioritize payments via mobile phone	Africa continues to experience an increase in mobile money accounts, and the mobile phone will remain the center of modern IPS developments. Increasingly, the focus will be on mobile apps and on using mobile numbers as a proxy identity or alias.	• Roll out user-friendly mobile technology across the board.[22] • Upgrade security measures for mobile phone processes via the IPS, including through a centralized KYC facility at the IPS. • Consider the realities of USSD for those for whom smartphones remain unaffordable.
Consumer trends	**Why important?**	**Opportunities for generating IPS inclusivity**
1. Barriers to habitual use remain	Fraud, data privacy, and cost have remained consistent barriers in the past three years in all sampled countries.	• To combat fraud, improve security features, and incorporate fast redress channels. • Mitigate the risk of data abuse through a robust data governance framework at the IPS level. • Revise pricing strategies in light of DPI and inclusivity discussions.
2. Receiving recurring income directly into an account is becoming a main catalyst for instant payment use	The Global Findex and the SIIPS end-user research consistently show the relevance of receiving income through digital channels for instant payment adoption.	• Incorporate G2P use cases into IPS, given the high reliance on social assistance on the continent. • Centralized KYC information at IPS level can assist in beneficiary confirmation.

20 Including settlement, cross-border data sharing, and regulatory cooperation across jurisdictions.

21 E.g. relating to KYC verification services and interoperability fee structures.

22 Including QR codes and apps with features such as request-to-pay and a verification message with recipient account details before the transaction is completed.

Enabling the ecosystem with risk-based regulation

One of the key trends that could drive more inclusive market conditions concerns the regulations related to fintech licensing and eKYC enablement.

Payment fintechs with newer business models are delivering innovative capabilities and embracing channels that may be more accessible for remote or otherwise underserved groups. Yet these payment market participants are often unable to join IPS, either because they struggle to get licensed or are perceived as increasing risk. Regulators aiming to increase inclusivity in their payments markets are exploring risk-proportionate licensing approaches that effectively manage the real-world risks that fintechs pose. Combined with alternative licensing approaches, such as test-and-learn methods or innovation facilitators, risk-proportionate licensing can help advance financial inclusion goals, especially if regulators encourage fintech participation and reduce the cost of compliance by providing guidance, revising and expanding the licensing process, leveraging supervisory technology, and making inclusion an integral part of regulatory sandboxes or innovation hubs.

Similar to licensing for non-bank PSPs, regulatory approaches to KYC can have a significant impact on a PSPs' ability to inclusively onboard customers and equip them to use digital payments. Since IPS systems are vulnerable to the risk of money laundering, the financing of terrorism, and proliferation financing (ML/TF/PF), African countries with a live IPS are striving to implement the recommendations provided by the Financial Action Task Force (FATF), the global standard-setting body on ML/TF/PF risk management (FATF, 2023). PSPs are compelled by local regulations to implement know your customer (KYC) measures—the terms KYC and eKYC refer to the process of capturing and verifying identity information before allowing customers to fund an account or make payments. Over-stringent approaches to KYC coupled with a strong reliance by PSPs on paper-based and manual processes not only result in excluding people but also in ineffective risk mitigation outcomes, high compliance costs, and burdensome processes for customers (FATF, 2021). eKYC replaces this manual approach with alternatives that allow the use of electronic documentation and validation.

This report's analysis of KYC practices in African countries with a live IPS finds that all the countries have enabled elements of eKYC. For instance, most countries enable remote interactions, though many classify such interactions as high-risk. Eight countries (Egypt, Kenya, Mauritius, Nigeria, Rwanda, South Africa, Tunisia, and Zimbabwe) enable end-to-end eKYC processes, meaning that the three steps of the KYC process (e.g., customer supplies credentials, PSP checks credentials, and PSP verifies credentials) can be fulfilled electronically.

For the remaining countries, the largest gap remains in the use (or non-use) of electronic credentials, which are either not allowed or there is a lack of guidance around how to use them. The latter can breed uncertainty among PSPs on how to comply with the law, leading them to default to more stringent and less inclusive approaches (Cenfri, 2018b). This report offers six recommendations for transitioning to eKYC, and optimizing buy-in and uptake of electronic practices by developing clear regulatory guidance and amending existing regulatory frameworks in close consultation with all relevant payment and national identity system stakeholders.

Where to next?

The *State of Inclusive Instant Payment Systems in Africa 2024* report showcases the continent's progress toward increasing digital payment transaction access and usage through IPS. More systems have moved up in the inclusivity ranking, and maturity status is within reach. For IPS to become truly inclusive, they will need to increase functionality; overcome barriers related to trust, affordability, and accessibility; and provide end users with meaningful recourse.

Further progress requires distinct imperatives for each IPS stakeholder group:

- **IPS operators:** Incorporate user recourse and bring inclusive functionality through the use cases, channels, and instruments they support. Pursue a not-for-loss or cost-recovery IPS business model that provides a value proposition for PSPs without compromising on the inclusivity goal of creating societal-scale infrastructure. Share experiences with the broader development community—including other DPI stakeholders—and nudge regulators and policymakers to engage in DPI discussions.
- **IPS participants:** Make the necessary technology updates to design IPS in line with inclusivity goals, take active part in DPI discussions, and champion the call for a shared and interoperable payments infrastructure.
- **IPS regulators, policymakers, and supervisors:** Develop a strategy to lead the domestic and regional discussions around IPS as a part of DPI, and to ensure that IPS projects achieve optimal outcomes in terms of inclusivity. Develop and implement infrastructure reforms, and introduce innovation-friendly regulations, including to facilitate risk-proportionate fintech licensing.
- **Development partners:** Play a key role to facilitate and support the efforts of IPS stakeholders, including by generating data-based evidence to inform policy making, by assisting IPS stakeholders in the design of the optimal IPS business model, and by coordinating on the various ongoing and planned DPI efforts in a country or region.

AfricaNenda is committed to helping IPS stakeholders build IIPS to serve all Africans. We are an avid proponent of interoperability to drive inclusivity in digital payment systems. Together with the World Bank and the United Nations Economic Commission for Africa, we are ready to further support relevant stakeholders in the IPS ecosystem.

1

Introduction

The world has ample examples of the ways that digital technologies enable financial inclusion—including for the traditionally underserved. In Africa alone, mobile phone technology in just over ten years has driven an explosion in mobile money accounts, helping the region double the share of formally financially included adults to 55% as of 2021 (Demirgüç-Kunt, et al., 2022).

One of the most powerful aspects of account ownership is that it equips people to receive and to make digital payments, which are proven to bring significant economic benefits. People with an account are better able to safely and conveniently manage their finances, including unexpected dips in income, by having a safe place to store and save income, and to receive financial support from a geographically dispersed network of friends and family (Jack & Suri 2014; Riley 2018). The promise of using digital payments can also encourage end users to open an account in the first place, given that 39% of adults in developing economies opened their first account to receive either a government payment (wage, pension, or social disbursement) or a private sector wage (Demirgüç-Kunt, et al., 2022).

Ensuring these benefits of digital payments accrue to everyone in Africa requires dramatic expansion in the share of adults who can access and use them. Digital payments cannot be limited to the 55% of Africans who are financially included but must also be available to the 45% who currently are not—over 400 million adults on the continent.

Yet one of the reasons why they are limited is because the payments infrastructure on the continent is not yet fully inclusive. PSPs such as banks, mobile money operators (MMOs), and non-bank providers such as fintechs deserve genuine credit for taking the lead to build the continent's existing digital payments infrastructure, including card and mobile networks, and digital payments channels such as apps and unstructured supplementary service data (USSD) for non-smartphone digital payments. Private payment networks like Mastercard, Visa, and Onafriq have also done their part. These services already reach millions of Africans.

They do not reach everyone, however—neither in terms of geographic coverage nor in terms of accessibility and affordability. For example, only 16% of individuals in sub-Saharan made a digital merchant payment and only 11% paid a utility bill using a mobile phone as of 2021 (Demirgüç-Kunt, et al., 2022). More needs to be done to create inclusive services.

This report highlights efforts to make instant digital payments more inclusive in Africa through the development of inclusive instant payment infrastructure. Through a combination of supply-side and demand-side insights, we aim to showcase learnings in the design and roll-out of these systems and raise awareness of the barriers and opportunities for increasing inclusivity. To begin, we place inclusive instant payments into the broader international context of digital public infrastructure given the increased focus and endorsement of the concept at the G20 level.

1.1 Digital Public Infrastructure: The next frontier of inclusivity in payments

Digital public infrastructure (DPI) presents an opportunity to increase financial inclusion by making digital payments widely available to everyone. The DPI concept, recently endorsed by the G20, aims to unify public efforts to build the national digital infrastructure needed by modern, digitally driven economies (G20, 2023). It has been defined as "a set of shared digital systems that are secure and interoperable, built on open technologies, to deliver equitable access to public and/or private services at a societal scale" (G20, 2023).

Based on this definition, DPI must fulfill four characteristics:

Interoperability
It provides the underlying infrastructure for a variety of use cases enabled by a diversity of approved tools, technologies, and service providers.

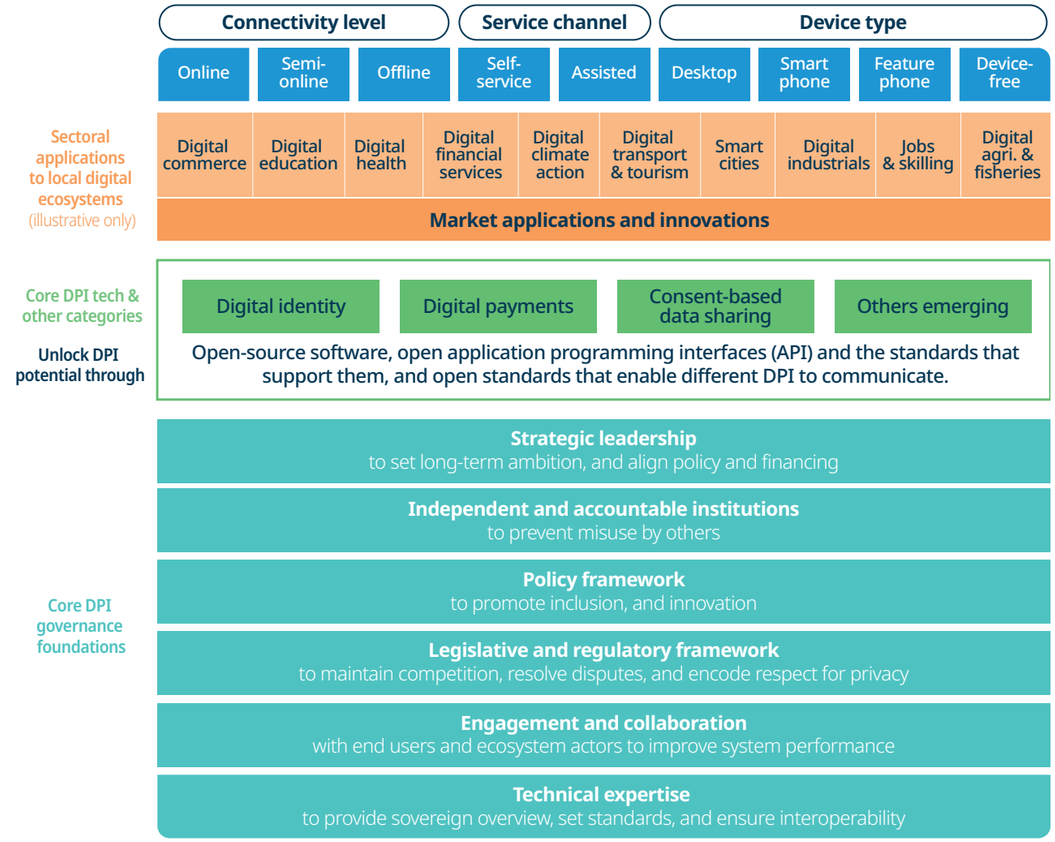
Open standards
It is available to anyone to build on and integrate with.

Societal scale
It is not restricted to a specific geography or demographic within its national jurisdiction.

Robust enabling rules and regulations
It operates according to unified and coherent governance frameworks to safeguard people and prevent misuse.

These characteristics span the three core functions that DPI aims to deliver—digital identity, digital payments, and consent-based data sharing (Figure 1.1).

Figure 1.1 | A framework to understand the DPI approach



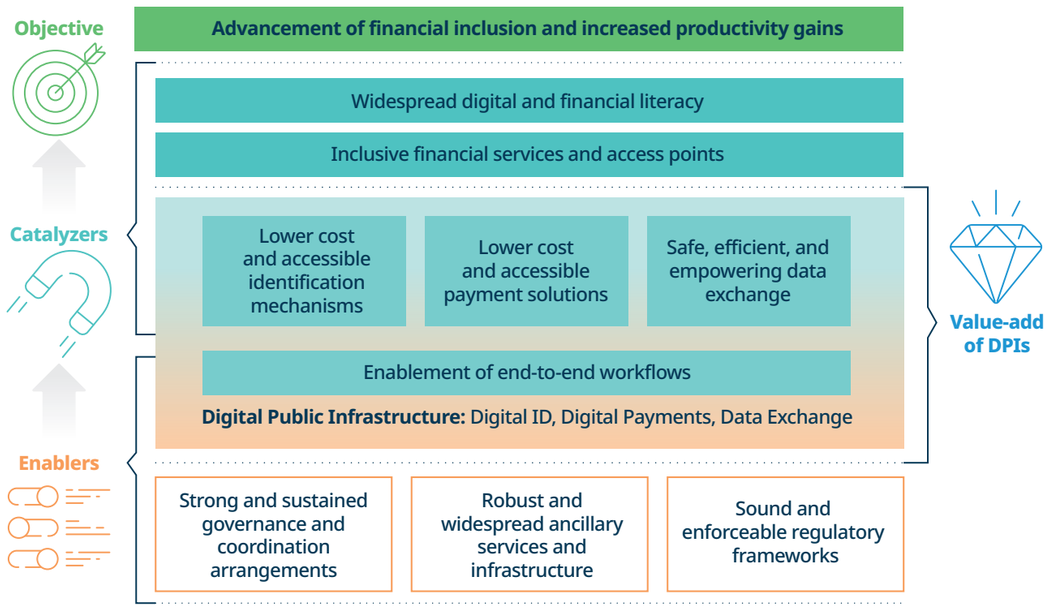
Source: adapted from UNDP, 2023a.

When DPIs are used to provide financial services, they interact with a jurisdiction's digital financial ecosystem across three main areas: (i) strong and sustained governance and coordination arrangements, (ii) robust and widespread ancillary services and digital infrastructure, and (iii) sound and enforceable regulatory frameworks (Figure 1.2). These elements influence DPI features and their governing policies and regulations. Enabling market conditions, dynamic coordination, and business environments are essential for DPI initiatives and their success.

The presence of ancillary services like connectivity and financial market infrastructure shapes DPI service offerings and uptake. Access to electricity, mobile networks, and high-speed internet is essential for the spread of digital financial services and the accessibility of DPI-enabled services. Affordable smartphones are also necessary for many financial services. The efficiency and effectiveness of DPI is influenced by the availability of financial infrastructure like real-time gross settlement (RTGS) systems, credit reporting, and collateral registries, which depend on robust IT and telecom infrastructures. Additionally, financial sector entities must have strong core banking systems in place.

Lastly, strong legal and regulatory policies are crucial for the broad use of DPI to enhance financial inclusion. Laws and regulations not specifically targeting DPI design or operation can still influence their interaction with the digital financial ecosystem and their role in financial inclusion. This includes financial sector-specific regulations like licensing for nonbank entities and access to payment systems, as well as broader policies like cybersecurity, data protection, and inclusive measures for groups like the disabled and elderly.

Figure 1.2 | DPI and financial services



Source: Authors' elaboration (G20 Policy recommendation for Advancing Financial Inclusion and Productivity Gains Through Digital Public Infrastructure).

This report focuses on the payments function of DPI. As such, the term instant payment systems, or IPS, used throughout this report refers to instant retail payment systems domiciled in Africa.

IPS are synonymous with "fast payment systems" (FPS) or "real-time payment systems" (RTPS). IPS provide open-loop payment services and enable digital push transactions in real time. This categorization explicitly excludes proprietary, on-us instant payment systems, including most card schemes.

For IPS to be inclusive IPS (or IIPS) they must meet the following aspirational benchmark, which draws on the work of AfricaNenda (2021), CGAP (2021), the World Bank (2021), the Bill & Melinda Gates Foundation (2019) and the Bank for International Settlements (BIS) (2016).

IIPS process payments **digitally in near real time** and are available for use **24 hours** a day, **365 days** a year, or as close to that as possible.[23] They enable **low-value**, **low-cost**, **push** transactions that are **irrevocable** and based on **open-loop multilateral interoperability** arrangements. Licensed payment providers have **fair access** to the system, and system participants have **equal input** opportunities into the system. The **central bank** has the ability to shape the **governance.**[24] End users have access to a **full range of use cases and channels**, as well as transparent and fit-for-purpose **recourse** mechanisms.

For a full description of the inclusivity spectrum and which criteria constitute the different levels of inclusivity, refer to the inclusivity assessment in Chapter 2.4.

23 The definitions used in this report are in principle aligned with the definition of the 2016 Fast Payments report by Committee on Payments and Market Infrastructures: "…fast payments can be defined as payments in which the transmission of the payment message and the availability of final funds to the payee occur in real time or near-real time and on as near to a 24-hour and 7-day (24/7) basis as possible." The SIIPS IPS definition seeks to emphasize a few specific aspects that are relevant from a financial inclusion context in several low-income countries—notably, mobile money accounts and push payments. Given this, even solutions that enable users of different mobile money providers to make and receive transfers in real time are considered under this definition, though the limitations of such arrangements are recognized in the different categorizations of IIPS. FPS could also include pull transactions.

24 The central bank has the requisite regulatory powers and implements effective oversight arrangements on an ongoing basis to determine and take corrective action to ensure that governance arrangements are appropriate and support achievement of public policy objectives. In some country contexts, the central bank might have to exercise ownership control and/or be directly represented in the board (for e.g. by nominating its serving staff or nominating an external member) to fully achieve desired governance arrangements.

This report defines an instant retail payment system as follows:

Real-time
The value transfer is instant (within seconds).

Digital
The system is electronic, and the services are accessible on digitally enabled devices.

Available
The system is available for use 24 hours a day, 365 days a year, excluding planned maintenance or system downtime.

Open-loop
The system is multilateral and thus excludes closed-loop, on-us systems.

Enabling push payments
The system enables credit push transactions.[25]

Irrevocable
Transactions generally cannot be reversed by the payer (with the exception of fraudulent or erroneous transactions).

Enables low-value payments
There is no minimum transaction amount.

The role of digital payments in DPI is to enable "easy and instant transfer of money between people, businesses, and governments" (UNDP, 2023c). As you will see in Chapter 2, the number of IPS has grown significantly in the past decade and is poised to double in the coming one. That is progress worth celebrating. These systems are not yet part of their country's formal DPI efforts where they exist, however, as most nascent DPI initiatives in Africa are focusing first on ID systems. IPS stakeholders can nonetheless influence the evolution of DPI and position their systems to participate in its payment layer by engaging at a multi-lateral level to represent and advocate for the priorities of the financial system in DPI development. As such, this report aims to provide a snapshot of the current state of instant payments systems in Africa and advocate for increased inclusivity and prioritized coordination, toward the goal of having Africa's IIPS provide the payments layer for DPI.

Toward that end, the DPI principles underpin the IPS inclusivity assessment at the heart of this report. With this edition, AfricaNenda builds on the SIIPS 2022 and SIIPS 2023 findings to assess how well existing IPS fulfill the DPI criteria and how much work IPS stakeholders still must do.

On this point, there is good news. More IPS have progressed toward greater inclusivity than in previous years. That progress has been gradual, however, given the large number of attributes that define an inclusive IPS. These range from enabling all payments use cases (including across borders) and additional end-user recourse channels, to operating according to a not-for-loss/cost-recovery business model. We provide those details in Chapter 2.

25 Debit pull-only systems that do not support credit push transactions at a minimum are excluded. Instant debit pull transfers will likely play an important role in the future, especially for recurring person-to-business payments with trusted businesses and where convenience is at a premium, but they are currently not widely available.

1.2 The current IPS context in Africa: The role of scale in inclusivity

Before we embark on a deep dive of the instant payments landscape in Africa, it is important to understand the general context for IPS. As mentioned, they are going live in a market that already has private-sector actors that have built payments solutions for specific use cases or a specific group of end users. IPS aim to expand on these gains to make digital payments even more inclusive. Their impact and sustainability partially depend on their ability to capture market share so they can deliver value, however. Doing that depends on some environmental factors, including the actors, the inclusivity enablers and barriers they deal with (including regulation), and their paths to scale.

IPS actors in the value chain

The IPS value chain includes various stakeholders playing different roles in the system, including effective management, dependable switch operations, prompt settlement, and usage. The most common actors include:

IPS owners and governing bodies: The owner of a payment system is responsible for its success, maintains its liquidity, and absorbs its gains or losses. There are three different ownership structures among African IPS: central bank ownership; participant ownership; and joint ownership between participants and the central bank.

Separate from ownership, an IPS governance structure determines how it runs and establishes the guidelines for participants. In Africa, some IPS are governed by private associations made up of the direct participants of the system; some by the central bank; and some through public private partnerships between the private participants and the central bank.

Also separate from both governance and ownership is regulatory oversight. The latter profoundly affects the former two, since regulation defines the boundaries in which the IPS operates. All domestic IPS are regulated by their respective central banks.

Operators: For many domestic IPS, a payment system operator performs transaction clearing and settlement, including clearing, routing, reconciliation, confirmation, and netting of transactions between IPS participants. Alternatively, PSP participants may clear and settle transactions bilaterally, or via the central bank in cases where that organization operates the IPS. In regional IPS, clearing either occurs through a centralized payment hub to which participants directly integrate (hub arrangement) or through a domestic financial switch that is linked to a central hub (hub-switch arrangement).

The African central banks mainly facilitate settlement for the IPS, mostly through the real-time gross settlement systems.

Direct participants: Direct participants are PSPs that sign agreements with the IPS and fulfill criteria laid out in the scheme rules. Depending on the type of IPS, they may include commercial banks, MMOs, MFIs, and other non-bank PSPs that use the IPS' core clearing infrastructure.

Indirect participants: These are payment value chain partners of direct participants and can fulfill two possible roles. First, they can be non-bank PSPs that access the IPS via a partnership with a direct participant, usually a commercial bank. Second, indirect participants may provide a front- or back-end technical service to the IPS network.

End users: The end users are the clients of the IPS participants. These are the ultimate target clients of the IPS and the main beneficiaries of IPS inclusivity.

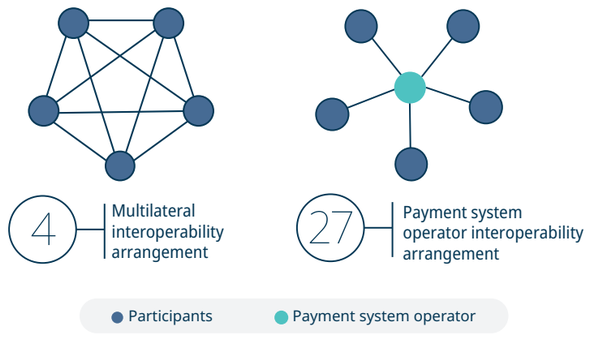
Inclusivity enablers and barriers within an IPS

Interoperability is an essential criterion of inclusive systems. For an IPS, it means that the system allows all licensed PSPs to participate and makes it easy for them to do so with smooth and efficient onboarding, as well as input into the IPS rules. Interoperability also brings a greater potential for scale, and for the system to benefit everyone. Straightforward in principle, there can be barriers in practice.

One of them is regulations and licensing requirements that are misaligned with the realities of today's market, and thus make it harder for non-traditional PSPs to participate in today's environment. IPS operating under restrictive regulations may struggle to bring on new non-traditional participants, and thus struggle to achieve the necessary level of scale in transaction volumes and values running through the system. See Chapter 4 for an in-depth discussion of trends in the regulatory environment.

Technical integration barriers may also pose challenges for onboarding smaller PSPs or those running on older technology. IPS in Africa typically interoperate through one of two models. The most common is the payment system operator interoperability arrangement, whereby a payment system operator or central switch connects the IPS participants (Figure 1.3). This enables easier integration of PSPs that are not on the same messaging standard or serve different target markets. The second model achieves interoperability through direct technical links between all participants. This approach requires bilateral connections. This network of bilateral integrations becomes more complicated as the number of participants grows, though it may be more sensible than putting an expensive central switch in place in countries with a small addressable market and relatively few PSPs. To qualify as an IPS for this report all PSPs that are bilaterally connected need to have a level of shared, multilateral scheme rules that apply to all participants. This ensures that the participation is open loop, meaning that any new PSP that enters the market and fulfills the scheme rules is allowed to become an IPS participant. The four multilateral systems are Kenya, Madagascar, and Uganda mobile money (further discussed in Box 2.6), and Taifa Moja in Tanzania. In each of these markets, the central bank requires interoperability between mobile money operators and has sight of the multilaterally agreed scheme rules between the participants.

Figure 1.3 | Number of IPS by interoperability model (n=31)



Competitive dynamics affecting IPS impact and scale

Many IPS operate according to a cost recovery or not-for-loss model to keep end-user fees as low as possible. Yet even a not-for-loss IPS needs a certain amount of scale to cover its basic expenses and operate in a sustainable way. Challenges to IPS scale exist on both the demand side and the supply side of the IPS ecosystem.

On the demand side, end users need a transaction account as a prerequisite to using digital payments. If a country has a low financial inclusion rate, its IPS may struggle in the medium term to accumulate sufficient transaction volumes—this could be the case for the twenty economies in Sub-Saharan Africa that still had transaction account access rates below 50% as of 2022 (Demirguc-Kunt, et al., 2022). Even IPS in countries with higher financial inclusion rates may struggle if their IPS does not enable interoperability with new, non-bank providers that process a high volume of transactions. The end-user insights in Chapter 3 highlight the barriers to digital payment usage and suggestions for overcoming them, reinforcing findings from SIIPS 2022 and 2023.

Several supply-side dynamics are also in play in Africa and affecting IPS scale. One challenge is bringing established PSPs with end-user scale into the IPS participant network. Research shows that end users adopt instant payments more broadly in markets where non-bank PSPs participate, where use cases are as digitalized as possible, and where the central bank is involved in IPS governance and even ownership (BIS, 2024). Specifically, the BIS mentions: "adoption of fast payments tends to be more widespread when the central bank owns the FPS, when nonbanks participate and when the number of use cases and cross-border connections is greater." The inclusivity spectrum included in Chapter 2 finds the same: countries that have more or less fulfilled these criteria are ahead of their peers.

Yet IPS may struggle to convince enough PSP participants to sign on, especially if those participants have already invested significantly in proprietary or closed-loop alternatives. Without them, the transaction volumes and values that pass through the IPS may be too low for it to operate sustainably. That can either lead the IPS to charge higher fees, which get passed on to the end user and may result in them using cash instead, or prevent it from imposing fee limits on PSPs, which has the same effect. Either way, a robust and varied PSP network within an IPS has an impact on scale—and by extension on pricing—by enabling a larger variety of use cases, channels, and payment instruments, as well a variety of marketing approaches to reach target customer groups. The elements that motivate PSPs in each market vary widely but play a role in every country with an IPS.

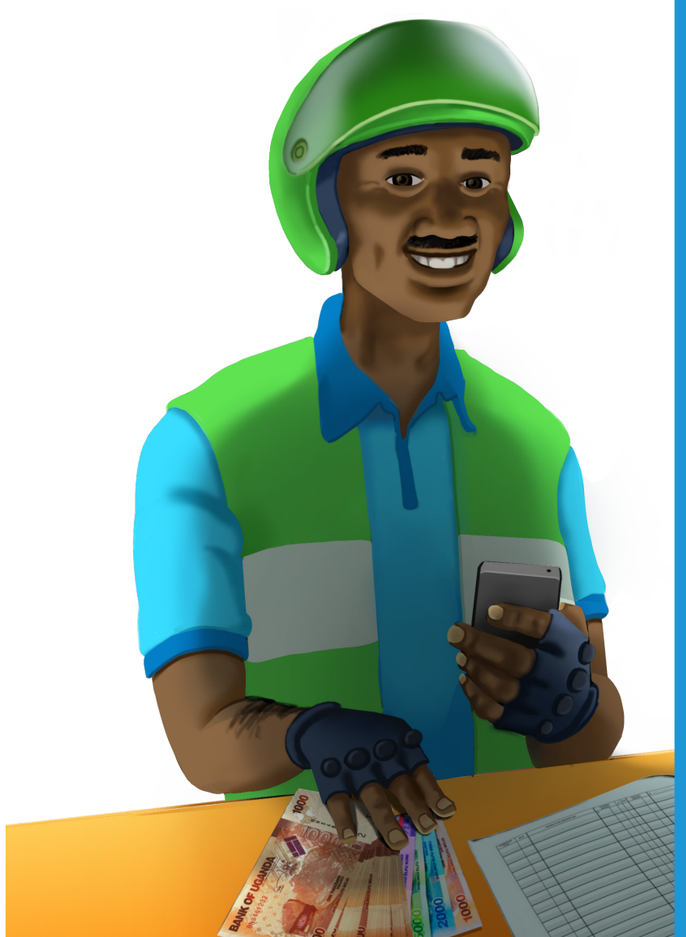
A final factor to recognize for its impact on scale is competition between different payment systems in a country or region. As noted, the landscape for IPS has grown and is expected to continue growing over the next decade. Several countries have multiple IPS with overlapping PSP participation, which can fragment transaction scale. In addition, some of the new IPS going live are regional systems offering services that could overlap with those offered by domestic systems. While domestic-to-regional competition is not evident yet, it is an important dynamic to consider, especially in Chapter 4, where we highlight regulatory barriers to IPS growth and how regulatory harmonization can help.

1.3 | Using this report

The IPS developments we share in the following chapters present an industry on a path towards modernization. Many examples of inclusive IPS design and governance similarly suggest progress towards DPI.

For example, the past few years have seen a marked increase in the number of systems achieving all-to-all interoperability by connecting all licensed PSPs in one IPS. Central bank governance is also on the rise and more systems have increased the number of use cases they support, contributing to growth—exponential in some cases—in transaction volumes and values.

Through SIIPS, AfricaNenda is continuously taking stock of these developments and leveraging them in our efforts to drive further inclusivity through our direct work with IPS stakeholders, and with countries and regions pursuing DPI projects.



The SIIPS 2024 progresses as follows:

2 **Chapter 2** presents the supply-side landscape of domestic and regional IPS in Africa. The chapter highlights the essential components of each IPS, including their type, channels, use cases, and enabling technology, and places each along an inclusivity spectrum.

3 **Chapter 3** presents the demand-side findings from quantitative and qualitative end-user research focused on payment use among low-income individuals and micro, small, and medium enterprises (MSMEs) in five African countries: Algeria, Ethiopia, Guinea, Mauritius, and Uganda.

4 **Chapter 4** identifies the trends and opportunities around achieving IPS inclusivity at the market, system, and end user levels.

5 **Chapter 5** puts a spotlight on the approach of African countries/regions with live IPS to fintech regulation, as fintechs play a key role in expanding digital payment reach.

6 **Chapter 6** provides an overview of the extent to which African countries/regions with live IPS enable electronic know-your-customer (eKYC) through regulation.

7 **Chapter 7** offers recommendations for action.

Interspersed between these chapters are four case studies of live IPS on the continent: MauCAS in Mauritius, PayShap in South Africa, Tanzania Instant Payment System (TIPS) in Tanzania, and ZIPIT in Zimbabwe. By providing an overview of their origins, evolution, design, governance, and technical features, we aim to help others learn and amass best practices for their own initiatives.

2

The landscape of instant payment systems in Africa

This chapter provides an overview of the current landscape of instant payment systems (IPS) in Africa. The findings are based on a survey of central bank/IPS operators, as well as interviews with a range of stakeholders and experts (see full list of interviewees in Annex B). This research approach represents a change from SIIPS 2022 and 2023, which relied on publicly available sources. AfricaNenda implemented the survey to increase accuracy and operator engagement. See Annex C to access the survey template.

The landscape findings show that between July 2023 and June 2024, two new systems launched. They are KWiK in Angola and LeSwitch in Lesotho (see Table 2.1).[26] AfricaNenda also removed three systems that had previously been included in the 2022 and 2023 IPS landscapes, based on publicly available information, yet which this year's research found did not adequately fulfill the definitional requirements for inclusion. They are SYRAD (Djibouti), NamPay (Namibia), and Somalia Instant Payment Network (see Box 2.1 for further information). As a result of these changes, the number of countries served by domestic IPS decreased by one. Meanwhile, two systems in the Arab Republic of Egypt were reclassified—Instant Payment Network (IPN) from a bank to a cross-domain system, and Meeza Digital from a cross-domain to a mobile money system.

Additions and reclassifications are not the only changes of note. In the past year, the live systems also have been working hard to develop their offerings and build their network of PSP participants. For some, the result has been greater inclusivity, as measured by the AfricaNenda Inclusivity Spectrum included in this chapter. Most significantly, four systems have evolved from a basic level of inclusivity to a progressed level.

Table 2.1 summarizes the changes to the IPS landscape from 2023 to 2024 (additional information on the systems is available in Annex D).

The chapter describes the IPS landscape by first presenting the IPS that are currently live and where they operate, as well as the IPS that are in development. We follow with an overview of the transaction volumes and values the live IPS process, as well as the channels, instruments, use cases, and added value they offer. This chapter wraps with a presentation of the 2024 AfricaNenda IPS Inclusivity Spectrum and the current classification for all the systems on the continent.

Table 2.1 | Key changes in the IPS landscape between SIIPS 2023 and 2024[27]

Description	2024	2023	Change	Reason
IPS names	-	-	1 renamed	From InstaPay to Instant Payment Network (IPN) (Egypt). InstaPay is one of the interfaces that the end user interacts with, while IPN is the name of the IPS.
Number of IPS	31	32	2 added	Kwanza Instantâneo (KWiK) (Angola) launched in 2023, LeSwitch (Lesotho) launched in 2024.
			3 removed	Système de Règlement Automatisé de Djibouti (SYRAD) (Djibouti) and Somalia National Payment System do not yet have a live IPS functionality. NamPay (Namibia) is not available 24/7. See Box 2.1. for more information.
Number of countries with domestic IPS functionality	26	27	2 added	Angola and Lesotho due to new systems launched.
			3 removed	Djibouti, Namibia, and Somalia due to systems not meeting criteria.
	Overall, in 2024 there were 20 countries with their own IPS, and six countries that share one IPS for domestic capabilities in addition to cross border (Cameroon, Central African Republic, Chad, Republic of Congo, Equatorial Guinea, Gabon).			

26 While conducting the research for the SIIPS series, AfricaNenda built a comprehensive database of IPS, which was updated for this report (an interactive map is available on the AfricaNenda website). The database classifies and maps IPS based on their characteristics. Updates reflect new IPS that have launched, changes to reported data, data shared directly, new or revised information in the public domain, and exchange rate adjustments.

27 Unlike with physical infrastructure, an IPS continues to develop after it has launched; the table shows changes of system names, participants, and functionalities that have taken place since the release of the 2023 report.

Description	2024	2023	Change	Reason
IPS types				
Cross-domain	14	14	✔ 2 added	KWiK launched in 2023. IPN (Egypt) provides all-to-all interoperability even though only banks are direct participants. Non-banks are indirect participants. Reclassified from bank to cross-domain.
			✖ 2 removed	SYRAD does not have live IPS functionality. See Box 2.1. for more information. Meeza Digital (Egypt) does not provide wallet-to-bank account interoperability and has been reclassified as a mobile money IPS.
Bank	7	10	✖ 3 removed	Somalia National Payment System does not yet have live IPS functionality and NamPay (Namibia) is not available 24/7. See Box 2.1. for more information. IPN (Egypt) has been reclassified to a cross-domain system as it provides all-to-all interoperability.
Mobile money	9	7	✔ 2 added	LeSwitch launched in 2024. Meeza Digital (Egypt) is accessible by both MMOs and banks, but it only provides interoperability between mobile wallets and not wallet-to-bank. Reclassified as mobile money from cross-domain.
Sovereign currency	1	1	Unchanged	-
Transaction data				
Values data collected	23	22	✔ 5 added	Gamswitch (The Gambia); Meeza Digital (Egypt); PayShap (South Africa); TIPS (Tanzania); Tunisia mobile money.
			✖ 4 removed	SIMO (Mozambique); eNaira (Nigeria); Nigeria mobile money; NamPay (Namibia). These were included in SIIPS 2023 but no data available this year so removed from analysis.
	IPS data was collected through central bank/ IPS operator surveys rather than through publicly available sources. For six IPS the survey was not returned: MarocPay (Morocco); Virement Instantané (Morocco); SIMO (Mozambique); eNaira (Nigeria); Nigeria mobile money; PAPSS (continent-wide). TCIB did not provide volumes and values data and LeSwitch is a new system without 2023 transaction data. Therefore, there is missing data for eight IPS out of 31: LeSwitch (Lesotho); MarocPay (Morocco); Virement Instantané (Morocco); SIMO (Mozambique); eNaira (Nigeria); Nigeria mobile money; PAPSS (continent-wide); TCIB (SADC).			
Inclusivity spectrum ranking				
Not ranked	10	12	✔ 3 added	KWiK (Angola) and LeSwitch (Lesotho) are additional systems. IPN (Egypt) moved from basic level to not ranked due to P2B merchant payments not being live yet.
			➔ 3 moved ranking	EthSwitch (Ethiopia); Kenya mobile money; Nigeria mobile money fulfill all basic criteria (preferred channel in the case of Nigeria; P2P/P2B payments in the case of Ethiopia and Kenya) and were moved to basic level.
			✖ 2 removed	SYRAD (Djibouti) and Somalia National Payment System were removed from live IPS landscape.
Inclusivity spectrum ranking				
Basic	12	15	✔ 3 added	EthSwitch (Ethiopia); Kenya mobile money; Nigeria mobile money fulfill all basic criteria and were moved from not ranked.
			➔ 5 moved ranking	IPN (Egypt) reclassified to not ranked. MauCAS (Mauritius); NIP (Nigeria); TIPS (Tanzania); ZIPIT (Zimbabwe) reclassified to progressed.
			✖ 1 removed	NamPay removed from live IPS landscape.
Progressed	9	5	✔ 4 added	MauCAS (Mauritius); NIP (Nigeria); TIPS (Tanzania); ZIPIT (Zimbabwe) all fulfill progressed-level criteria based on survey information.

Box 2.1 | Why we excluded three systems from SIIPS 2024

While updating the SIIPS 2024 report, it came to our attention that three previously included systems do not meet the definitional criteria set in our annual landscaping exercise. As a result, these systems have been excluded from this year's analysis and moved to the list of systems in development.

Système de Règlement Automatisé de Djibouti (SYRAD): Our previous reports listed SYRAD as operational. However, recent developments indicate that while Djibouti has secured funding for a payment switch, an instant payment service is not live yet. Therefore, Djibouti does not fulfill the requirements for inclusion in the current landscape exercise and has been moved to the list of systems in development (Table 2.3).

NamPay (Namibia): It has been determined that NamPay does not operate on a 24/7, 365-day basis as required by our inclusion criteria. Our criteria, detailed in the introduction, specify that qualifying systems must be available at all times to ensure consistent and reliable financial transactions. The lack of round-the-clock operation has led to the exclusion of NamPay from this year's report. Namibia has announced the launch of a new IPS for 2025.

Somalia National Payment System: Similar to SYRAD, the national payment system of Somalia is undergoing significant modernization. Despite these efforts, the instant payment functionality required for inclusion in our survey is not yet operational. The IPS has moved to in development.

We apologize for any inconvenience caused by these changes and are committed to providing the most accurate and up-to-date information on IPS that fulfill our definition across Africa. These adjustments will enhance the quality and reliability of our analysis, contributing to better-informed decisions and discussions.

2.1 | IPS distribution across Africa

With the launches of KWiK in Angola in 2023 and LeSwitch in Lesotho in 2024, the total number of domestic live IPS in Africa is now 28 (Box 2.2). This decrease from the 29 systems reported in the SIIPS 2023, is due to a reclassification, as the systems previously defined as IPS in Djibouti, Namibia, and Somalia were removed from AfricaNenda's live IPS list for not fulfilling our definitional criteria, based on the information provided by the system operators.

Box 2.2 | Two new systems launched since SIIPS 2023

Angola: Empresa Interbancária de Serviços (EMIS) and the Bank of Angola launched Angola's new system, Kwanza Instantâneo (KWiK), in July 2023. The system is the result of a two-year-long program carried out with technical assistance from the World Bank, with the goal of increasing financial inclusion in Angola. The Bank of Angola owns the system and is responsible for supervision and governance; EMIS is the system operator. KWiK facilitates instant cross-domain transfers between bank accounts and mobile wallets. The system currently has 10 live participant banks and one e-money issuer, allowing person-to-person (P2P) transfers through several channels, such as USSD, e-money agents, app, and browsers. There are plans to introduce person-to-business (P2B) payments through QR code and point-of-sale (POS) channels.

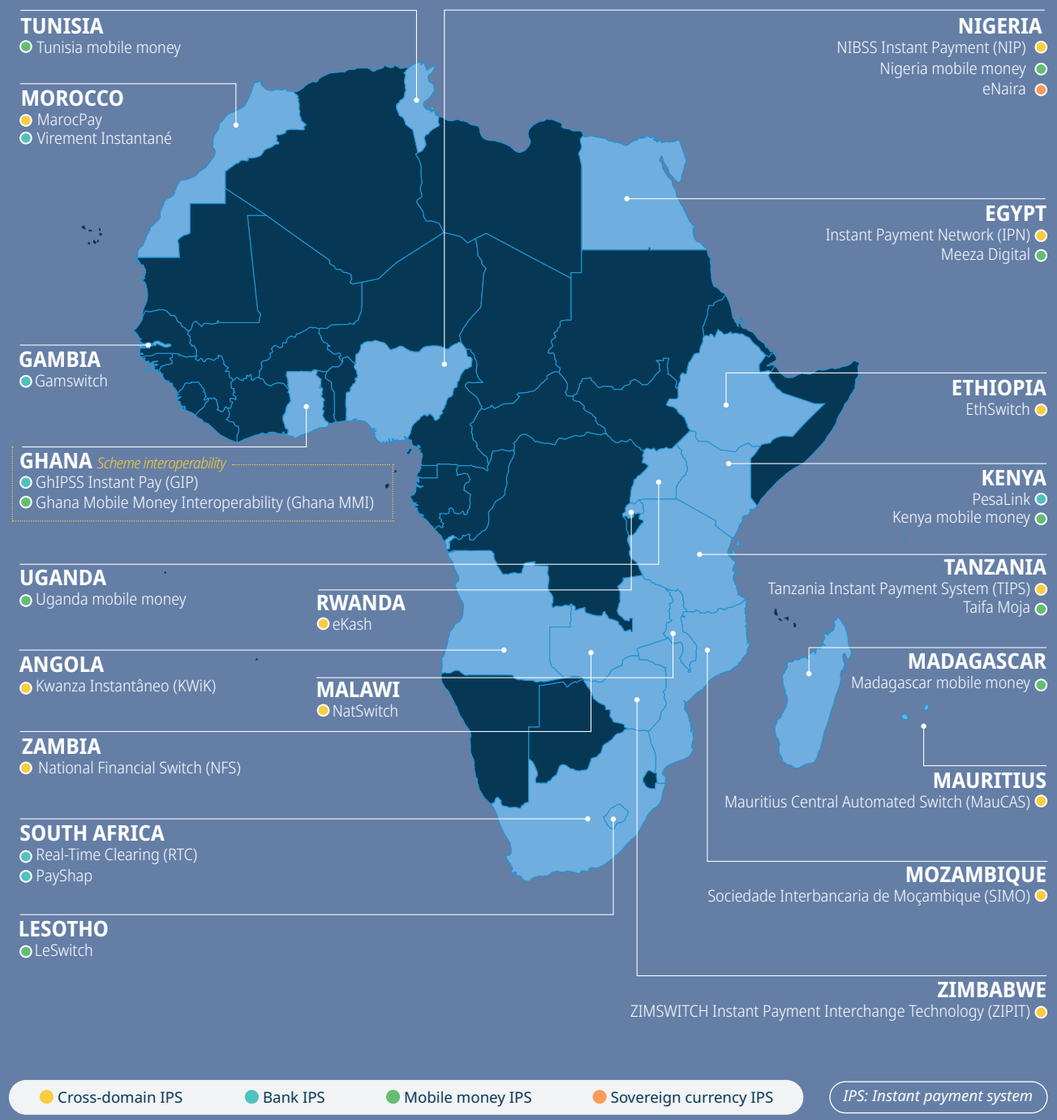
Lesotho: The Central Bank of Lesotho, together with the industry, launched LeSwitch in late March 2024. The switch was developed jointly through inputs from the banking industry, fintech firms, and regulatory authorities. It is the result of an effort to level the playing field between banks and new entrants, achieve interoperability and introduce local switching capability as opposed to routing through South Africa. With the growing use of mobile money, there was also a particular demand to enable interoperability between operators. The system is being rolled out in phases. It currently enables instant payments between mobile money operators, and has plans to launch card payments in the next phase. The mobile money system enables P2P transfers between mobile money operators (MMOs) such as Ecocash, M-PESA, Khetsi, Chaperone, and My Wallet. It has aspirations to become a cross-domain system in the near future by also integrating banks and other non-bank PSPs.

Sources: Ver Angola (2023), Central Bank of Lesotho (2024), Leihlo la Basotho (2024) Stakeholder survey (2024).

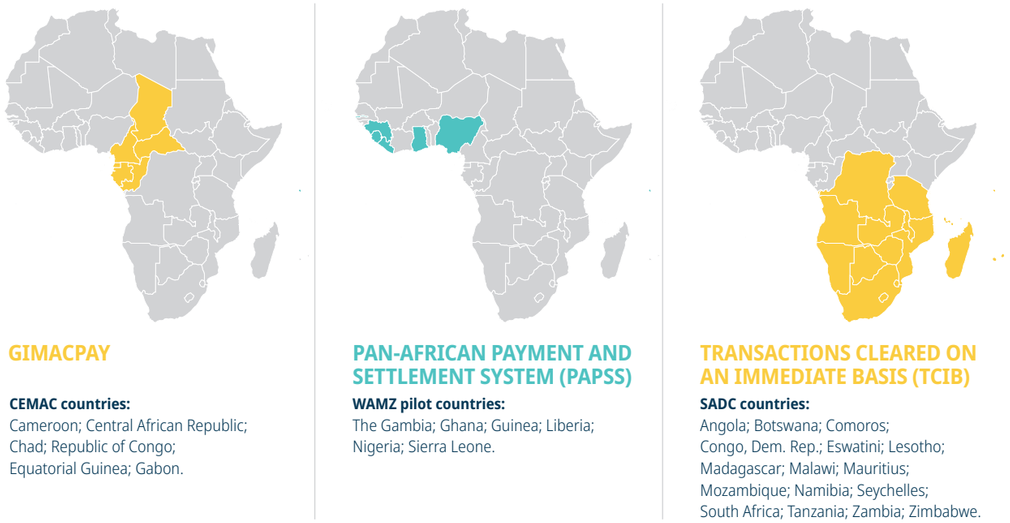
Domestic IPS initiatives increasingly prioritize cross-domain interoperability

The 28 domestic live systems operate across 20 countries on the continent (Map 2.1). Additionally, there are three live regional systems; that number is unchanged since 2023 (Map 2.2). That brings the total number of live IPS on the continent to 31.

Map 2.1 | There are 28 active domestic IPS across 20 countries in Africa as of June 2024



Map 2.2 | Map of three active regional IPS in Africa as of June 2024



GIMACPAY

CEMAC countries:
Cameroon; Central African Republic; Chad; Republic of Congo; Equatorial Guinea; Gabon.

PAN-AFRICAN PAYMENT AND SETTLEMENT SYSTEM (PAPSS)

WAMZ pilot countries:
The Gambia; Ghana; Guinea; Liberia; Nigeria; Sierra Leone.

TRANSACTIONS CLEARED ON AN IMMEDIATE BASIS (TCIB)

SADC countries:
Angola; Botswana; Comoros; Congo, Dem. Rep.; Eswatini; Lesotho; Madagascar; Malawi; Mauritius; Mozambique; Namibia; Seychelles; South Africa; Tanzania; Zambia; Zimbabwe.

Six countries (Cameroon, Central African Republic, Chad, Democratic Republic of the Congo, Equatorial Guinea, and Gabon) share one system (GIMACPAY) as part of the Economic and Monetary Community of Central Africa (CEMAC). GIMACPAY provides both domestic and cross-border instant payment services, which brings the number of countries with domestic IPS capabilities to 26.

In addition to GIMACPAY in the CEMAC region, two other regional cross-border IPS are live: the Pan-African Payment and Settlement System (PAPSS) and the Southern Africa Development Community (SADC) Transactions Cleared on an Immediate Basis (TCIB) (Map 2.2). PAPSS and TCIB have not yet fully rolled out their services to all member states and integration remains behind schedule (Stakeholder interviews, 2024). Both systems have made important inroads, however, in terms of increasing the number of signed-up participants, which are awaiting technical integration. PAPSS is currently live with 60 banks across seven countries, with six additional countries underway. It is also exploring integrating fintechs into the platform as indirect participants (PAPSS, 2024; Proshare News, 2024). TCIB is currently live in one corridor between Namibia and Zimbabwe with two MMOs; the system has nine more countries in the pipeline (TCIB, 2024). Currently, 21 banks and 36 non-banks are piloting the system (TCIB, 2024). In sum, 28 countries have cross-border IPS capabilities through the three regional systems.

All IPS in Africa fall into one of four "types": cross-domain IPS, bank IPS, mobile money IPS, and sovereign currency IPS. The IPS "type" is based on its interoperability arrangements, which in part defines the payment service providers (PSPs) it allows to participate (see Table 2.2). Of the 31 live systems, 14 are classified as cross-domain. That means they provide interoperable payment processing and clearing between different PSPs, even if one PSP is a bank and the other a mobile money provider, for example. Cross-domain systems also offer some form of interoperability between payment instruments, such as debit electronic funds transfers (debit EFT) and mobile money (see Box 2.3).

Table 2.2 | IPS type definitions

IPS types
Cross-domain IPS A system that provides for all-to-all interoperability within one overarching system, providing switching, clearing, and exchange of instruments for and between banks and non-banks and their respective account types and regulated currency instruments. All-to-all interoperability includes the ability for end users to directly transact between wallet accounts at different MMOs, between mobile money accounts and bank accounts, and across bank accounts. The single system provides the governance framework and coordinates the operational functions end-to-end for the instruments.
Bank IPS A system that provides access only to banks and supports instruments associated with bank accounts.
Mobile money IPS A system that provides access only for mobile money providers and supports instruments associated with mobile money accounts. This type of system has some form of common scheme rules and standards that form the basis for clearing and settlement of transactions between customers of the participating MMOs. They may be based either on a centralized infrastructure or based on some form of bilateral and multilateral arrangements between participating MMOs (see further detail in Annex E).
Sovereign currency IPS A central bank digital currency IPS. Such an IPS combines a sovereign currency instrument and a value transfer system that can provide a unified digital value transfer mechanism between commercial instrument systems, institutional stakeholders, and individuals within an economy.

Box 2.3 | Cross-domain interoperability approaches

The cross-domain IPS in Africa follow any one of three approaches to all-to-all interoperability. The most common approach is the "quasi" cross-domain arrangement, which entails switching e-money instruments and commercial instruments according to different scheme rules.[28] For transactions involving e-money, the e-money is exchanged into commercial money instruments and then cleared with other commercial money instruments on the same platform. The value is then exchanged back into e-money and cleared to the recipient's account. In these systems, commercial banks are typically the direct participants while non-banks participate indirectly through bank sponsorship arrangements.

Another approach, adopted by newer cross-domain systems, is to have a switching capacity between commercial money instruments and e-money instruments. In this case, the scheme specifies different rules to exchange these instruments. This approach is more complex to set up but provides an avenue for non-banks to participate directly in clearing.

Ghana has taken a third approach of integrating two systems (GhIPSS Instant Pay bank IPS and Ghana Mobile Money Interoperability (MMI)) through a central platform to achieve cross-domain interoperability. Instead of direct and indirect participation, MMOs and banks are direct clearing participants of their respective systems and are interlinked through one central switch.

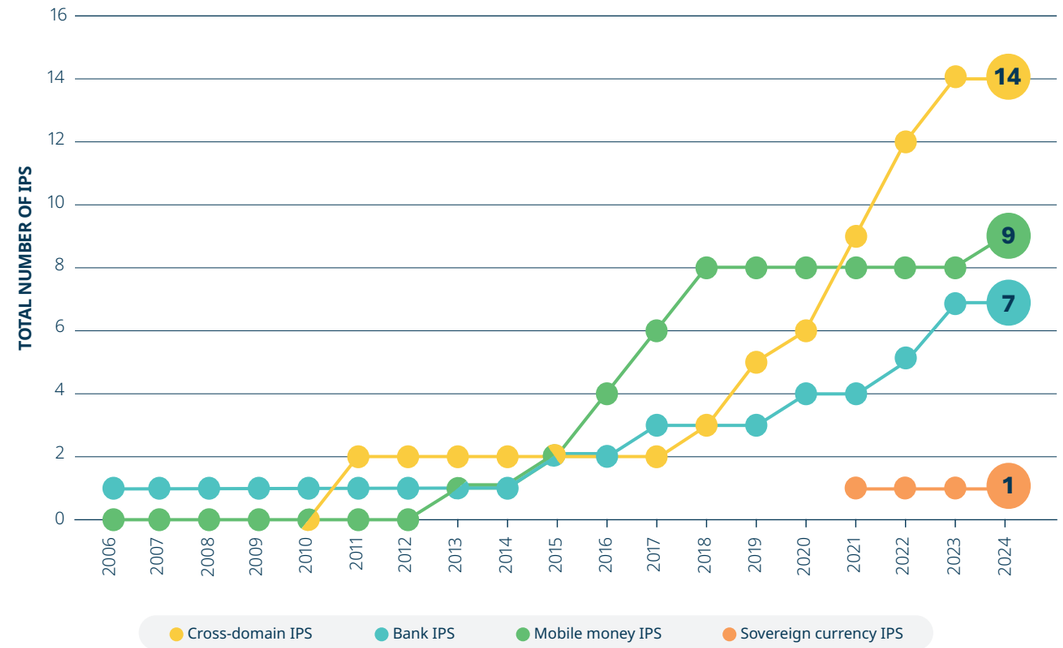
28 A commercial instrument is a form of commercial bank money created through the fractional banking system as a liability on a prudentially regulated commercial bank. It is a negotiable instrument, fungible and calibrated in the national unit of account but it is not legal tender. A commercial instrument is usually part of M1 money supply excluding M0 (central bank notes and coins). It is exchanged between banks and through the central banks at par on the basis of uniform prudential supervision or based upon guarantees. It differs from other financial instruments due to its fungibility and acceptance at par between institutions. e-money is a financial instrument created through legislation and regulation. It is restricted in its applications and is in most cases required to be collateralised 1:1 with commercial money escrow deposits. E-money issued by commercial bank schemes can technically be a commercial instrument, depending how it is structured. Commercial money is not interchangeable or fungible with e-money at par due to the very different nature and risks associated with each instrument and hence different evaluations in time, but may be exchanged under a commercial agreement that guarantees the values exchanged at par.

Seven countries (Egypt, Ghana, Kenya, Morocco, Nigeria, South Africa, and Tanzania) have multiple live IPS of different types. Such duplication has come about because of the rising availability of mobile money over the past ten years and the consequent pressure from end users to enable interoperability between different PSPs and payment instruments. Nine mobile money IPS launched in Africa between 2012 and 2018 (Figure 2.1). Since then, however, more countries have emphasized the importance of interoperability. In Angola, Malawi, and Zimbabwe, and in the CEMAC region, for example, regulators have issued regulations or directives which mandate interoperability between providers (BEAC, 2018; National Bank of Angola, 2022; Reserve Bank of Malawi, 2017). Concurrently, cross-domain systems have gained in popularity, and since 2020 nine new cross-domain systems have launched, now comprising about half of the total IPS on the continent.

As for sovereign currency IPS, eNaira in Nigeria remains the only one of this type on the continent. No other central bank digital currency (CBDC) is live, though several feasibility pilots are underway. Most countries have focused instead on implementing existing national payment systems projects or upgrades, leaving CBDC projects to compete for resources, especially from a regulatory perspective (Stakeholder interviews, 2024). Ghana seems to be furthest along with its CBDC pilot at the time of writing this report, yet there is no official update on the pilot outcomes or whether a CBDC launch is imminent.

On a related subject, Zimbabwe launched the world's newest currency in April 2024. The Zimbabwe Gold (ZiG) is a unit of account based upon a composite basket of reserves comprising foreign currency and precious metals (mainly gold). The country's existing gold-backed digital token (GBDT) currency called ZiG will now be called GBDT and will be a parallel currency (Reserve Bank of Zimbabwe, 2024). Since the central bank issues both tokens, the ZiG and GBDT are technically variants of CBDC, but it is unclear if they are applied as institutional securities, wholesale instruments, or a retail CBDC option. Regardless, a CBDC currency without an IPS network or exchange system would not qualify as a sovereign currency IPS for this report. We explore the status of CBDC projects more in Chapter 4.

Figure 2.1 | Number of IPS by type over time (n=31)



The seven countries with more than one IPS are in the process of figuring out how to ensure their duplicate systems work with each other.[29] While only Ghana currently links its two systems via a central switch, there are plans underway in Kenya to integrate its bank and mobile money systems more seamlessly (Stakeholder interviews, 2024). TIPS in Tanzania, a cross-domain system, has taken a different approach: it has successfully added all MMOs as direct participants. This makes the bilateral arrangements that had been established in the country's Taifa Moja mobile money IPS obsolete, at least in theory. If Taifa Moja continues to operate in parallel with TIPS—in other words if MMOs continue to rely on their bilateral integration—TIPS could experience scaling issues. How Tanzania and TIPS navigate this challenge could provide valuable lessons for other countries that have a mobile money system and are developing a cross-domain system. LeSwitch in Lesotho has successfully connected mobile money operators, but the ambition is to become a cross-domain system, connecting all banks and non-banks.

Many live systems face the ongoing challenge of working with existing private payment systems. Dominant PSPs need to be convinced to relinquish bilateral partnerships or protective pricing arrangements and sign on as participants in the domestic public / public-private IPS. This can be particularly difficult in countries with a PSP that—prior to the establishment of the IPS—invested in bilateral payment processing arrangements with other providers.

PSPs have an interest in protecting and leveraging access to their customer bases as a competitive advantage. A sustainable cross-domain IPS would likely dilute any ability to restrict access to customers, as that access is key to achieving network effects. IPS will have to come up with a compelling value proposition for PSPs to convince them that the gains outweigh the losses.

South Africa is a place to watch to see how these dynamics play out. As of now, only bank participants can offer instant payment services across both of the country's IPS. There are plans, however, to add the first non-bank participants to PayShap at some point in 2024 (Stakeholder interviews, 2024). That change will bring additional competition in the payment space, which incumbent banks may resist.

29 The countries are: Egypt, Ghana, Kenya, Morocco, Nigeria, South Africa, and Tanzania.

IPS in development could rapidly expand Africa's payments capacity

Though there are still gaps in IPS coverage as of July 2024, 25 countries across the continent are in the process of upgrading their IPS or developing a new system (see Table 2.3). Twenty-one of these countries are developing new domestic systems and four countries that had domestic systems in place are either upgrading them or launching new ones.

Two of the countries adding domestic capabilities are Benin and Togo. They are also part of the West African Economic and Monetary Union (WAEMU), which is developing a regional IPS. In addition to cross-border functionality, the WAEMU system will include domestic interoperability capabilities for its eight member countries—Benin, Burkina Faso, Côte d'Ivoire, Guinea-Bissau, Mali, Niger, Senegal, and Togo. It is currently in the piloting stage (see Box 2.3 for more information).

If all these planned domestic and regional IPS projects come to fruition, 27 additional countries which currently do not have a live IPS will gain one, leaving Eritrea as the only country on the continent without domestic IPS functionality. This points toward expansion of domestic IPS capabilities.

Table 2.3 | Domestic IPS in development and their status (n=25)

Country	Status	Timeline
Algeria	The Bank of Algeria has designated a switch operator to establish interoperable mobile payments in Algeria, with the goal to connect all banks' mobile payment solutions. Launch is imminent (Mechti, 2023).	Short term[30]
Benin	Stakeholder discussions	Medium term
Botswana	National Retail Payments Switch is in the project mapping stage (World Bank, 2022c).	Medium term
Burundi	Switch is live for ATM interoperability, instant and interoperable account-to-account transfer anticipated (Bi-Switch, 2023).	Short term
Cabo Verde	Established partnership to strengthen the payment system by deploying a national switch leveraging DPI (AfricaNenda, 2023a).	Medium term
Comoros	Implementing instant payments as part of broader NPS development (World Bank, 2020a).	Medium term
Congo, Dem. Rep.	Stakeholder discussions	Medium term
Djibouti	Funds have been secured to set up a national payment switch (UNCDF, 2023a).	Medium term
Eswatini	National Payment Switch project underway, which will facilitate near-real time payments and domestic switching of Card/POS/ATM transactions. Vendor has been selected. Instant capability to be the first component to launch (Central Bank of Eswatini, 2023).	Short term
Guinea	National payment switch in piloting phase, with financial players being integrated (Central Bank of the Republic of Guinea, 2023; AfricaNenda, 2023a).	Short term
Kenya	Central Bank of Kenya is examining a national switch with interoperability across MMOs and banks as part of the National Payment System strategy 2022-2025 (Central Bank of Kenya, 2022).	Medium term
Liberia	National Electronic Payment Switch underway with funding both from World Bank and African Development Bank (World Bank, 2023a; African Development Bank, 2023b).	Medium term
Libya	Central Bank of Libya is in the early stages of developing an instant payments system (Central Bank of Libya, 2023).	Medium term
Madagascar	Contract for National Payment Switch vendor has been signed (L'Express de Madagascar, 2024).	Short term
Mauritania	Stakeholder discussions	Medium term
Mozambique	Stakeholder discussions	Medium term
Namibia	Launched an instant payment project (Bank of Namibia, 2024).	Short term
São Tomé and Príncipe	Stakeholder discussions	Medium term
Seychelles	Exploring digital payments platform as part of NPS modernization plan (Central Bank of Seychelles, 2021).	Medium term
Sierra Leone	First phase of National Payment Swich launched in 2023, with the second phase to include instant payments (World Bank, 2023b).	Short term
Somalia	Established a National Payment System, with real-time gross settlement system (RTGS) and automated clearing house (ACH) components live. Instant payment capability is under implementation and expected to go live before the end of the year (Stakeholder discussions).	Short term
South Sudan	Working on a proof of concept for a national retail payment infrastructure that is interoperable and low-cost (AfricaNenda, 2023a).	Medium term
Sudan	Stakeholder discussions	Medium term
Togo	Considering the implementation of a domestic interoperability platform that links banks and mobile money operators as part of their National Development Plan (Stakeholder discussions).	Medium term
Uganda	Plans to implement a national switch to facilitate interoperability between banks and non-banks. It is in the procurement phase for an IPS provider (Bank of Uganda, 2023).	Medium term

30 Countries that have expressed that their IPS is set to launch within a year have been classified as short term. Where the expected launch is more than one year away, they have been classified as medium term.

In addition to WAEMU there are three other regional IPS in development. They include IPS for the Common Market for Eastern and Southern Africa (COMESA), the East African Community (EAC), and the Economic Community of West African States (ECOWAS) (Map 2.3). All four have been in discussions for several years. The WAEMU system is expected to launch first; the COMESA system is expected to follow, while the EAC and ECOWAS systems are still in the conceptual phase (Box 2.4).

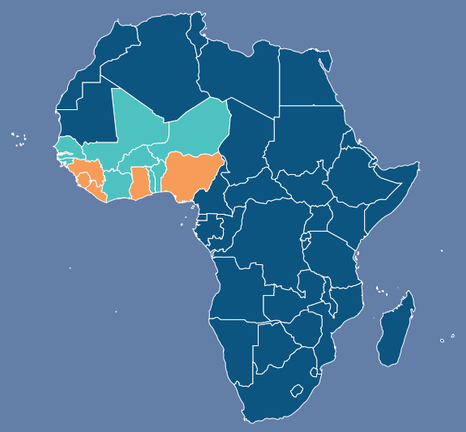
Map 2.3 | Regional IPS in development as of June 2024

COMESA

Burundi; Comoros; Congo, Dem. Rep.; Djibouti; Egypt; Eswatini; Eritrea; Ethiopia; Kenya; Libya; Madagascar; Malawi; Mauritius; Rwanda; Seychelles; Somalia; Sudan; Tanzania*; Tunisia; Uganda; Zambia; Zimbabwe.

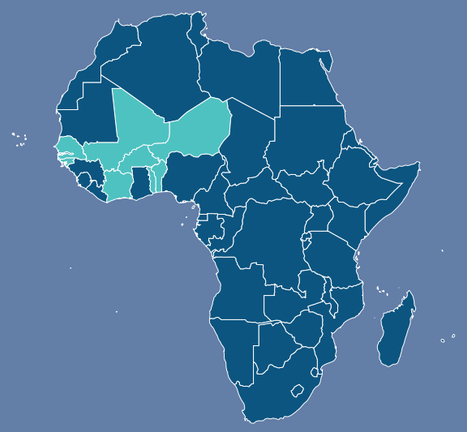
EAC

Burundi; Congo, Dem. Rep.; Kenya; Rwanda; Somalia; South Sudan; Tanzania; Uganda.



ECOWAS

WAEMU plus Cabo Verde; The Gambia; Ghana; Guinea; Liberia; Nigeria; Sierra Leone.



WAEMU

Benin; Burkina Faso; Côte d'Ivoire; Guinea-Bissau; Mali; Niger; Senegal; Togo.

** Tanzania is not a COMESA member state but will integrate with the COMESA regional IPS.*

Box 2.4 | Status of the four regional IPS in development

COMESA is developing an instant retail payment system as part of its digital financial inclusion program. Payments will be processed through the COMESA clearing house. It is still in the exploratory phases of implementation, with focus on functionality, settlement models, technical specifications, and governance framework. The system is planned to be commissioned within the next year. As part of the design process, COMESA has also been engaging with other regional systems such as Buna, PAPSS, and TCIB to ensure that there is potential for interconnectedness between regional systems in the future (COMESA Business Council, 2024; COMESA, 2023).

EAC is currently developing an instant retail payments system. A study was commissioned in 2024 to develop a master plan for its architecture. Broader integration of payments and settlement systems in the region has been in the works for more than ten years with funding from the African Development Bank, the World Bank, and the Bill & Melinda Gates Foundation. Four of the EAC countries (Kenya, Tanzania, Uganda, and Rwanda) have already interconnected their RTGS through the East African Payments System (African Development Bank, 2023a).

ECOWAS has mandated the West African Monetary Agency (WAMA) to establish a regional payment and settlement system (including an instant retail payment system), as part of realizing the roadmap for the ECOWAS single currency program. The aim is to harmonize and interconnect existing payment system initiatives in the region, including the regional system that is being rolled out in WAEMU (which is a regional sub-group of ECOWAS). To realize this project, WAMA has received funding from the African Development Bank and is in the process of recruiting a consultant for technical assistance (AFDB, 2024).

WAEMU is developing a system for instant, interoperable payments between banks and non-bank providers. The system has been in the works for many years and is nearing official launch: The Central Bank of West African States (BCEAO) announced on their website that they started piloting the system in July 2024 (BCEAO, 2024b). Moreover, the BCEAO recently published new instructions that set out the conditions for banks and non-banks to provide their services in the WAEMU zone (BCEAO, 2024a; Moko, 2024). This provides a regulatory base to enable participation of different actors in the system. In addition to instant cross-border payments, the IPS will enable domestic payments interoperability within the eight member countries.

There is significant overlap in cross-border functionality under development by the live and planned regional IPS, especially in East Africa. As mentioned, the WAEMU IPS will double as a domestic and cross-border payment system. As a regional sub-group within ECOWAS, the WAEMU system will also interconnect with the ECOWAS system, but otherwise has limited overlap with other regional initiatives apart from PAPSS. In East Africa, however, there are multiple overlapping projects in development. The persistent high costs of remittances and cross-border trade, as well as the current regulatory barrier requiring PSPs to apply for corridor-specific licenses, are key drivers for both the COMESA and the EAC systems (Stakeholder interviews, 2024).

Many countries are members of multiple regional economic communities (REC), such as COMESA, EAC, SADC, and the Arab Monetary Fund (which owns Buna, the cross-border IPS for the Middle East and North Africa region). This brings the risk of fragmenting scale and duplicating efforts (see Table 2.4 for a summary of overlaps). For example, Comoros, the Democratic Republic of Congo, Somalia, and Tanzania are each part of three ongoing initiatives.

Only five countries, Algeria, Cabo Verde, Mauritania, Morocco, and São Tomé and Príncipe will be without cross-border IPS functionality once the planned regional systems are live. Algeria, Mauritania, and Morocco are part of Buna, however, and can leverage some cross-border opportunities with Middle East countries.

Table 2.4 | Cross-border functionality overlap

Country	REC membership			
	COMESA	EAC	SADC	Arab Monetary Fund
Burundi	✖	✖	-	-
Comoros	✖	-	✖	✖
Congo, Dem. Rep.	✖	✖	✖	-
Eswatini	✖	-	✖	-
Kenya	✖	✖	-	-
Madagascar	✖	-	✖	-
Malawi	✖	-	✖	-
Mauritius	✖	-	✖	-
Rwanda	✖	✖	-	-
Seychelles	✖	-	✖	-
Somalia	✖	✖	-	✖
Tanzania	✖*	✖	✖	-
Uganda	✖	✖	-	-
Zambia	✖	-	✖	-
Zimbabwe	✖	-	✖	-

** Tanzania is not a COMESA member state but has joined discussions around the regional IPS*

2.2 IPS performance is improving across transaction levels, use cases, and instruments

Even as the number of IPS on the continent grows slowly year-over-year, the live IPS are maturing their systems to address end-user needs. These advancements show up in part through growth in transaction volumes and values, as well as in the evolution of channels and use cases. The channel, instrument, and use-case information provided in the following sections is based on data the IPS operators and/or central banks provided through the survey, augmented by desktop research where survey information was not available.

Transaction flows continue to increase in both volume and value

Over the past five years, the volume and value of processed transactions increased by an average annual growth rate of 37% and 39%, respectively (Figure 2.2).[31]

Volumes accelerated in 2023: IPS processed 49 billion transactions, the highest annual volume yet, 47% more than in 2022. Such growth reflects more entrenched IPS usage in many countries, including in Egypt, Ghana, Kenya, Nigeria, and Uganda.

The total annual IPS value has reached over US $1 trillion. Between 2020 and 2023, IPS transaction values increased by 273%.[32] TIPS (Tanzania), IPN (Egypt), Tunisia mobile money, EthSwitch (Ethiopia), eKash (Rwanda), and MauCAS (Mauritius) saw the highest volume growth rates between 2022 and 2023 (in descending order). Except for Tunisia mobile money and MauCAS, these systems all launched after 2020. In terms of value, Natswitch (Malawi) and ZIPIT (Zimbabwe) saw high levels, though high domestic inflation is largely responsible for their value growth, not captured demand. See Box 2.4 for details on the transaction data.

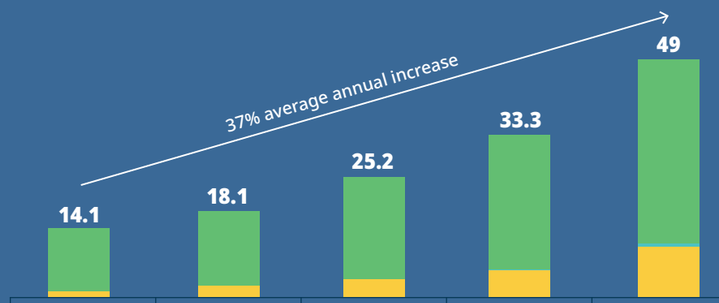
Mobile money IPS process by far the largest volume of transactions, while cross-domain IPS process the largest values. Cross-domain IPS saw values grow by 63% between 2022 and 2023, followed by 28% for bank systems. For comparison, mobile money IPS grew only 16% in value.

31 One important aspect of updating the report from 2023 to 2024 involved expressing values in the 2024 exchange rates. The same exchange rate for a country was applied for all years, resulting in differences to values reported in previous SIIPS reports, as currencies fluctuated against the US$ in 2024. For example, the total value in SIIPS 2023 for the year 2022 was US $1.2 trillion. In today's exchange rate that value is lower, at US $764 billion. Exchange rate spot rates as of 30 April 2024 were established through www.oanda.com. Some countries, including Egypt, Malawi, Nigeria, and Zimbabwe experienced a drastic devaluation of their currencies, which has a large influence on the total value transacted in US$ terms. However, the relative magnitude of growth remains stable from year to year.

32 The following systems with information available have launched since 2019: IPN (Egypt); EthSwitch (Ethiopia); Gamswitch (the Gambia); Madagascar mobile money; eNaira (Nigeria); eKash (Rwanda); PayShap (South Africa); TIPS (Tanzania); NFS (Zambia); and GIMACPAY (CEMAC).

Figure 2.2 | Transaction volumes and values (n=23)*

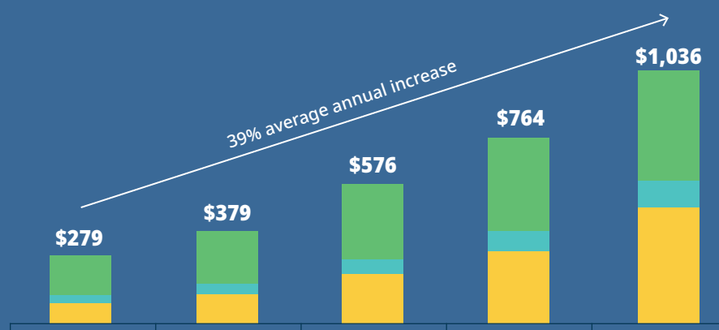
VOLUME
(billions of transactions)



	2019	2020	2021	2022	2023
Cross-domain IPS	1	2	4	5	10.5
Bank IPS	0.1	0.1	0.2	0.3	0.5
Mobile money IPS	13	16	21	28	38

* *No data was received for SIIPS 2024 from LeSwitch (Lesotho – new system); MarocPay (Morocco); Virement Instantané (Morocco); SIMO (Mozambique); eNaira (Nigeria); Nigeria mobile money; PAPSS (continent-wide); TCIB (SADC).*

VALUES
(USD billion)



	2019	2020	2021	2022	2023
Cross-domain IPS	82	119	205	295	481
Bank IPS	33	42	61	83	107
Mobile money IPS	164	218	310	385	448

* *No data was received for SIIPS 2024 from LeSwitch (Lesotho – new system); MarocPay (Morocco); Virement Instantané (Morocco); SIMO (Mozambique); eNaira (Nigeria); Nigeria mobile money; PAPSS (continent-wide); TCIB (SADC).*

Note: The total transaction volumes and values may be underestimated. The data in Figure 2.2 came from written survey inputs by central banks and/or IPS operators (see Box 2.5). Overall, 23 surveys were returned. The data for eight IPS were unavailable. LeSwitch (Lesotho) was only officially launched in 2024. TCIB (SADC) did not provide volumes and values in its survey response. Central banks/IPS operators of six additional IPS did not submit survey, resulting in missing values for the following systems: MarocPay (Morocco), Virement Instantané (Morocco) (both Bank Al-Maghrib), SIMO (Mozambique) (Bank of Mozambique), Nigeria mobile money, eNaira (Nigeria) (both Central Bank of Nigeria), and PAPSS (Afrimexbank). Information about these systems relied on desktop research. As the eNaira is the only sovereign currency IPS and the data is missing, this category was excluded from the analysis.

Box 2.5 | List of central banks or IPS operators that completed the SIIPS 2024 IPS survey

We particularly thank the central banks and IPS operators listed in the following table for providing IPS volumes and values data through written survey feedback to help close information gaps. The list is in alphabetical order by country.

System	Volume and values data by central Bank
KWiK (Angola)	National Bank of Angola
IPN and Meeza Digital (Egypt)	Central Bank of Egypt
Gamswitch (The Gambia)	Central Bank of The Gambia
GIP and Ghana MMI (Ghana)	Bank of Ghana
Kenya mobile money (Kenya)	Central Bank of Kenya
LeSwitch (Lesotho)	Central Bank of Lesotho
Madagascar mobile money (Madagascar)	Banque Centrale de Madagascar
MauCAS (Mauritius)	Bank of Mauritius
RTC (South Africa)	South Africa Reserve Bank
Taifa Moja; TIPS (Tanzania)	Bank of Tanzania
Tunisia mobile money (Tunisia)	Banque Centrale de Tunisie
Uganda mobile money (Uganda)	Bank of Uganda
System	**Volume and values data by IPS operator**
EthSwitch (Ethiopia)	EthSwitch
Gamswitch (The Gambia)	Gamswitch
PesaLink (Kenya)	Integrated Payment Systems Ltd. (IPSL)
Natswitch (Malawi)	Natswitch
NIP (Nigeria)	Nigeria Inter-Bank Settlement System (NIBSS)
eKash (Rwanda)	RSwitch
Payshap (South Africa)	BankservAfrica
NFS (Zambia)	Zambia Electronic Clearing House Limited (ZECHL)
ZIPIT (Zimbabwe)	Zimswitch
GIMACPAY (CEMAC)	Groupement Interbancaire et Monétique de l'Afrique Centrale (GIMAC)

This year's data continues a trend seen in previous years of decreases in the average per-transaction value across cross-domain and mobile money IPS (see Table 2.5).[33] Mobile money IPS has an average per-transaction value of US $12 reflecting the use of mobile money digital payments for daily purchases. Cross-domain systems, however, are also processing smaller average transactions today (US $46) than they were in 2022.[34] This trend indicates that cross-domain IPS are increasingly processing low-value high frequency payments. The average value of bank transactions remains the highest at US $237, indicating that instant bank account transfers are not used as much for lower-value transactions and/or happen less frequently than mobile money or cross-domain transfers. However, the decrease from US $638 in 2019 to US $237 in 2023 indicates a strong downward trend in the average value processed through bank systems.

33 Data for eNaira (Nigeria) is not available so the sovereign currency type could not be evaluated.

34 Adjustments due to increased data availability and exchange rate changes contributed to the change in average transaction values in SIIPS 2023. Newer high-volume cross-domain systems have processed a significant number of new transactions, which has affected the average transaction value.

Table 2.5 | Average value per transaction per IPS type (US$; n=23)

	2019	2020	2021	2022	2023
Cross-domain IPS	71	58	58	56	46
Bank IPS	638	474	353	282	237
Mobile money IPS	13	14	15	14	12

The value of transactions relative to gross national income (GNI) indicates how much economic activity the IPS supports, the utility it provides to end users, and how entrenched it is within the national or regional economy.

Out of the 23 IPS for which data was available, five IPS provided a breakdown of switched (or "not-on-us") transactions versus "on-us" transactions. These five systems are PesaLink (Kenya), Natswitch (Malawi), Taifa Moja (Tanzania), Tunisia mobile money, and GIMACPAY (CEMAC). We thank these IPS (operators and central banks) for providing this detailed view of transactions. Not-on-us transactions are payments between customers of two different PSPs, instead of between two customers of the same PSP (in the case of the latter, the PSP processes the transaction "on-us" within its own backend system). The breakdown view allows for an assessment of the scale of interoperability in a system compared to dominance of one or two PSPs.

Figure 2.3 shows the IPS transaction values relative to their respective country's GNI or region's average GNI (in the case of GIMACPAY) in 2023.[35] The five IPS that provided an on-us versus not-on-us breakdown show that most instant payments stay with a single PSP rather than entering another institution's account: in total, Malawi processed instant payments equal to the equivalent of 6% of GNI in 2023, of which only 0.1% flowed through Natswitch. CEMAC has a share of 1% not-on-us and 5% on-us transactions. In the case of Taifa Moja in Tanzania, 67% of value passed between accounts of the same MMOs, and only 13% are interoperable payments.

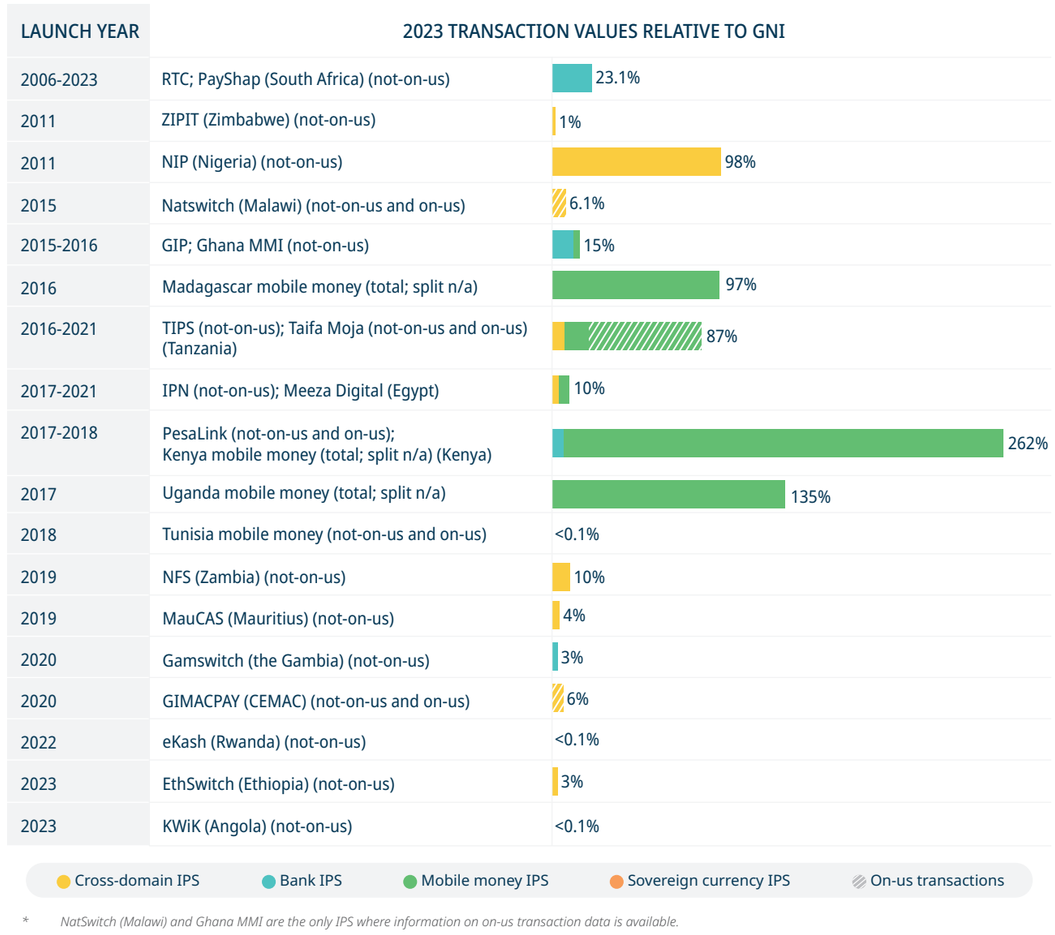
The relatively low share of not-on-us transactions in these countries indicates that there are either barriers to interoperability (such as interoperability fees for the end user and/or PSP) or that there are one or two dominant PSPs in the market, resulting in less interoperability demand. It is important for central banks to publish information around the share of not-on-us versus on-us transactions to move towards better quantifying interoperability and its opportunities.

The remaining 19 systems do not allow for a disaggregated view between not-on-us and on-us transactions and there is no indication whether there are dominant PSPs in the market from looking at the transaction data alone. Three mobile money systems, namely Kenya, Madagascar, and Uganda mobile money, only provided the total value of instant transactions, while the other 16 IPS only provided data on not-on-us transactions. In the case of mobile money systems, there is not a central switch that monitors the interoperability of transactions. However, there is a need to establish the level of interoperability in the three markets to understand the competitive dynamics between the MMOs and to measure interoperability progress. For example, given that Safaricom plays a dominant role in Kenya's digital payments market, most of the country's IPS balance flows are on Safaricom's balance sheet (see Box 2.6 for a further consideration in Kenya).

In terms of the payment system operator interoperability schemes, which make up the other 16 systems, Figure 2.3 reveals that there is little correlation between the age of a system and the value it processes. EthSwitch in Ethiopia is already processing 3% of GNI despite being only two years old. South Africa (which is bank-led through RTC and PayShap), Tanzania (Taifa Moja and TIPS), and Ghana (GIP and Ghana MMI) have multiple systems and processed the highest interoperability transaction values relative to GNI (between 15% and 23%) in 2023. Egypt, the Gambia, Kenya, Mauritius, Zambia, and the CEMAC region processed values between 3% and 10%. The remaining countries' values remained at 1% or under in terms of GNI.

35 The latest available World Bank GNI in current US$ figures were used, most of which are from 2022 (World Bank, 2024).

Figure 2.3 | 2023 IPS transaction values relative to GNI (n=23)



* *NatSwitch (Malawi) and Ghana MMI are the only IPS where information on on-us transaction data is available.*

Box 2.6 | The case of Kenya mobile money

Kenya achieves P2P mobile money interoperability differently than other countries do. Madagascar, Tanzania, and Uganda mobile money IPS, for example, do not connect their mobile money providers through a central switch. Instead, the MMOs integrate bilaterally based on the same multilateral rules. The respective central banks have oversight of these rules.

In Kenya, in contrast, the MMOs negotiate individual contracts between each other, meaning that the commercial arrangements, pricing agreements etc. can be different between the Safaricom-to-Airtel connection and the Telkom-to-Airtel integration. Merchant payments (P2B) in Kenya have the same rules for interoperability, endorsed by the central bank. This difference makes the Kenyan mobile money system open loop (as interoperability is mandated by the Central Bank of Kenya) but it does not apply the same interoperability conditions on each connection. This can lead to pricing differences between MMOs for P2P transactions.

Data transparency and granularity that reveals the dynamics between on-us and not-on-us instant payment transactions provide important information for understanding how sustainable an IPS business model is and what the competitive dynamics are. Currently, data collection approaches and the level of data transparency vary between regulators and IPS operators in different countries. Participants do not always have insights into IPS performance and how much demand for interoperability exists (Stakeholder interviews, 2024). IPS stakeholders and supporting actors should encourage regular reporting of disaggregated on-us and not-on-us transactions, total instant payment figures, and end-user uptake dynamics (ideally applying gender and socio-economic lenses).

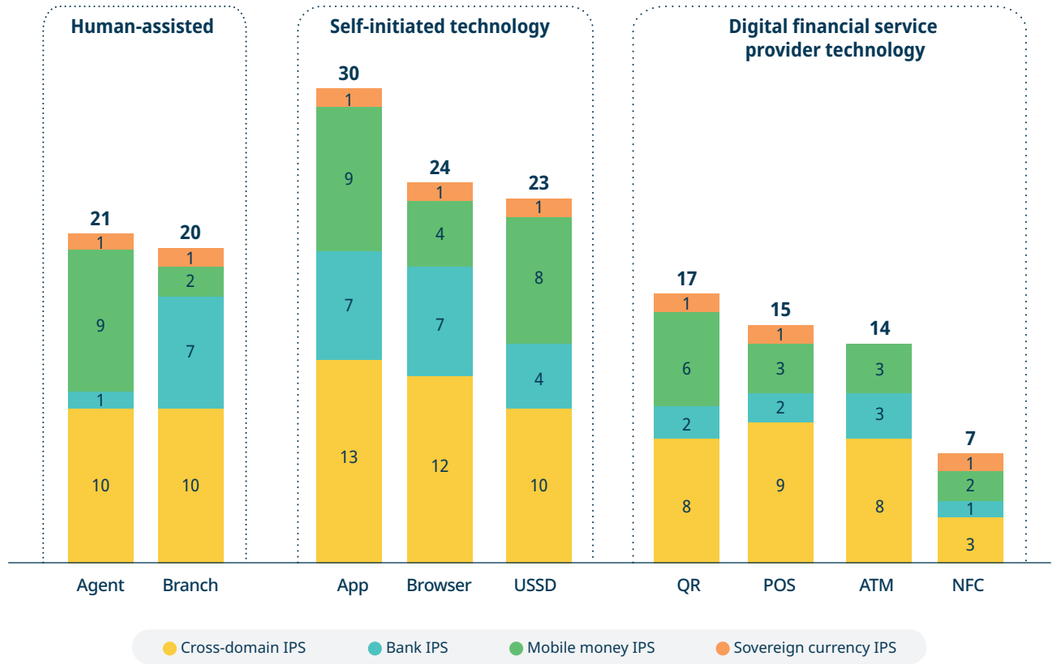
Apps and browser solutions are the most dominant channels available, followed by USSD

Mobile phone applications, or apps, are the most widely available channel on the continent, supported by at least 30 IPS (in the case of SIMO in Mozambique, availability could not be determined) (Figure 2.4). Other self-initiated channels, including through a browser (internet banking) or unstructured supplementary service data (USSD), are the second-most prevalent means through which end users can access IPS services. Self-initiated technologies are the most widely enabled channels.

Some IPS leave it to the participating PSPs to decide which channels to offer, since in these cases the end user accesses the system through their financial institution's banking or mobile app. This is the case with Virement Instantané (Morocco), NIP (Nigeria), and RTC (South Africa). In these cases, the end user is not aware that they are transacting via the switch. Other IPS keep their brand and platform front and center, and thereby influence the channel options.

For example, IPN in Egypt launched the InstaPay app, in which end users can link one or multiple transactional accounts and use InstaPay as the centralized payment solution. There are plans to allow IPN participants to also launch their own mobile interfaces in the future. Other IPS keep the system name central in their awareness campaigns to increase adoption of digital payments. For example, MarocPay (Morocco), eKash (Rwanda), PayShap (South Africa), and ZIPIT (Zimbabwe) use prominent branding in their online presence and marketing campaigns to drive awareness and end-user trust.

Figure 2.4 | Supported payment channels by IPS type, multiple mentions (n=31)



The widespread support of apps shows the shifting focus towards smartphone technologies, which can offer a more personalized user experience and be outsourced to third-party technology providers, including fintechs. Yet many end users in Africa continue to rely on basic or feature phones, although with variation across regions. In sub-Saharan Africa (SSA), only 51% of cellular connections in 2023 were smartphones, compared to 82% in North Africa. Both regions have lower smartphone adoption than the global average of 88% (GSMA, 2023c; GSMA, 2023b; GSMA, 2023b). Though 23 IPS enable USSD payment solutions, some have actively chosen not to support USSD channels under the assumption that smartphones are sufficiently prevalent and poised to become more so. IPN (Egypt), MauCAS (Mauritius), and Tunisia mobile money are among them. These IPS are targeting people who are already banked and seeking greater convenience, but in doing that, they risk leaving USSD-enabled end users behind. In 2018, an estimated 90% of mobile money transactions in SSA were driven by USSD (GSMA, 2019). Having said that, USSD transactions are less secure than apps due to the unsecured messaging standard. IPS and PSPs need to further explore better security solutions around USSD to protect end users from fraud in a way that balances the user experience needs.

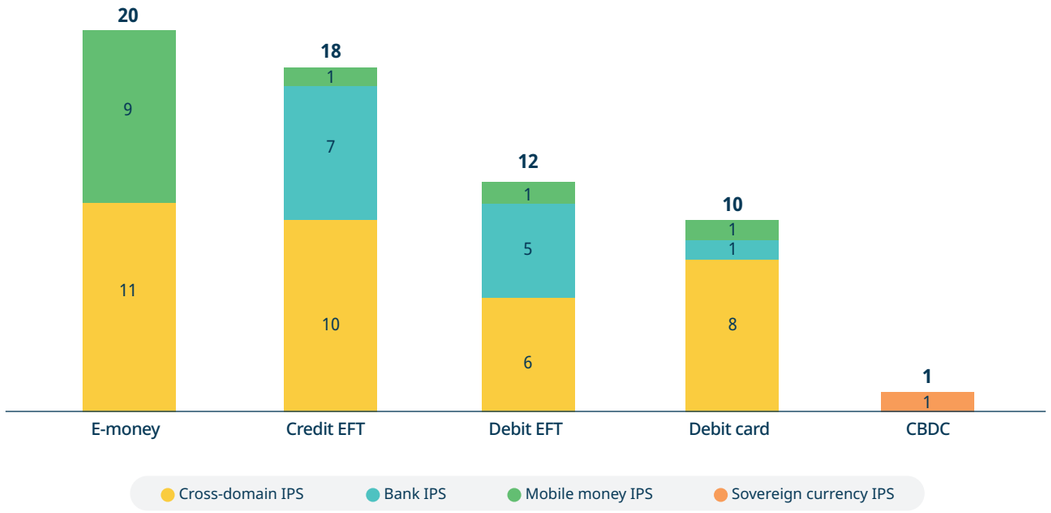
QR codes and near-field-communication (NFC) channels are not yet as prevalent as app, browser, and USSD digital channels, though IPS and PSPs increasingly recognize their potential for providing a smooth user experience. NFC payments are mostly available in systems that also facilitate card payments, such as in Nigeria, South Africa, and Tunisia, and tap-on-phone technology advances have introduced a more seamless user experience that is expected to grow in adoption.

Finally, human-assisted channels, i.e., agents or branches, are connected in 21 and 20 IPS, respectively. These channels play a critical role for people who want to use instant payments but need human support. These channels are expensive to maintain but are crucial in markets with lower digital payment awareness or in populations with low levels of financial confidence. About one-third of mobile money account holders cannot use their accounts without help from a family member or agent (Demirgüç-Kunt, et al., 2022).

E-money and credit EFT instruments are the most common

The IPS types can be limited in the range of payment instruments they support. Mobile money systems only process e-money transactions, for example, and bank systems also prioritize certain instruments for all participants, specifically credit or debit electronic fund transfers (EFT) (Figure 2.5). Cross-domain systems offer the largest variety of instruments and have the ability to exchange commercial money instruments, such as EFT and card for e-money and vice versa. CBDC is a separate instrument that is only currently used by the eNaira in Nigeria.

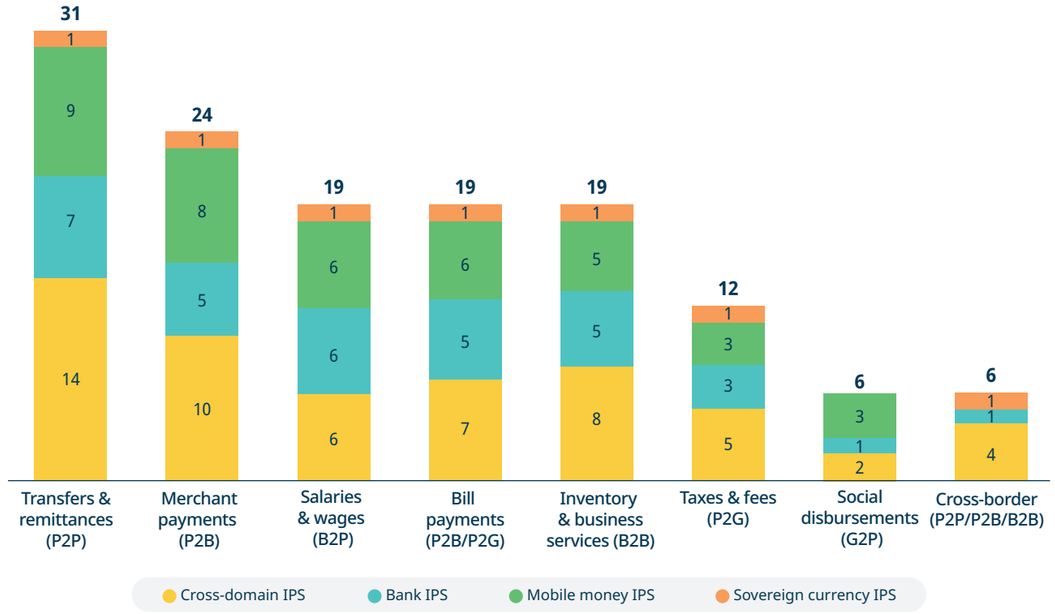
Figure 2.5 | IPS instruments supported, multiple mentions (n=31)



P2P use case is universal; P2B, B2B,and B2P are on the rise

All 31 IPS have enabled money transfers from person-to-person (P2P), which is typically the first use case that an IPS launches (Figure 2.6). Next in line are person-to-business (P2B) merchant payments, which 24 systems support. As one of the most important drivers of IPS scale, the merchant payment use case is key to an inclusive instant payment system. However, the end user may not always see the value proposition compared to cash, especially in countries with nascent digital payment markets and limited e-commerce adoption. It will take time for end users who are used to transacting in cash in stores to change their behavior and adopt digital solutions. Making P2B merchant transactions as user-friendly and quick as possible can help with the transition. Toward that end, the use of QR codes for merchant payments is on the rise, for example in Mauritius and South Africa. Merchant short codes for USSD transactions, available for example in Kenya and Zimbabwe, likewise can reduce time and erroneous transactions at the point of sale. Beyond P2P and P2B payments, salaries and wage payments (B2P) are made possible by 19 systems. Likewise, 19 systems support bill and business-to-business (B2B) payments.

Figure 2.6 | Enabled use cases by IPS type, multiple mentions (n=31)



Government-to-person (G2P) payments are not yet widely supported. Only six IPS (the same number as last year) support them—the two systems in Ghana, and the Madagascar, Morocco, NIP in Nigeria, and Uganda systems. Enabling bulk G2P payments could greatly help IPS reach scale due to the volume of adults who receive social assistance payments, government wages, or pensions. The payments typically occur monthly and therefore provide a consistent source of volume for the IPS. From a crisis response perspective, instant G2P payments also can be lifesaving for end users. When citizens need quick and widespread financial support, IPS can offer the biggest network of connected end users, especially if it is a cross-domain system.

Six IPS offer cross-border functionality—MauCAS (Mauritius) and eNaira; NIP (Nigeria) as well as the three regional systems (GIMACPAY, TCIB, and PAPSS). MauCAS has opened the corridor with India's UPI system to enable people from both countries to transact in each other's currencies. NIP is enabled for cross-border payments through integration with PAPSS, although the scale of transaction volumes and the enabled corridors are not known.[36] Similarly, money transfer companies are allowed to terminate remittances in eNaira wallets, as decreed by the Central Bank of Nigeria (Ledger Insights, 2023). IPN (Egypt) is also considering its options around cross-border integration, either by linking to Buna, or through bilateral integrations with the IPS in Jordan and Saudi Arabia (Stakeholder interviews, 2024).

36 PAPSS has also announced that a Memorandum of Understanding has been signed with BUNA to build a payment gateway between Africa and the Arab region, although the status of this integration is unknown (PAPSS, 2022)

Banks are the most common direct IPS participants, with fintechs still represented mostly through indirect participation

Cross-domain systems support the widest range of participants, including banks, MMOs, microfinance institutions (MFI), and other non-bank PSPs. NIP (Nigeria), NFS (Zambia), ZIPIT (Zimbabwe), and GIMACPAY (CEMAC) currently have all four categories represented among their participants. GIMACPAY unites 105 participants including 53 banks, 11 MMOs, 27 non-bank PSPs, and 14 MFIs in their network. The other cross-domain IPS have fewer bank participants, ranging from eight participants in Natswitch (Malawi), MarocPay (Morocco), and eKash (Rwanda), to 28 in NIP (Nigeria), 35 in EthSwitch (Ethiopia), and 37 in TIPS (Tanzania). Between one and six MMOs are typically part of a cross-domain system.

Mobile money IPS have MMO participants at their core. The number of MMO participants ranges from 31 in Nigeria mobile money and 29 in Egypt's Meeza Digital, to 14 in Uganda and three in Madagascar. Egypt and Nigeria have a bank-led mobile money model, in which many banks have mobile money licenses.

Bank system participant numbers are typically higher than in MMO systems, reflecting the more competitive banking environment in most African countries. PesaLink (Kenya) counts 37 bank participants, GIP (Ghana) has 24, and Virement Instantané (Morocco) has 19.

The IPS scheme rules set out the participation conditions, but it is ultimately the regulatory framework, and especially the PSP licensing approach, that dictates which types of institutions can qualify as direct or indirect participants in a system. IPS operators oversee the technical implementation of the service and monitor participant activity, while regulators ensure that PSPs have the required risk mitigation processes in place (the different licensing approaches for PSPs are further explored in Chapter 5). The combination of scheme rules and overarching licensing regime heavily influences the design of an IPS and the interoperability arrangements—for example, does the system require sponsorship clearing by banks for non-bank PSPs?

The direct participation of fintechs is still limited as compared with MMOs. Currently, only 11 out of 31 systems have non-bank PSPs that are not mobile network operator-led MMOs, including IPN (Egypt), Meeza Digital (Egypt), EthSwitch (Ethiopia), GIP (Ghana), MauCAS (Mauritius), MarocPay (Morocco), eNaira (Nigeria), NIP (Nigeria), NFS(Zambia), ZIPIT (Zimbabwe), and GIMACPAY (CEMAC).

2.3 Enabling factors such as the IPS business model and technical choices help promote end-user adoption

The channels, use cases, and participant models enabled by IPS provide the basis for services and products PSPs can offer to end users. Additional factors influence participants and therefore end users in IPS usage.

These factors include the governance and ownership structure, business model and resulting fee structures that the IPS adopts, technical factors such as standards that allow PSPs to easily and inexpensively integrate with the system, and evolving mechanisms for signing on and identifying payment recipients. Even in jurisdictions where the system itself does not necessarily interact with the customer directly, these factors serve as the rails which enable participants to provide affordable and user-friendly instant payment services to their customers, ultimately fostering trust in the ecosystem.

IPS ownership and governance is split between central banks and industry, but public-private-partnerships are on the rise

There is a fairly even split between systems that are owned by the central bank (11), those that are participant-owned (10), and jointly owned (10) (see Table 2.6 for a breakdown). Participants own most mobile money systems. More cross-domain systems are either jointly owned or central-bank owned (six and seven systems, respectively) than are other IPS types.

The governance typology also reflects this dynamic. Of the 31 systems, 13 are governed through a public-private partnership (PPP) between the central bank and the payment or financial services industry. PPP is the prevalent governance type for cross-domain systems (eight cross-domain IPS are governed through a PPP). Ten IPS are governed through a private association with limited central bank involvement; this is where most mobile money IPS reside. Lastly, the central bank governs eight IPS, including KWiK (Angola), IPN and Meeza Digital (Egypt), Ghana MMI and GIP, MauCAS (Mauritius), eNaira (Nigeria), and TIPS (Tanzania).

Table 2.6 | IPS ownership and governance overview (n=31)

Ownership model	System name	IPS type	Country/ region	Governance typology
Regulator-owned	KWiK	Cross-domain	Angola	Central Bank
	IPN	Cross-domain	Egypt	Central Bank
	Meeza Digital	Mobile money	Egypt	Central Bank
	Ghana MMI	Mobile money	Ghana	Central Bank
	GIP	Bank	Ghana	Central Bank
	LeSwitch	Mobile money	Lesotho	PPP
	MauCAS	Cross-domain	Mauritius	Central Bank
	MarocPay	Cross-domain	Morocco	Private association
	eNaira	Sovereign currency	Nigeria	Central Bank
	TIPS	Cross-domain	Tanzania	Central Bank
	TCIB	Cross-domain	SADC	PPP
Jointly owned	EthSwitch	Cross-domain	Ethiopia	PPP
	Gamswitch	Bank	The Gambia	PPP
	Virement Instantané	Bank	Morocco	PPP
	SIMO	Bank	Mozambique	PPP
	NIP	Cross-domain	Nigeria	PPP
	Nigeria mobile money	Mobile money	Nigeria	PPP
	NFS	Cross-domain	Zambia	PPP
	ZIPIT	Cross-domain	Zimbabwe	PPP
	GIMACPAY	Cross-domain	CEMAC	PPP
	PAPSS	Bank	WAMZ	PPP
Participant-owned	Kenya mobile money	Mobile money	Kenya	Private association
	PesaLink	Bank	Kenya	Private association
	Madagascar mobile money	Mobile money	Madagascar	Private association
	Natswitch	Cross-domain	Malawi	Private association
	eKash	Cross-domain	Rwanda	Private association
	PayShap	Bank	South Africa	Private association
	RTC	Bank	South Africa	Private association
	Taifa Moja	Mobile money	Tanzania	Private association
	Tunisia mobile money	Mobile money	Tunisia	PPP
	Uganda mobile money	Mobile money	Uganda	Private association

Fee structures vary for IPS participants and end users and influence uptake

Setting up a new IPS or upgrading existing IPS services involves various costs. Several IPS got support from development partners to fund their set-up. For example, Afreximbank received financial support from the African Development Bank to set up PAPSS, and EthSwitch Ethiopia had support from the Bill & Melinda Gates Foundation. The World Bank is also providing funding, for example, for Natswitch (Malawi) and TCIB (SADC), the latter together with the Bill & Melinda Gates Foundation. In other cases, such as KWiK (Angola), MauCAS (Mauritius), PayShap and RTC (South Africa), NFS (Zambia), and ZIPIT (Zimbabwe), participant financial institutions contributed start-up funding, often supported by the central banks.

Apart from the start-up funding, the IPS business model needs to recover operational costs. Twelve IPS have adopted a not-for-loss or cost-recovery business model.[37] The other 19 appear to have a profit motive. Making an IPS financially sustainable while also ensuring that instant payment transactions are affordable for the end user requires careful balance. The pricing model is a sensitive topic for many IPS. Prospective participants usually consider their own commercial interests when evaluating whether to join a scheme (Stakeholder interviews, 2024). If participation and interoperability fees are too high, PSPs have less incentive to join.

37 KWiK (Angola), Ghana MMI, GIP (Ghana), LeSwitch (Lesotho), Natswitch (Malawi), MauCAS (Mauritius), NIP (Nigeria), TIPS (Tanzania), Tunisia mobile money, Zambia NFS, GIMACPAY (CEMAC), and TCIB (SADC).

Technology standards ensure higher trust

IPS standards around messaging, application programming interfaces (API), and technologies such as QR codes are crucial to ensure robust fraud mitigation and adequate user protection. Through standards, IPS influence the level of trust end users have, as their implementation choices translate into security features that appear in the different payment channels PSPs offer their end users.

Common messaging standards include ISO 8583 and ISO 20022. These standards dictate the manner, format, and content of the payment messages participants sent between participants via the IPS. The more complex the standard, the more information can be transmitted in a payment transaction. ISO 20022 includes more fields than ISO 8583, for example to identify both the payment sender and the recipient, in addition to the sending and receiving PSPs. It has also been established as the global standard and includes a real-time payments working group. Twelve IPS use ISO 20022—KWiK (Angola), EthSwitch (Ethiopia), Gamswitch (The Gambia), PesaLink (Kenya), LeSwitch (Lesotho), MauCAS (Mauritius), Virement Instantané (Morocco), eKash (Rwanda), PayShap (South Africa), and Tunisia mobile money, as well as PAPSS and TCIB (SADC). Proprietary standards have been developed by IPN and Meeza Digital in Egypt, the two Ghana systems, the eNaira and NIP in Nigeria, and TIPS in Tanzania.

Open APIs allow providers to access a system or to provide additional services to IPS operators. They are currently deployed by 25 IPS. For example, they allow non-bank PSPs to integrate with an IPS, which then facilitates the messaging via its centrally adopted standard. KWiK in Angola, PesaLink in Kenya, eKash in Rwanda, and TCIB in SADC provide for participants to connect via APIs in this way. Participants can access Nigeria's NIP only through its open API structure, which enables participant integration, processing, and monitoring. IPS also use APIs for overlay services, such as payee confirmation, as is the case in EthSwitch (Ethiopia), the two Ghana systems, PayShap (South Africa), and TIPS (Tanzania).

IPS are enabling payment aliases to increase convenience for end users

Aliases or proxy identities are digital identities (ID) that allow end users to identify the transaction recipient without needing to know the bank information for that person or business. Mobile phone numbers are an increasingly popular proxy ID; 24 IPS enable them. IPN (Egypt) even allows senders to choose recipients from their mobile phone directory, but this method requires the recipient to also register their SIM card number with their PSP before they can receive payment. Mobile numbers function as mobile money wallet identifiers. This is a user-friendly approach, since both senders and recipients tend to remember phone numbers better than bank account numbers.

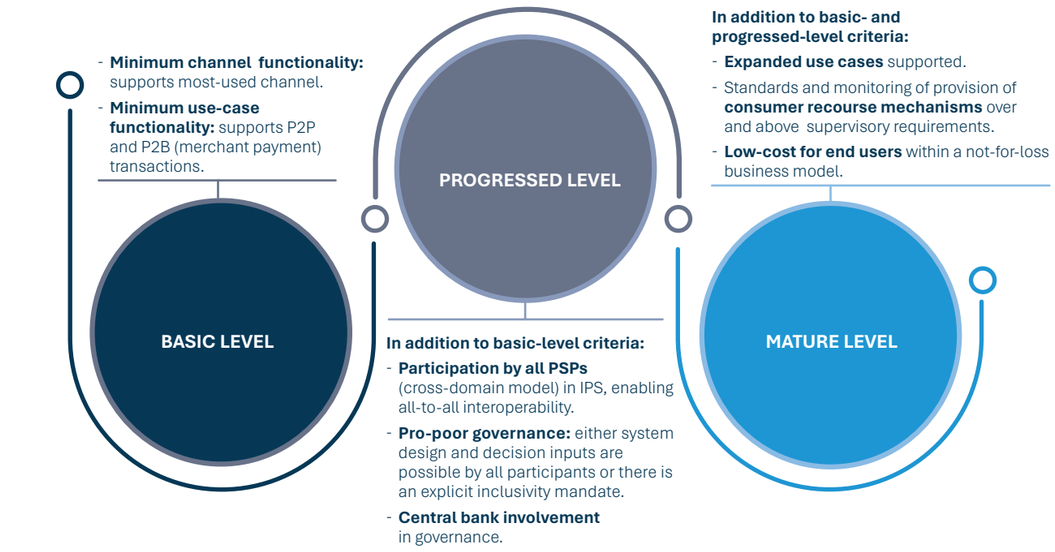
Other forms of proxy IDs include QR codes (especially for merchant payments) and merchant short codes for USSD transactions. QR codes are available for user identification in 14 IPS. Email addresses or nicknames can also be used in the case of KWiK (Angola), and TIPS (Tanzania), as well as PAPSS, and TCIB.

2.4 More IPS are progressing, but gaps remain in achieving greater inclusivity

The combined impact of the factors discussed thus far in this chapter—including governance, structure, interoperability, and the depth and breadth of channels, functions, and use cases—affect the level of inclusivity the IPS can achieve. Using the facts shared by the IPS, AfricaNenda has categorized each IPS on an inclusivity spectrum. The spectrum classifies IPS as having either **basic**, **progressed**, or **matured** inclusivity. (see Figure 2.7 | The 2024 AfricaNenda IPS Inclusivity Spectrum).

Inclusivity is not the sole responsibility or achievement of one actor in an IPS. It is instead a shared responsibility, with different actors having different roles to play. **IPS designers, operators, and/or IPS participants**, for example, deliver the platform and product functionality at different levels of the spectrum. The **IPS scheme rules**—ideally created through an inclusive process between the central bank, the operator, and payment sector participants—specify the design parameters and guide the stakeholders toward delivering inclusivity outcomes.

Figure 2.7 | The 2024 AfricaNenda IPS Inclusivity Spectrum



There is an enabling role as well for the **regulators, supervisors, and policymakers** in each country and region, as they create the policy and regulatory environment to which operators and PSPs are bound. In line with the basic, progressed, and mature criteria for inclusivity, there is also a progression in the policy and regulatory regimes that enable inclusivity.

At the basic level, a National Financial Inclusion Strategy (for example, the Bank of Tanzania's National Financial Inclusion Framework 2023-2028); a licensing regime that enables participation by e-money issuers and other non-banks (see Chapter 5 for more information); dedicated agency banking regulation; and tiered customer due diligence requirements based on transaction amounts and limits: collectively, these regulations create a solid foundation.

The policy enablers of progressed status include a digital payments roadmap and policy, such as the South African Reserve Bank's Digital Payments Roadmap, which make specific reference to IPS; mandated interoperability; a tiered payments licensing regime to include more than just non-bank e-money issuers; dedicated eKYC regulation and guidelines (see Chapter 6 for more details); and a financial consumer protection act that includes clear guidelines for end-user recourse.

At the mature level, outcomes-based regulation dominates. Holistic DPI projects that encompass digital identity, digital payments, and data exchange depend on an enabling regulatory environment that unlocks core enablers, such as open banking or open finance, sharing of KYC data, and robust cybersecurity measures. A purely risk-based (as opposed to tiered) payments licensing regime that regulates according to activity rather than entity can drive more innovation in payments. Risk-based customer due diligence strikes the balance between mitigating risks without overburdening lower-risk end users with disproportionate KYC requirements. An outcomes-based financial consumer protection framework ensures customer centricity and a regime that treats customers fairly (adapted from CGAP, 2018 and UNDP, 2023C).

The AfricaNenda Inclusivity Spectrum explained

The **basic level** of inclusivity includes two key criteria regarding functionality of the system. These criteria are essential for the inclusion of all end users in Africa (IPS are not ranked if they fail to meet both criteria in this basic level of inclusivity). They are:

Enable the primary local channel: The IPS enables the payment channel or channels that the population within its geography uses the most.[38] For example, the IPS facilitates mobile money transactions in markets where mobile money adoption is higher than bank account penetration. This ensures that the system serves the largest possible share of end users, rather than focusing only on the most profitable segment.

Enable P2P and P2B (merchant payment) use cases at a minimum: These use cases are required as the minimum because they both have a clear value proposition for end users. P2P transactions, and domestic long-distance payments in particular, are key for initial digital payment user adoption, as cash payments can be expensive and inconvenient, due to transportation costs and safety concerns. By offering digital P2P transactions, IPS provide a more convenient alternative. In the case of digital P2B payments, these include bill payments as well as merchant payments, which are necessary for transitioning economies to cash-lite models. Instant digital merchant transactions increase e-commerce adoption and reduce the need for cash in stores. They are also the main driver of transaction scale for an IPS, and therefore directly contribute to a sustainable business model for the system.

38 The primary local channel is determined by whether the country is mobile money dominated or banking dominated, as per Findex data on account ownership.

IPS that fulfill the following three criteria related to governance in addition to the basic criteria are considered **progressed**:

Allow all licensed PSPs to utilize the system: The IPS is open to any licensed payment service provider, including a commercial bank, MMO, MFI, or fintech. The IPS therefore facilitates cross-domain transactions, enabling end users to transact with any other user, regardless of which institution has their respective accounts. This increases end-user convenience. The IPS design and the supporting scheme rules achieve all-to-all interoperability, expanding the size of the overall payment network. These positive network effects can increase transaction volumes and thereby increase the efficiency of sharing infrastructure, resulting in reduced costs.

Engage in pro-poor governance through joint decision-making: The IPS has established provisions and processes to allow all system participants to provide input into decision-making and design. Alternatively, it has an explicit inclusivity mandate specified in the scheme rules.

Having a due process for soliciting inputs from all stakeholders into the system design and its rules—not just from a select number of dominant PSPs—creates a level playing field and improves industry collaboration. This leads to a clearer distinction between a competitive versus a cooperative space and avoids bigger players dominating the market.

Include the central bank in governance: The IPS actively collaborates with the central bank as the regulator and supervisory entity and the scheme rules specify the process for involving the central bank in system design and governance processes.[39] This could entail direct ownership and operation by the central bank. Alternatively, both the public and private sector could provide input to decision-making, irrespective of ownership and operating model, through committees or working groups. Involving the regulatory authority in operator and IPS participant engagements ensures a continuous feedback loop around necessary policy or regulatory reforms. The central bank, for its part, can ensure that the inclusivity goals specified in its policies translate to the design and scheme rules of the IPS, preventing dominance by commercial interests. The central bank can also champion the goal of interoperability between all PSPs, especially in markets with limited PSP competition.

39 IPS can be seen as a public infrastructure. For this reason, their design is important for central banks and public policy. While the IPS could be provided either by private sector or the public sector, collaboration between the two could be important in reconciling competing goals in the provision of IPS. Systems that are owned solely by large participant banks may be less willing to provide access to smaller banks or to non-bank PSPs. Moreover, private providers may have incentive to charge high fees or upfront costs of participation to recoup investment. Ultimately, high fees may deter participation, especially for PSPs that cater to more low-income customers. Public players may have explicit mandates to make the retail payments market more open, inclusive and competitive. On the other hand, a system solely owned and operated by the central bank may face issues in adoption and buy-in from private PSPs. So, while the suitable ownership and operating structure may depend greatly on the specific market, a IPS with broad buy-in and collaborative approach to governance where inputs from both public and private players is possible, may provide a good foundation for inclusivity (BIS, 2024; World Bank, 2021). Empirically, research has also found that uptake of instant payments is higher where the IPS is publicly owned, something which is attributed to wider participation and lower fees (BIS, 2024).

IPS that achieve a **mature level** of inclusivity have fulfilled the basic and progressed level criteria, as well as three additional functionality and governance conditions:

Enable all use cases: The IPS enables the full range of use cases, including P2P, P2B, G2P, P2G, B2B, B2P, B2G, and G2B, for a holistic digital payment ecosystem that enables the circulation of liquidity completely through digital channels. Being able to transact for any use case enhances digital utility for end users and allows capital to more easily and efficiently flow between actors in the economy.

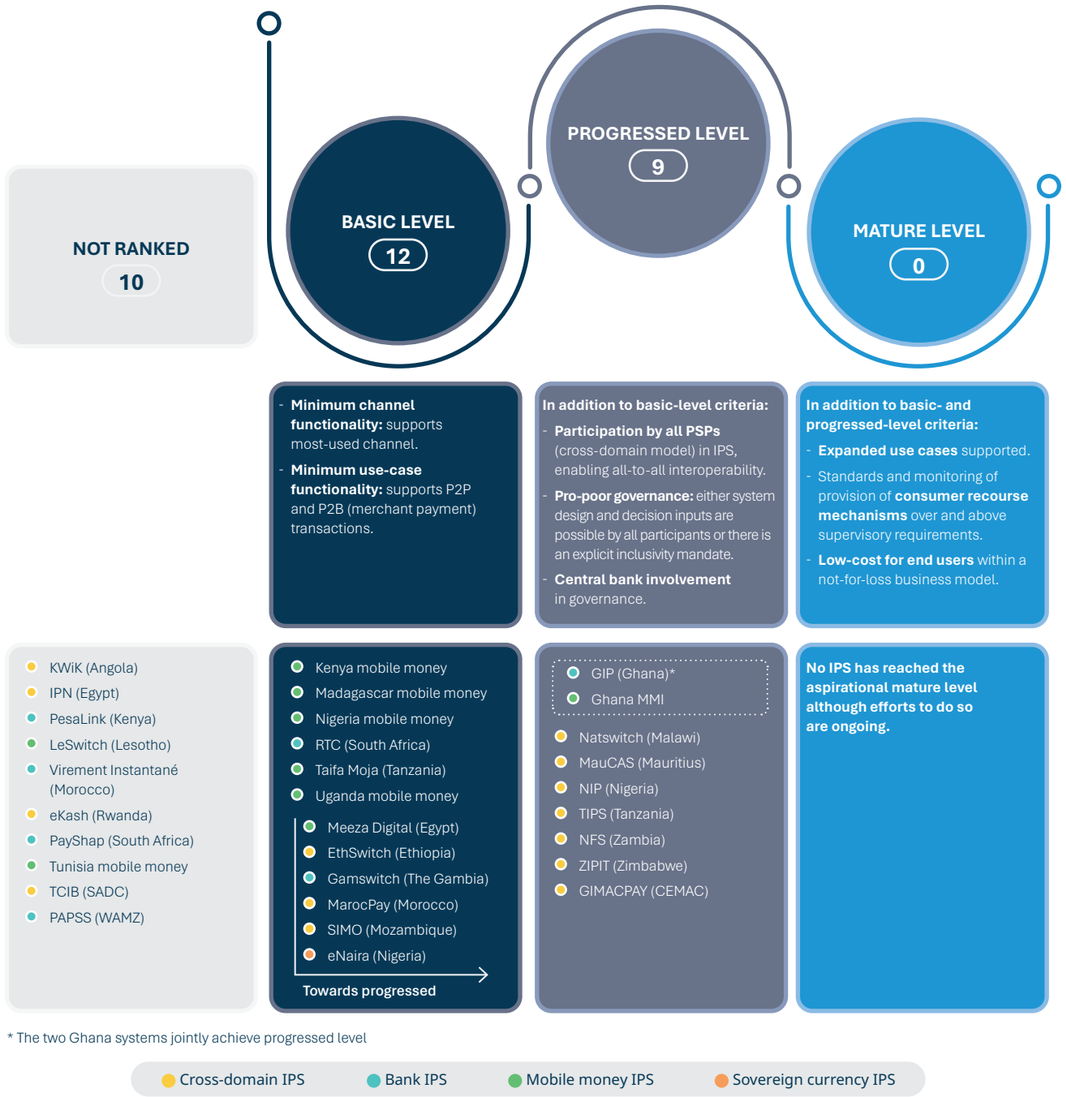
Provide additional recourse: The IPS sets standards for participants to ensure end-user recourse is in place, consistent with consumer protection, data privacy, and cybersecurity laws. The IPS effectively monitors how participants enable recourse and how effective those mechanisms are, thereby mitigating end-user risks from fraud and erroneous transactions. The scheme rules also mandate recourse options at the IPS level and the conditions for which they can be used. This ensures that end users trust digital payments, as they have an additional avenue for disputes should provider channels prove insufficient.

Serve end users at low cost: The IPS operates according to cost-recovery or not-for-loss principles, so that end-user transaction fees are as low as feasibly possible. The IPS stakeholders continuously monitor participant pricing and non-compliance with system-wide pricing conditions, such as caps or zero-fee requirements.

Most systems still remain at a basic level of inclusivity, but some IPS have progressed

Based on the definitions of inclusivity within the spectrum, twelve IPS are at a basic level of inclusivity and nine IPS are progressed (Figure 2.8).[40] The nine progressed IPS cover 13 countries on the continent due to the GIMAC regional scheme enabling inclusivity in six countries. No system is mature yet. The basic and progressed levels include systems that have the potential to reach the next level if they fulfill two additional criteria (the exact two vary by system).

Figure 2.8 | Mapping IPS across the Inclusivity Spectrum



* The two Ghana systems jointly achieve progressed level

40 The fulfilment of ranking criteria is based on information available via central bank/operator surveys conducted, online sources, and stakeholder interviews. Access to more information may allow IPS inclusivity to be recategorized.

Ten IPS do not fulfill the basic criteria of inclusivity. Of these, seven systems offer the preferred digital channel, but not the two minimum use cases (P2P and P2B); the other three support the minimum use cases but not the most popular channel (see Table 2.7). The main barrier holding these systems back from moving to basic level and beyond is usually the lack of merchant payment integration. The unranked cross-domain systems already fulfill some of the criteria of progressed systems and could make a significant leap to that level if they were to offer merchant payments, for example in the case of KWiK (Angola), eKash (Rwanda), and TCIB (SADC). In the case of bank systems, some already support merchant payments, but the lack of interoperability with non-bank PSPs makes it less likely they will reach a mature level of inclusivity within their current models.

Table 2.7 | Not ranked category breakdown

	Basic level		Progressed level			Mature level		
	Minimum channel functionality	Minimum use case functionality (P2B/ P2P)	All licensed PSPs can participate (cross-domain)	Pro-poor governance (input by all participants)	Central bank governance involvement	Expanded use cases	Recourse	Not-for-loss
KWiK (Angola)	✖	-	✖	✖	✖	-	-	✖
IPN (Egypt)	✖	-	✖	-	✖	-	-	-
PesaLink (Kenya)	-	✖	-	✖	-	-	-	-
LeSwitch (Lesotho)	✖	-	-	-	✖	-	-	-
Virement Instantané (Morocco)	✖	-	-	✖	✖	-	-	-
eKash (Rwanda)	✖	-	✖	✖	✖	-	-	-
PayShap (South Africa)	✖	-	-	✖	-	-	-	✖
Tunisia mobile money	-	✖	-	✖	✖	-	-	✖
TCIB (SADC)	-	✖	-	-	✖	-	-	-
PAPSS (WAMZ)	✖	-	✖	✖	✖	-	-	✖

Twelve systems meet the basic level criteria. Of those, six systems are almost at the progressed level (see Table 2.8). The biggest barriers that keep them from moving towards a progressed level is the lack of cross-domain interoperability. Notably, the mobile money systems are all at the lower spectrum of inclusivity even though their footprint in the market is large. This is because they do not provide cross-domain interoperability and their industry-led origins often mean the central bank is not involved in governance. The chances that any of them move to a mature level increase if they seek interoperability with a bank system in their country. As for eNaira in Nigeria, it stands out as the only IPS across the continent that provides a direct channel for customer disputes in the system itself.

Table 2.8 | Basic category breakdown

	Basic level		Progressed level			Mature level		
	Minimum channel functionality	Minimum use case functionality (P2B/ P2P)	All licensed PSPs can participate (cross-domain)	Pro-poor governance (input by all participants)	Central bank governance involvement	Expanded use cases	Recourse	Not-for-loss
Meeza Digital (Egypt)	✖	✖	-	-	✖	-	-	-
EthSwitch (Ethiopia)	✖	✖	✖	-	✖	-	-	-
Gamswitch (The Gambia)	✖	✖	-	✖	✖	-	-	-
Kenya mobile money	✖	✖	-	-	-	-	-	-
Madagascar mobile money	✖	✖	-	✖	-	-	-	-
MarocPay (Morocco)	✖	✖	-	✖	✖	-	-	-
SIMO (Mozambique)	✖	✖	-	-	-	-	-	-
eNaira (Nigeria)	✖	✖	✖	-	✖	-	✖	-
Nigeria mobile money	✖	✖	-	-	✖	-	-	-
RTC (South Africa)	✖	✖	-	✖	-	-	-	-
Taifa Moja (Tanzania)	✖	✖	-	✖	-	-	-	-
Uganda mobile money	✖	✖	-	✖	-	-	-	-

At the progressed level, the nine IPS have made strides towards creating more working groups and forums to allow non-bank participants a seat at the decision-making table. This acknowledges the rising market share of non-banks in their respective digital payment markets.

As for how inclusivity is likely to evolve at the system level, NIP in Nigeria currently has the highest likelihood of reaching mature inclusivity in the future (see Table 2.9). It has integrated all use cases, including G2P payments and cross-border payments, the latter through integration with PAPSS. The only mature criteria it has not yet fulfilled have to do with providing additional recourse channels for end users who need to dispute a transaction. In fairness, recourse is a development area for all the other systems and complex to implement, as it requires additional resources, monitoring, and additional/continuous participant engagement. Only eNaira in Nigeria included a direct channel for end-user recourse, through a dedicated helpdesk.

ZIPIT (Zimbabwe), in contrast, is the progressed system with the most remaining criteria to fulfill to become mature, as it does not yet operate under not-for-loss principles to allow for the lowest-possible cost for end users. However, ZIPIT does provide a unique approach to end-user recourse in that it captures contested transactions on a Zimswitch platform. It then requires the query to be resolved within 48 hours, after which it acts as an arbitrator should the parties not come to a settlement. While this does not fulfill the end-user recourse criteria as this approach does not constitute a separate, direct recourse channel to end users, it gives ZIPIT a better monitoring tool to hold institutions accountable.

Other examples of approaches to recourse include that for MauCAS in Mauritius a Financial Services Ombudspersons office has been set up for end users to raise issues and complaints with any financial institutions regulated by the Financial Services Commission or the Bank of Mauritius (BoM). The complaints can be escalated to the central bank through the ombudsperson. There is, however, no recourse avenue for MauCAS specifically, and the process to escalate through the ombudsperson may be time consuming. BoM is exploring strategies to address this concern.

The overall finding is that end-user recourse processes remain in nascent stages in most systems and more research is needed to identify best practices. Nonetheless, recourse remains an important element for inclusivity, as trust and concerns of fraud are key barriers to uptake of instant payments among individual end users (see more in Chapter 3 on consumer research).

Table 2.9 | Progressed category breakdown

	Basic level		Progressed level			Mature level		
	Minimum channel functionality	Minimum use case functionality (P2B/ P2P)	All licensed PSPs can participate (cross-domain)	Pro-poor governance (input by all participants)	Central bank governance involvement	Expanded use cases	Recourse	Not-for-loss
Ghana MMI	✖	✖	✖	✖	✖	-	-	✖
GIP (Ghana)	✖	✖	✖	✖	✖	-	-	✖
Natswitch (Malawi)	✖	✖	✖	✖	✖	-	-	✖
MauCAS (Mauritius)	✖	✖	✖	✖	✖	-	-	✖
NIP (Nigeria)	✖	✖	✖	✖	✖	✖	-	✖
TIPS (Tanzania)	✖	✖	✖	✖	✖	-	-	✖
NFS (Zambia)	✖	✖	✖	✖	✖	-	-	✖
ZIPIT (Zimbabwe)	✖	✖	✖	✖	✖	-	-	-
GIMACPAY (CEMAC)	✖	✖	✖	✖	✖	-	-	✖

Compared to 2023, when 12 IPS were unranked and only five had reached the progressed level of inclusivity, this year's placements show more systems with progressed inclusivity, now at nine systems. MauCAS (Mauritius), NIP (Nigeria), TIPS (Tanzania), and ZIPIT (Zimbabwe) moved to progressed. All four systems provided information that non-bank PSP have avenues to input into decision making, for example through working groups. They therefore now fulfill the pro-poor governance criterium.

IPS stakeholders are increasingly aware of the ways in which inclusivity motivates participants to take part and therefore increases end-user access. IPS will be able to achieve near-term inclusivity gains by focusing on enabling end-user recourse and unlocking further use cases. At the ecosystem level, customer demand for convenience and a seamless user experience is an additional factor driving the continuous push for all-to-all interoperability across the continent, which will similarly improve inclusivity.

In the next chapter, we show the state of the inclusive instant payments market from the end-user perspective through end-user research. The findings from five countries show complementary patterns of how end users are accessing payment services and what drives or inhibits this use.

Case study |

MauCAS Mauritius

Origin story

Challenge

The Republic of Mauritius has a strategy to further digitalize its economy. Even though over 90% of adults in the country own a financial account, the economy remains predominantly cash based (Bank of Mauritius, 2024). Furthermore, prior to 2017, the country's mobile money operators (MMOs) lacked interoperability, resulting in a fragmented user experience. Integrating mobile and bank payments emerged as imperative to enhance accessibility and streamline transactions, in the hope of driving digital payment adoption.

Adding value

In line with the country's strategy, the objective of the Bank of Mauritius (BoM) is to set up a robust, secure and efficient digital payments ecosystem that would support the digital transformation of the economy. Additionally, one of BoM's policy objectives is to provide the public with low cost, fast, universally accessible and transparent means of payment.

The BoM initiated the implementation of the Mauritius Central Automated Switch (MauCAS) card payment system in 2017 in pursuit of that goal. The project aimed to provide another option for processing card payments given high international merchant discount rates. After calls for a system that could also facilitate mobile interoperability, the BoM expanded the project beyond card payments to implement a fast payment system, the MauCAS Instant Payment System (IPS).

The two components of MauCAS were launched in August 2019. The switch unites credit and debit electronic fund transfers (EFT) and e-money rails in one cross-domain system that provides all-to-all interoperability between banks and non-bank payment service providers (PSPs). The goal is to reduce digital payment costs (especially for merchants), to stimulate competition, and to advance broader digitalization of the economy through e-government and e-services transformation.

The IPS timeline

In 2013, the BoM issued the Guideline on Mobile Banking and Mobile Payment Systems to provide a framework for mobile banking and mobile payment services in Mauritius. In the subsequent years, mobile payments adoption slowly picked up, but did not reach critical volume, because each service provider was operating in a silo model due to the absence of interoperability among the operators.

In 2019, Mauritius promulgated the National Payment Systems (NPS) Act 2018 to provide comprehensive payment legislation for safe and sound payment space. This framework also provides a conducive environment for the entry of non-bank payment service providers in the payment landscape, innovation of the payment eco-system, and the operation of MauCAS. The aim of the NPS Act was to modernize the Mauritian retail banking system with an appropriate framework for digital payments (Bowmans, 2021).

In 2018, the central bank issued a request-for-proposal to select a technical solution provider to develop the IPS procedures and system. Testing and certification with all commercial banks took place in early 2019 and the system launched in August 2019. Initial capabilities included card payments and instant payments. MauCAS onboarded banks and non-banks concurrently, a process that was complete by August 2020. Post-launch, the BoM implemented a payment portal for government services, consistent with the government's digitalization strategy. Repeated national marketing and sensitization campaigns, including via print media, played a crucial role in MauCAS' roll-out strategy; these efforts played a pivotal role in building trust. Today the MauCAS brand is well known in the country and is facilitating the country's digital transformation.

In September 2021, the BoM introduced quick response (QR) code payments through the MauCAS QR code, which is powered by the central bank and based on EMVCo international standards.[41] This QR code has been designed to be fully interoperable and allow payments at any merchant location using any mobile app. QR codes have increased visibility and adoption of MauCAS, especially among smaller merchants. The QR code has also been instrumental in the digitalization of government payments and services.

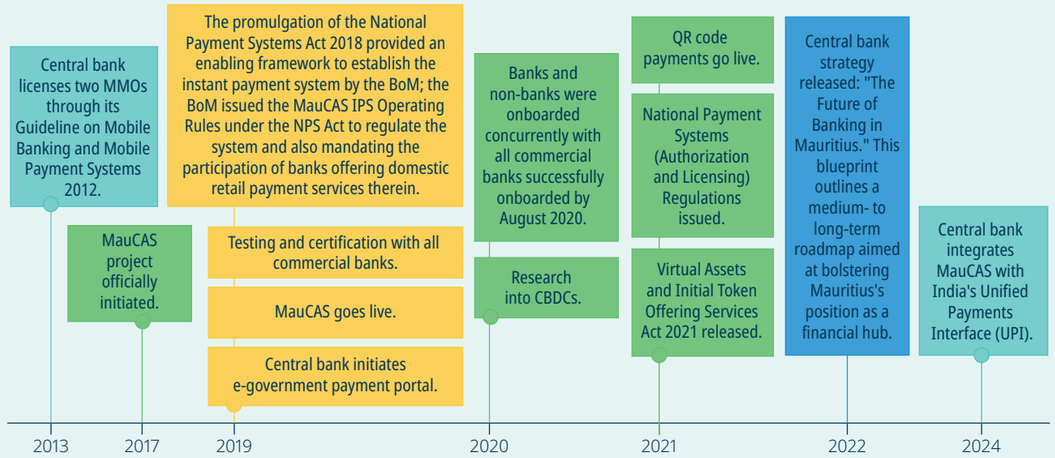
As electronic money and digital payments became increasingly widespread, the BoM sought to provide more streamlined guidelines to prospective PSPs, including clarifying the authorization process for payment systems and the licensing of PSPs (Bowmans, 2021). The National Payment Systems (Authorization and Licensing) Regulations 2021 aimed to achieve this.

In 2022, the central bank and financial institutions released the BoM strategy: the Future of Banking in Mauritius. This strategic plan provides a roadmap for Mauritius to become a leading international financial center. It includes information on creating a state-of-the-art cybersecurity strategy and issuing a central bank digital currency (CBDC), the Digital Rupee (Bank of Mauritius, 2024; Chuttoo, 2023).

The most recent addition in 2024 has been to integrate MauCAS with India's Unified Payments Interface (UPI). Travelers between the two countries can use MauCAS QR code payments. This eliminated the need for a third-party currency for settlement. Drawing inspiration from the European Union Payment Services Directive, the BoM conducted market research for the India bilateral agreement, which is a cornerstone of the strategy to develop cross-border payment solutions. The BoM is also in ongoing discussions about regional integration, for example with the Common Market for Eastern and Southern Africa (COMESA), and Transactions Cleared on an Immediate Basis (TCIB) in the Southern African Development Community (SADC).

The BoM tracks the total number of users, transaction volumes, and cash circulation, yet faces challenges in collecting comprehensive data on merchant cash payments. As clearer data emerges, it will assess whether it is achieving the targets set out in its strategy to reduce cash transactions.

MauCAS timeline



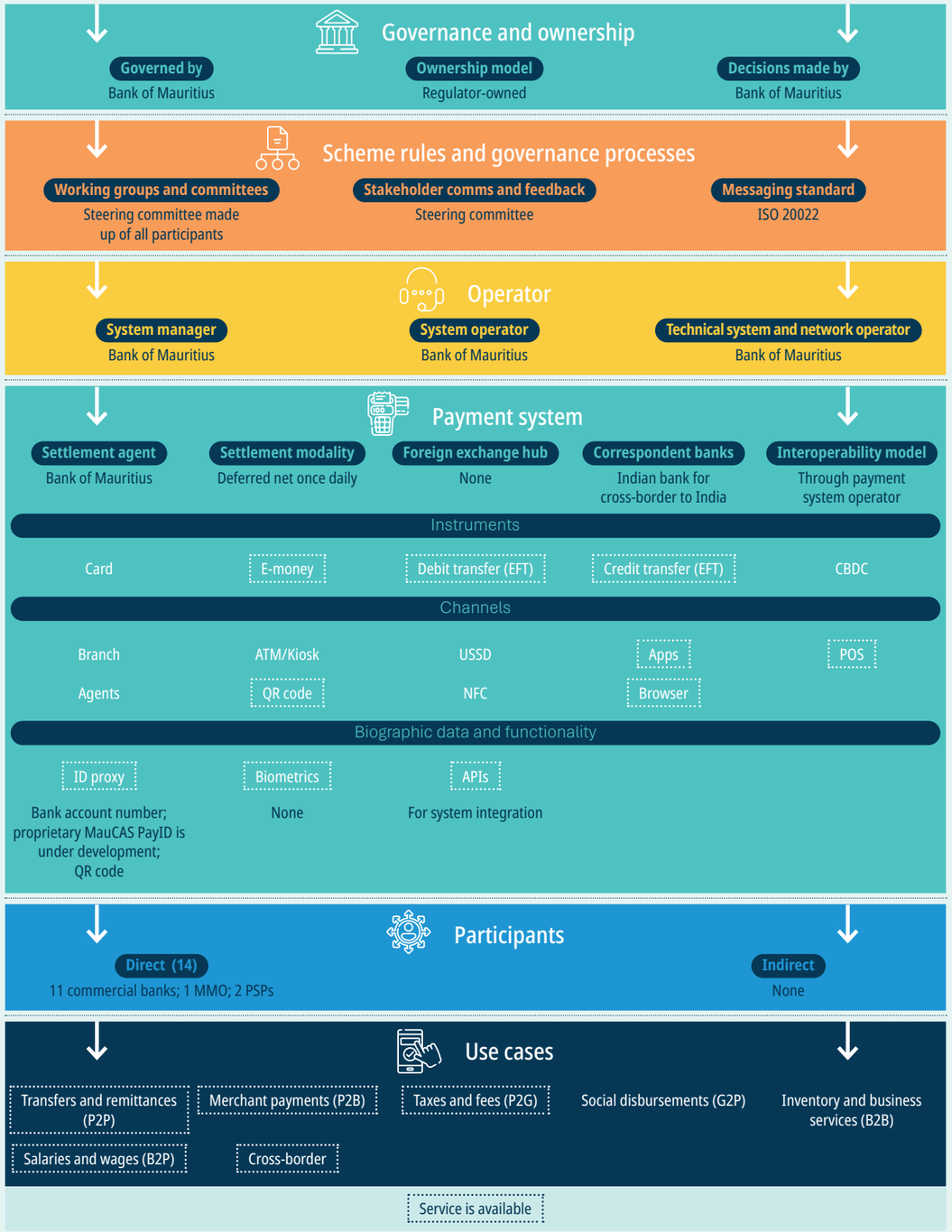
Source: Bank of Mauritius, 2024

41 EMV specifications ensure that payment products are designed to function smoothly and securely across all platforms. This is important for delivering the level of safety and reliability that merchants, businesses, and consumers worldwide anticipate in their payment transactions (EMVCo, 2024).

Governance and operations

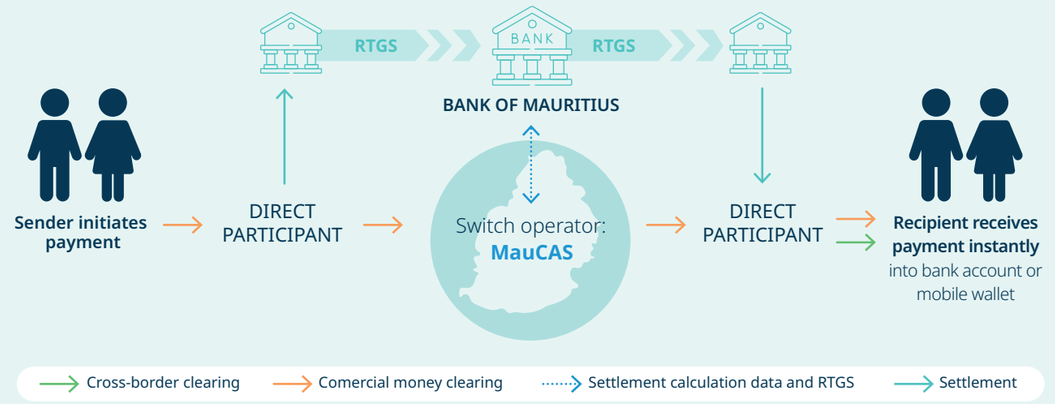
Payment system overview

MauCAS model overview



The MauCAS cross-domain IPS, operated by the BoM, directly links all licensed PSPs and banks for clearing. It currently has 14 participants, with more in the integration pipeline. Participation in MauCAS is compulsory for all retail banks. All licensed PSPs hold a direct settlement account on the BoM's RTGS, meaning that all settlement is done with central bank money.

MauCAS transaction flow



MauCAS settles transactions on a net deferred basis via the RTGS. Settlement occurs once daily, and transactions made on weekends and public holidays settle on the next business day. Every participant is required to maintain a settlement account on the RTGS to streamline the process and eliminate dependency on a sponsor bank.

In the case of cross-border payments to India, the BoM has established a network-to-network agreement with the National Payments Corporation of India for integrating MauCAS IPS with UPI. Settlement occurs in Indian rupees (INR), facilitated through a designated settlement bank that also has branches in Mauritius. Domestic settlement is done in Mauritian Rupees (MUR).

Governance

The BoM fully owns and governs MauCAS as the system operator, scheme manager, and the overseer. The IPS is therefore regulator-owned and operates under a central-bank governance typology. MauCAS' steering committee, led by the head of payment systems at the BoM, includes representatives from all IPS participants. The payment systems' technical team manages the day-to-day operations, while the BoM's IT team oversees infrastructure management. The banking committee, chaired by the Governor of the BoM and consisting of Chief Executive Officers of all commercial banks, discusses major developments. The governance is therefore collaborative, with all participants allowed to directly integrate with the system and to provide input into decisions at the system level.

Functionality

MauCAS facilitates browser, app, QR code, and point of sale (POS) transactions. Unstructured supplementary service data (USSD) is notably absent, as the IPS focuses on smartphones as the main payment device. Although the percentage of households with access to smartphones is notably high at 81.4% (Statistics Mauritius, 2021), the exclusion of USSD is a potential inclusivity barrier. Both static and dynamic QR codes, based on ISO standards, are available in the market. End users can make transfers using an account number or a QR code. Account-to-account transactions are the most popular, followed by QR payments. The BoM is working on the introduction of aliases for payment on the IPS for enhanced customer experience.

Recognizing that end users' digital journey would not be complete without digital onboarding, the BoM established a bridge between its licensees and government and utility service databases to facilitate end-to-end know-your-customer (KYC) verification. This is unique on the African continent and could provide learnings for other IPS stakeholders. Although separate from MauCAS, the bridge project will link all participants to facilitate digital identity verification.

The BoM intends to leverage its regulatory sandbox to allow participants to test open banking features and to thereafter finalize the framework on open banking currently under development. This approach aims to instill trust in open banking among participants, while providing an opportunity to identify and mitigate risks.

Technical standards and use cases

MauCAS operates using ISO 20022 for payments messages. An application programming interface (API) integrates participants that have not yet transitioned to the standard. Technical readiness is a prerequisite for participation, with the BoM assisting with integration but not providing financial aid.

Currently, the IPS enables all use cases apart from government-to-person (G2P) payments and business-to-business (B2B) payments. The person-to-government (P2G) payments include taxes, license fees, penalties, judiciary fines, and customs payments. MauCAS plans to include payments to other government agencies and utility service providers in the future. Although G2P payments are not yet enabled, they are part of the IPS roadmap.

Business model

The BoM fully funded the IPS and operates it on a not-for-profit basis. In line with the objective of the BoM to promote digitization of payments in Mauritius, the BoM does not apply any fee to participants of the IPS for processing of the transactions. Currently, fees for participants are waived, though there are nominal charges to end users. The BoM does not directly regulate participant fees to the end user, though it does actively monitor them to ensure fairness and transparency. To prevent fee abuse, the BoM established participant and merchant interchange fees, set at 0.2% and 0.3% of the transaction amount, with a cap of US $0.39 (MUR 17) and US $0.57 (MUR 25), respectively. Effective June 2024, MauCAS has eliminated fees for account-to-account transfers within the IPS in an attempt to further incentivize digital payment adoption while maintaining equitable conditions for all participants. Eliminating fees is a big step towards establishing a digital public infrastructure (DPI) for payments.

Scheme rules

The scheme rules constructed by BoM outline operational guidelines and compliance requirements. MauCAS scheme rules are available to all participants and establish the framework for the IPS, addressing participant types and their management, including admission, suspension, and removal. It outlines governance, confidentiality, compliance, and amendment procedures. The document details transaction processing, account and system operations, security controls, and fee structures. It also includes provisions for dispute management, business continuity, and the finality of payments, emphasizing security and regulatory compliance. Since consumer protection and trust in payment systems are critical for the financial system and user adoption, the BoM gives high importance to these factors. The MauCAS IPS Operating Rules mandate full confidentiality between MauCAS and its participants. The Rules also provide for Dispute Management of transactions routed through the IPS.

Before issuing PSP licenses, BoM requires participants to establish an end-user recourse mechanism that outlines dispute resolution procedures and provides an escalation matrix. As part of its oversight function, the BoM has a close monitoring of user complaints and takes appropriate actions where required. Aggrieved customers may have recourse to the ombudsperson for financial services.

Volumes and values processed by the payment system

Over the past four years (2020-2023), the BoM has closely monitored transaction volumes and values processed by the payments system, distinguishing between on-us transactions within the same bank/PSP and not-on-us transactions involving different banks and routed through the IPS; on-us transactions are the most prevalent.

MauCAS has seen an exponential increase in annual transaction volumes and values since its first full year of operations in 2020. Notably, between 2022 and 2023, there was a significant surge in activity attributed to increased digital payments adoption. MauCAS has an average transaction size of around US $80.

MauCAS transaction volumes and values

Source: Bank of Mauritius, 2024

Regulation

The MauCAS IPS and Card Payment System Operational Rules issued under the National Payment Systems (NPS) Act, operational since 2019, governs MauCAS operations, ensuring transaction confidentiality. MauCAS utilizes transaction data solely to fulfill its objectives. The MauCAS IPS Operating Rules mandate the participation of banks offering retail payment services in the IPS. While the NPS Act provides an enabling environment for new entrants, it also contains provisions to safeguard the interests of consumers (Bank of Mauritius, 2020).

Inclusivity learnings

According to the AfricaNenda Inclusivity Spectrum, MauCAS has achieved a progressed level of inclusivity. The system focuses on key functionality like P2P and P2B transactions, meets inclusive channel requirements, and involves all licensed PSPs in its IPS as well as in decision-making processes. Strong central bank leadership enables streamlined integration and concurrent updates of regulatory frameworks.

Looking forward, the central bank must maintain sufficient capacity to manage all the roles it fulfills for the IPS. Also, it will be crucial to keep involving participants in the input process to ensure continued buy-in.

To move to a mature state of inclusivity, MauCAS could expand to include all use cases. Regular digital income streams have proven to be instrumental in driving digital payments uptake.

In designing and rolling out MauCAS, several key learnings emerged:

- **Mandating bank participation improves roll-out speeds**: The strong leadership by the central bank has helped the system launch more quickly by mandating bank participation. There is potential to provide more technical support to non-banks to accelerate onboarding.
- **Cross-border integration amplifies impact:** Integrating MauCAS with India's UPI expands the system's reach and relevance, unlocking new opportunities for cross-border transactions. This integration not only enhances convenience for customers but also drives growth and scale within the system, fostering its overall sustainability and relevance in the market.
- **QR code distribution drives adoption, creates value for end users**: Standardized QR code distribution simplifies payment processes for customers, especially smaller merchants. By offering a more affordable and convenient payment option, MauCAS enhances the overall customer experience, driving adoption and usage, and contributing to the system's growth and sustainability.
- **Sensitization campaigns are vital for trust**: National awareness campaigns and sustained marketing efforts are essential for driving adoption and usage of MauCAS. By educating stakeholders and raising awareness about the benefits of an IPS, these campaigns facilitate widespread acceptance and participation and foster a supportive ecosystem that ensures long-term viability.
- **Fee waivers and preventing fee abuse play a crucial role in driving adoption**: MauCAS's efforts to reduce fees as much as possible encourage digital payment adoption while ensuring equitable conditions for all participants and end users. These efforts contribute to its evolution into digital public infrastructure for payments.
- **PSP mandates to ensure end-user protection are key:** Before issuing PSP licenses, BoM mandates participants to establish an end-user recourse mechanism with dispute resolution procedures and an escalation matrix. Such regulatory measures set a promising best practice for other schemes to emulate.

3

Evolving digital payment end-user behavior

To complement the supply side landscape, and to better understand the experiences end users have with digital payments, AfricaNenda conducted end-user research in five countries—Algeria, Ethiopia, Guinea, Mauritius, and Uganda. The findings come from surveys of over a hundred individuals and micro, small, and medium enterprises (MSMEs) in each country, as well as in-depth one-on-one interviews with a sub-set of respondents—all conducted between February and March 2024. This year's research complements those done for the 2022 and the 2023 SIIPS reports, using a similar methodology, as outlined in Annex A.

The study sample focused on the "emerging market''—a group of low-income people and MSMEs that are typically underserved by payments providers, but who live in urban and peri-urban areas where payment services are available. Within this demographic, the sample prioritized digital payment users to better understand the constraints that early and habitual users face beyond simple access, as access barriers often go beyond issues related to IPS design (see Annex A for sampling details). Since the sample overrepresents a specific demographic, the end-user research findings are not nationally representative, but can be interpreted as directional trends within the surveyed countries.

Convenience emerges as the leading driver of digital payment usage among the respondents across all the sampled countries. Users find digital payments easy to use and fast, which saves them time and money. Furthermore, receiving funds digitally produces a transaction history as a byproduct, which creates the potential for better financial management.

Despite these clear benefits, poor mobile network reliability remains a significant barrier among digital payment users, as it prevents access to digital payment platforms or significantly disrupts the user experience. In addition, respondents voiced concerns about data privacy, about the difficulty they face correcting or reversing incorrect transactions, and about the fact that digital payments are not universally accepted.

With that summary, this chapter unfolds first by providing an overview of the state of digitalization and financial inclusion in this year's countries, followed by the end-user survey data for each country, and insights into the drivers and barriers to digital payment usage. The chapter concludes with ideas on how the end-user insights could inform IPS design or PSP solution delivery.

3.1 | Country context

Since instant payments rely on essential public-private infrastructure like electricity and telecommunications networks, it goes without saying that a country's level of digitalization will influence how easily end users can access and utilize digital payments. Levels of financial and digital inclusion are outcome indicators as well as preconditions for the use of digital payments, as they reflect the market conditions that underpin end users' ability to use digital payments.

The surveyed countries show variation in the degrees of digital payment inclusion. Researchers categorized countries as either nascent, emerging, or leading in digital payment adoption based on the share of its population using digital payments, according to the Global Findex 2021 (see Table 3.1 | Digital and financial inclusion across sampled countries).[42]

Table 3.1 | Digital and financial inclusion across sampled countries

		Leading cluster	Emerging cluster		Nascent cluster	
		Mauritius	Algeria	Uganda	Ethiopia	Guinea
Financial inclusion						
Digital payment inclusion	Proportion of the population using digital payments over the past year. [Findex 2021]	80%	34%	63%	26%	28%
Financial account penetration	Proportion of the adult population that owns a formal account. [Findex 2021]	91%	44%	66%	46%	30%
Number of mobile money agents	Number of registered mobile money agent outlets per 1,000 km^2. [IMF 2022]	852	-	2392	139	547.4 (2021)
Number of branches (IMF)	Number of commercial bank branches per 100,000 adults. [IMF, 2022]	14.6	5.3	2.3	12.1	2.7
Digital inclusion						
Mobile network coverage	Proportion of the population within range of at least 4G /LTE mobile-cellular signal. [ITU, 2022]	99%	86%	31%	33%	29% (2021)
Internet penetration	Proportion of the population using the internet from any location over the past 3 months. [ITU, 2022]	76%	71%	10% (2021)	19%	34%
Mobile phone penetration	Proportion of the population that owns a mobile (cellular) or smart telephone with at least one active SIM card for personal use. [ITU]	83% (2020)	88% (2018)	49% (2021)	58% (2016)	77% (2018)
Smartphone penetration (ITU)	Proportion of individuals using a smart telephone with at least one active SIM card for personal use. [ITU]	59% (ITU, 2020)	29% (GSMA, 2018)	16% (GSMA, 2021)	43% (GSMA, 2021)	15% (GSMA, 2020)
Smartphone adoption (GSMA)	Percentage of mobile phone connections (excluding licensed cellular IoT) which are through a smartphone. [GSMA]					

42 In nascent countries, 30% or less of the adult population use digital payments. In emerging countries, between 31% and 65% of adults use digital payments. In leading countries, 66% or more of the adult population use digital payments.

Consider the following country context:

- **Algeria:** Classified as emerging, Algeria displays relatively low levels of digital payment and financial inclusion, despite high levels of digital inclusion (see Table 3.1). The Algerian financial market has a dominant service provider offering card and payment apps. This has driven some uptake and usage of digital payments, with point-of-sale (POS) as the most common digital payment channel. Moreover, students receive university scholarships via bank accounts, which drives digital payment usage (Ministry of National Education, 2024). A lack of familiarity with digital payments coupled with a limited choice of digital payment providers prevents respondents from using them more than they do.
- **Ethiopia:** Nascent in its adoption of digital payments, Ethiopia is similar to Algeria in that banks dominate the digital payment landscape. The country also has a relatively high ATM penetration rate at 9.6 per 100,000 adults (GSMA, 2023a). Though smartphone penetration is the second highest of the countries surveyed in 2024 after Mauritius, internet penetration rates and mobile network coverage are comparatively low. The government in Ethiopia made using digital payments mandatory for fuel payments in Addis Ababa and has been strongly promoting the use of cashless methods for tax and utility payments (GSMA, 2023a). This is driving initial usage of digital payments. Additionally, long lines in banking branches and at ATMs motivate end users to turn to digital payments. However, the country's heavy reliance on a single primary mobile network provider often leads to network congestion.
- **Guinea:** Digital payments, bank account penetration, and digital inclusion levels are all low in Guinea, resulting in its classification as nascent with digital payments. Despite this challenging environment, mobile network operators (MNOs) are successfully driving digital payment usage among those who can access them. The USSD channel dominates among respondents. The main payment provider, Orange Money, reduced transaction costs and customer service is widely available (UNCDF, 2023b). Nevertheless, fraud and scams present a unique challenge for users and deter non-users from adopting digital payments.
- **Mauritius:** Classified as leading, Mauritius' high levels of digital and financial inclusion bode well for digital payment usage. Banks have been driving digital payment usage so far through the country's high bank account, ATM, and POS device penetration rates. The high bank account penetration in Mauritius has been partially driven by the child allowance program, which enables recipients to access the transfers from a bank account once they reach their 18th birthday (Mauritius Revenue Authority, 2023). Nonetheless, barriers remain. For example, merchants reportedly are reluctant to offer card payments for low-value transactions due to commissions imposed on payments. Apps are emerging as a preferred payment channel in response to this barrier. Apps are also resolving interoperability challenges between interbank transactions by offering lower-cost transactions and giving users the ability to manage multiple bank accounts on a single platform.
- **Uganda:** Classified as emerging, Uganda stands out as having the highest penetration of mobile money agents, coupled with the second-highest rates of digital payment and bank account penetration after Mauritius. Despite this, the country has low levels of digital inclusion. MNOs are at the forefront of driving digital payment usage in the country, with USSD emerging as the predominant channel. The high agent presence and high levels of cross-border transactions are core usage drivers among surveyed digital payment users. However, respondents voiced that they struggle to afford the transaction charges and that cash withdrawal charges are high. The latter has been partially influenced by the government's introduction of a 0.5% tax on cash withdrawals (UNCDF, 2021).

Digital payment usage patterns

Despite varying levels of digital payment inclusion, all the surveyed countries, except for Algeria, show a high share of digital payment users using digital payments at least on a weekly basis. In other words, those who have adopted digital payments use them frequently. A quarter of surveyed digital payment users in Guinea and Uganda use digital payments every day. In Guinea, MSMEs are driving high levels of daily usage, whereas in Uganda, the MSMEs and individuals demonstrate similar daily usage levels. Algeria is the only surveyed country where almost half of the surveyed digital payment users use digital payments less frequently than once a week.

Usage patterns by different user groups

User groups within each country exhibit varying levels of weekly digital payment usage (see Table 3.2). A larger share of MSME respondents than individual respondents use digital payment at least once a week in all countries, except for Uganda. This is because MSMEs make more payments and face distinct digital payment usage drivers (see Box 3.1). Surveyed MSMEs in Ethiopia and Mauritius reported that they adopted digital payments because a bank agent promoted them, whereas MSME respondents in Algeria, Guinea, and Uganda were more motivated by their customers asking to pay digitally.

Table 3.2 | Country specific user group analysis

	All respondents		Individual respondents		MSME respondents	
	MSME vs. individuals	Age	Gender	Frequency of income	Gender	Size of business
Algeria	**MSMEs** use more	**Younger** use more	No significant variance	No significant variance	**Men** use more	No significant variance
Ethiopia		No significant variance		**Frequent** use more	No significant variance	**Larger** use more
Guinea		**Older** use more	**Women** use more	**Frequent** use more	**Men** use more	No significant variance
Mauritius		**Younger** use more	No significant variance	**Infrequent** use more	No significant variance	
Uganda	No significant variance	**Younger** use more	**Men** use more	**Frequent** use more		

*Legend for color gradient: Gap in percentage points (pp) between two user groups in terms of the proportion of users that use digital payments at least once a week. * Younger means respondents that are 18-29 years old.*

5-9 pp | 10-15 pp | Larger than 15 pp

> "I was introduced to digital payments when I was in a queue while depositing money in a bank. The bank staff approached me and told me that I should use mobile banking digitally to save time, and I began using it."
>
> — Male, user, business consumer, Ethiopia

Box 3.1 | User experience: Drivers of digital payment usage among merchants

Selamawit is a small enterprise owner and agent. She considers digital payments to be a safe way to transact large sums of money. "*You cannot just carry around a large sum of money in cash. It is obvious that using mobile transfers is much better than carrying around, say five hundred thousand birr.*"

Digital payments are also convenient in that they save her clients' time. "In terms of saving time, if you go to {Provider 4}, the length of the queue would be frustrating. With digital payment methods, you don't waste your time. If you are selling goods, the client would not change their mind, because the payment method is instant. But, if you let customers go to a bank to make a withdrawal and come back to make the payment, they could change their mind and go without buying it."

Though most of the countries showed similar usage rates between men and women, gender is nonetheless playing a role in how people perceive and embrace digital payments. For example, female respondents voiced that using digital payments is often more challenging for them than for men. They say that low literacy levels, low incomes, and lack of financial independence discourage them from using digital payments. Gender differences amongst MSMEs are most pronounced among respondents in Algeria, where some of the interviewees view themselves at a disadvantage in using digital payments due to societal norms and a lack of financial independence (see Box 3.2). Among individual respondents, gender differences are most stark in Uganda, where the perceived high transaction costs are preventing women from paying digitally.

Box 3.2 | User experience: Barriers and challenges that women-owned enterprises experience when it comes to digital payment usage.

Sihem, who runs a clothing tailoring and ironing micro enterprise, only uses cash for her business transactions. She believes women are barred from using digital payments due to the patriarchal nature of their community. *"Families won't approve this freedom and this technology."* She says that the community sometimes does not allow women the freedom to transact through digital payment methods. *"It's because this method would give the Algerian female a certain freedom that is not acceptable in some Algerian family mentality."**

She also acknowledges that men have larger control over finances than women: *"In our communities, it is the man who controls (finances)... so basically the man will deal with it (digital payments) better than a female. Even if she's single, she could control the credit card until she is betrothed to a man; and then he takes control."**

** Disclaimer: This quote reflects the views of the speaker and should not be interpreted as the opinion of the entire Algerian sample or of the AfricaNenda Foundation.*

Age also influenced digital payment usage rates. At an aggregate level, respondents below the age of 30 use digital payments more frequently than older individuals. In Algeria and Mauritius, government policy related to paying university scholarships and child allowances into bank accounts is driving digital payment adoption among the younger generation. In most countries, older generations (+50 years and above) are perceived as most likely to be excluded from digital payments due to low literacy, low awareness, and low exposure to digital skills.

Income regularity is another relevant factor. In Ethiopia, Guinea, and Uganda, surveyed individuals who receive income only infrequently use digital payments less often compared to those with more regular incomes. This is because infrequent income earners perceive that their low income either hinders their ability to use digital payments or diminishes the need for these services.

In Mauritius, however, infrequent earners use more digital payments than their counterparts. This is likely because Mauritius has higher digital payment inclusion rates and higher income levels overall. This allows even infrequent earners to leverage digital payments regularly, often making smaller yet more frequent transactions.

Payment channels

Apps are the most dominant payment channel for surveyed users in both Ethiopia and Mauritius, where smartphone penetration is higher compared to the other countries (see Table 3.3). Banking apps and mobile banking services offer enhanced convenience compared to traditional brick-and-mortar-enabled methods such as ATMs and cards, thus emerging as the preferred choice for transactions. Moreover, users are increasingly gravitating towards these mobile-based solutions, as they offer higher reliability and functionality compared with the potential malfunctions of POS devices.

POS and ATMs remain the main channels among users in Algeria, likely because of the presence of a dominant provider who promotes them, as mentioned in the Algeria overview. Respondents nonetheless reported that they are increasingly using mobile banking due to long queues at ATMs. Respondents in Guinea and Uganda, in contrast, primarily use USSD. In these countries, mobile banking services leverage the USSD channel to reach those who cannot access the internet or a smartphone.

Table 3.3 | Most used digital channels[43]—country analysis

Country	Most-used channel	Second most-used channel	Third most-used channel
Algeria	POS	ATM	App
Ethiopia	App	USSD	ATM
Guinea	USSD	App	ATM
Mauritius	App	POS	NFC
Uganda	USSD	App	ATM

- Primary digital payment channel for less than 25 percent of respondents
- Primary digital payment channel for between 25 and 49 percent of respondents
- Primary digital payment channel for between 50 and 74 percent of respondents
- Primary digital payment channel for more than 75 percent of respondents

43 The app channel only includes transactions conducted via an app without usage of NFC or a QR code.

Payment use cases

MSME respondents

In all the sample countries, save Uganda, receiving customer payments is the top digital payments use case as MSME respondents predominantly use digital means for these types of P2B transactions; in Uganda it is in second place (see Table 3.4). The business owners are often motivated to adopt digital payments in the first place because their customers want the option to pay digitally, and because they want to reduce cash handling risks.

> **"The clients suggested this method since some of them live far away and couldn't pay cash."**
>
> — Female, user, business consumer, Algeria

Table 3.4 | The top payment use cases and their level of digitalization among MSME respondents

	#	Algeria	Ethiopia	Guinea	Mauritius	Uganda
Most frequent MSME use cases ranked	1	Receive customer payments		Receive customer payments		Save business income
	2	Supplier payments		Save business income	Supplier payments	Receive customer payments
	3	Save business income		Supplier payments	Save business income	Supplier payments
	4	Staff salaries	Loan repayments	Airtime money for staff		
	5	Transport money for staff	Airtime money for staff	Loan repayments	Staff salaries	

Use cases for which less than 40% of respondents conducted a digital transaction over the past month

Use cases for which between 40 and 70% of respondents conducted a digital transaction over the past month

Use cases for which more than 70% of respondents conducted a digital transaction over the past month

Most MSME respondents also use digital payments to pay their staff salaries, transportation, or airtime. In Ethiopia and Guinea, staff salary payments are less frequent, as they are made on a task-completion basis.

Supplier payments are increasingly well-digitalized in all of the countries, due to suppliers demanding digital payments and to e-commerce. Cash transactions are still common, however, as indicated by the fact that only between 40% and 70% of respondents in Algeria, Ethiopia, Guinea, and Mauritius made supplier payments digitally in the month before the survey.

Saving business income appears in the top five for all of the countries. Its appeal lies in enabling MSME respondents to better manage and plan their finances. Digital savings also reduce the risk of theft. Only between 40% and 70% of businesses in Algeria, Ethiopia, and Mauritius reaped the benefits of digital saving in the month prior to the survey, however, suggesting more opportunities to deepen digitalization.

Individual respondents

In Guinea and Uganda, more than 70% of individual respondents used digital payments in the month prior to the survey for their most frequent use cases, including airtime and saving money (see Table 3.5). The perceived affordability of digital payments coupled with responsive customer service could be driving these high usage rates in Guinea. Uganda's extensive availability of agent networks and widespread adoption of digital payments is likewise an enabler there. In Algeria, Ethiopia, and Mauritius, in contrast, smaller shares of individual respondents are using digital payments for their everyday needs.

Table 3.5 | The top payment use cases and their level of digitalization among individual respondents

	#	Algeria	Ethiopia	Guinea	Mauritius	Uganda
Most frequent individual use cases ranked	1	Pay for household goods	Airtime	Airtime	Bus fare or fuel	Airtime
	2	Receive wage	Pay for household goods	Pay for household goods	Airtime	Save money
	3	Save money	Bus fare or fuel	Save money	Pay for household goods	Receive money from family and friends
	4	Airtime	Receive wage	Send money to family and friends	Receive wage	Bus fare or fuel
	5	Send money to family and friends	Send money to family and friends	Receive wage	Save money	Pay for household goods

Use cases for which less than 40% of respondents conducted a digital transaction over the past month

Use cases for which between 40 and 70% of respondents conducted a digital transaction over the past month

Use cases for which more than 70% of respondents conducted a digital transaction over the past month

Savings is a common use case for individual respondents in Algeria, Guinea, Mauritius, and Uganda, and is highly digitalized in all these countries except for Mauritius. This is consistent with Global Findex 2021 findings, which highlight that 32% of Ugandans saved using mobile money—one of the highest percentages in Africa (Demirguc-Kunt, et al., 2022). Respondents voiced that saving money digitally reduces chances of loss due to theft of funds, or cash misuse due to unplanned spending.

Airtime, receipt of funds, and sending money to family and friends are the next most digitalized use cases. Respondents in Ethiopia, Mauritius, and Uganda have not embraced paying digitally for transportation or for household goods, however. One barrier may be that

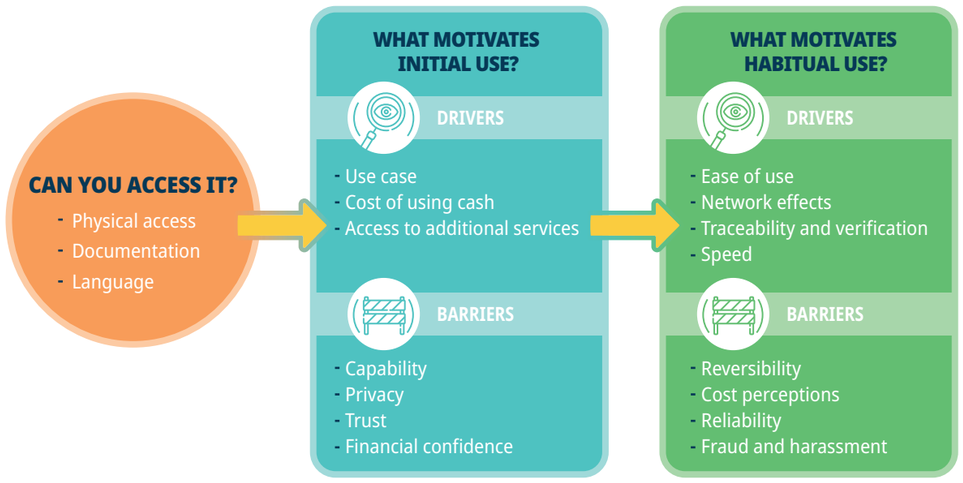
individuals who get paid daily or weekly in cash tend to then use cash for their shopping needs because the money is already in that form. This suggests that digitalizing B2P payments could also enable further P2B payment digitalization, since users who receive digital payments tend to then make payments digitally.

Enablers and barriers to adoption

The usage data shows clear opportunities to increase access to and ongoing use of digital payments in the sample countries. To capitalize on these prospects, policymakers, financial providers, and advocates need to understand the drivers and barriers that influence access, early use, and habitual use (see Box 3.3).

Box 3.3 | Access and usage of digital payments are distinct steps with associated drivers and barriers

Figure 3.1 | Barriers and drivers based on access, early usage, and habitual usage



Access: Before end users can use a digital payment product, they must have a transaction account or physical access to agent or bank locations and any necessary documentation. Language and affordability barriers can prevent access to the institutions, tools, and information needed to open an account.

Early use: Once registered, the end user must have a compelling reason to use a new digital payment method instead of cash. The decision depends on the perceived balance between the costs and benefits of use, which reflect behavioral biases, comfort, the broader ecosystem, and preferences. Awareness, user capability, and trust are critical factors that can drive early usage.

Habitual use: Over time and through habituation, digital payments become embedded into daily life, as end users move from ad hoc transactions to consistent and frequent use of digital payments for a variety of use cases. Among the range of factors that impact whether end users adopt digital payments habitually, five stand out as most significant: ease of use, network effects, reliability, recourse, and speed.

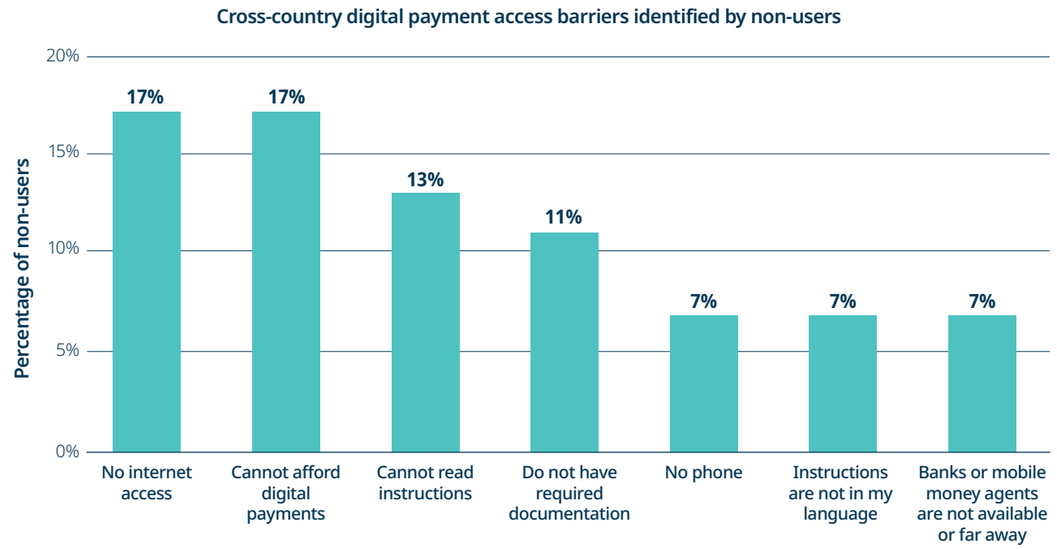
Access is a prerequisite to digital payment usage

Access to digital payments depends on network connectivity, as well as on the number of accounts and the number of bank branches and mobile money agents serving the population. Better levels of digital and financial inclusion naturally increase the potential access to digital payments. The converse is also true.

As such, complete lack of or limited internet access is a significant access barrier for surveyed non-users, especially in Uganda (see Figure 3.2). In situations where using digital payments requires an internet connection, respondents face difficulties accessing the service or are completely locked out when the internet is not available. Lack of mobile phone access is a particular barrier in Ethiopia, where apps are the primary digital payment channel and therefore non-users perceive that they need a smartphone to do any digital transactions.

Beyond these digital inclusion hurdles, respondents struggle to afford transaction costs, especially in Ethiopia and Uganda. Additionally, some respondents in Ethiopia and Mauritius find it difficult to read the instructions, which prevents them from navigating user interfaces.

Figure 3.2 | Percentage of non-users of digital payments naming each barrier



Top 3 barriers per country				
Algeria	Ethiopia	Guinea	Mauritius	Uganda
1. Instructions are not in my language 2. Cannot afford digital payments 3. No internet access/No phone	1. No phone 2. Cannot read instructions 3. Cannot afford digital payments	1. No internet access/ Cannot read instructions 2. Do not have required documentation/ Instructions are not in my language/ Banks or mobile money agent are not available or far away/Cannot afford digital payments	1. Cannot read instructions 2. Do not have required documentation 3. No internet access	1. No internet access 2. Cannot afford digital payments 3. Do not have required documentation

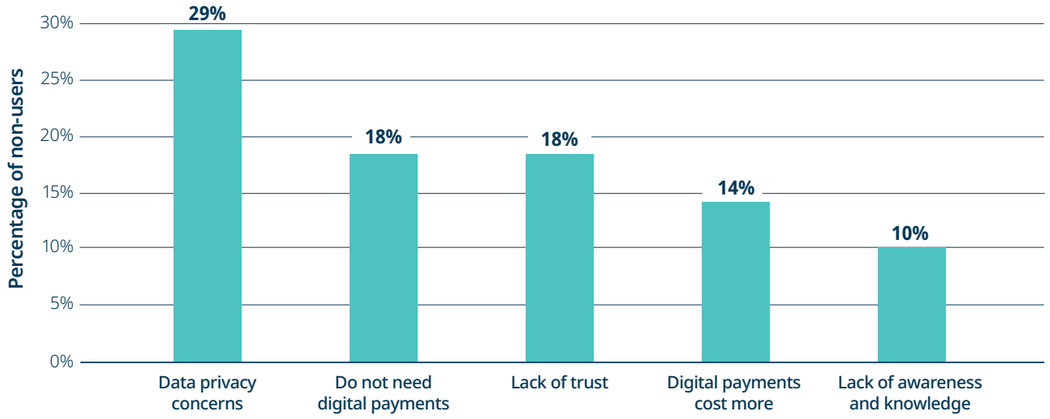
Early use

Barriers to early use

Five key barriers keep end users from adopting digital payments. Across all countries except for Ethiopia, a large share of respondents hesitates to share their personal data with payment service providers (PSPs) due to data privacy concerns. This keeps them from registering for digital payment services (see Figure 3.3). In Guinea, respondents worry that the government will monitor their transactions but also about fraudsters accessing their information. Business owners in Mauritius fear enhanced government tax scrutiny (see Box 3.4) whereas in Algeria and Uganda respondents had heard about past incidences of fraud and scams, leading them to believe that their information is not safe when shared with a PSP.

> **"{Internet based mobile applications} tend to ask user confidential information or personal information, which brings a feeling or fear in people to steal their money or access their accounts."**
>
> — Male, non-user, individual consumer Uganda

Figure 3.3 | Percentage of respondents naming each barrier



Top 3 barriers per country				
Algeria	Ethiopia	Guinea	Mauritius	Uganda
1. Do not need digital payments	1. Do not need digital payments	1. Data privacy concerns	1. Data privacy concerns	1. Digital payments cost more
2. Data privacy concerns	2. Lack of awareness and knowledge	2. Lack of trust	2. Lack of trust	2. Lack of trust
3. Lack of trust	3. Digital payments cost more	3. Do not need digital payments	3. Do not need digital payments	3. Data privacy concerns

Box 3.4 | User experience: How concerns about data privacy influence initial uptake of digital payments

Sam (not his real name) is a butcher in Mauritius who mainly transacts in cash for his business. In his view, businesses like his prefer cash because they fear tax scrutiny. *"They don't want to register officially and show how much money they make. Once we register with MRA {Mauritius Revenue Authority}, they would earn that extra money—this is why we don't register. I don't agree that I work so hard for MRA to make more money than me."*

In Algeria and Ethiopia, respondents do not feel the need to switch to digital payments. This might be because their employers, the government, and even customers still prefer using cash for most transactions.

> **"I don't need them in the current time. I mean, my job does not need me to have an account."**
>
> — Male, non-user, business consumer, Algeria

In Mauritius a longstanding familiarity with cash instills a sense of trust and reliability, and breeds reluctance to transition to digital payment options.

> **"I would rather ask him to give me cash in hand as it is a habit and I feel more secure keeping the money with me than in my bank account."**
>
> — Male, non-user, individual consumer, Mauritius

Respondents in Mauritius and Uganda often do not trust digital payments. In Uganda, respondents have concerns about the security of their funds due to vulnerability to fraud and scams.

> **"And another risk is the digital fraud. Money can be taken by any person in a way which you cannot understand or explain."**
>
> — Male, user, individual consumer, Uganda

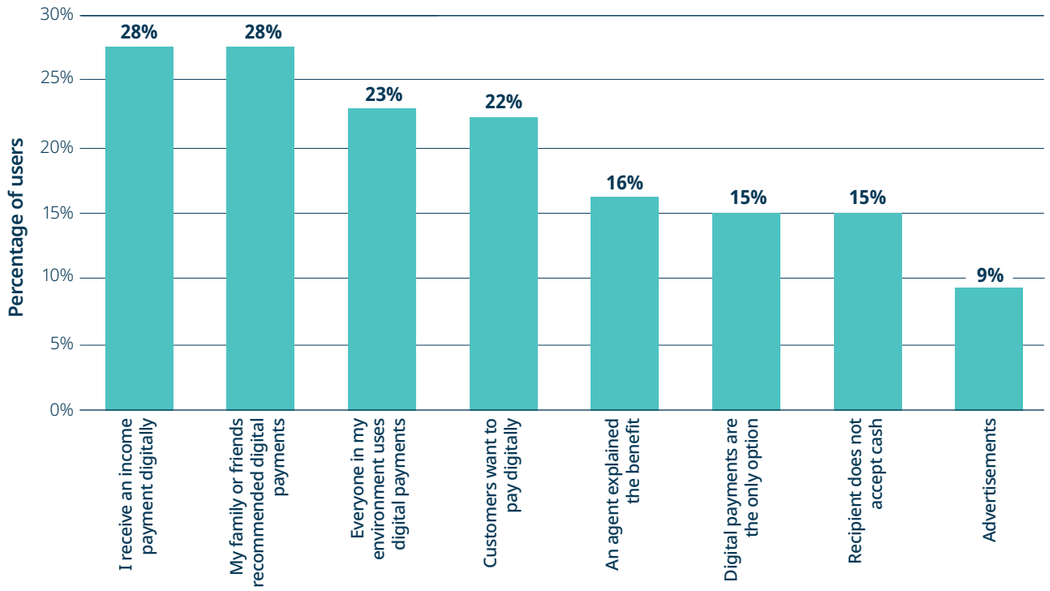
Enablers of early usage

Countering the barriers are a set of enablers that motivate early usage of digital payments. For respondents in Algeria, Ethiopia, Mauritius, and Uganda, receiving income directly into an account motivates them to use digital payments, given that their earnings are already in a digital format (see Figure 3.4). In Ethiopia, receiving income digitally from an employer is a major driver; in Algeria and Mauritius, government social transfers and grants are a more common driver.

Business owners are motivated to adopt digital payments when customers want to pay digitally. This is especially true in Algeria and Uganda. Moreover, the government mandating digital payments for selected types of transactions can be a powerful driver of initial usage (see Box 3.5).

> **"I receive my salary at the bank and then transfer it to mobile banking because majority of the time, I use mobile banking and {Provider 3}."**
>
> — Female, user, individual consumer, Ethiopia

Figure 3.4 | Percentage of respondents naming each driver



Top 3 drivers per country				
Algeria	**Ethiopia**	**Guinea**	**Mauritius**	**Uganda**
1. I receive an income payment digitally 2. Recipient does not accept cash/ Customers want to pay digitally	1. My family or friends recommended digital payments 2. An agent explained the benefit/I receive an income payment digitally	1. Everyone in my environment uses digital payments 2. An agent explained the benefits 3. My family or friends recommended digital payments	1. I receive an income payment digitally 2. Customers want to pay digitally 3. Everyone in my environment uses digital payments	1. My family or friends recommended digital payments 2. I receive an income payment digitally 3. Digital payments are the only option

Box 3.5 | User experience: The impact of government payment digitalization

The Government of Ethiopia in 2023 mandated the use of the Telebirr or CBE application for fuel payments in Addis Ababa (GSMA, 2023a). For tax payments and utility payments, authorities and strategic partners are jointly sensitizing the public to adopt digital payment options while still maintaining the option of bank transfers (National Bank of Ethiopia, 2021).

Eden is a kindergarten teacher in Addis Ababa. She receives her salary through the bank. She said that when the government first mandated that end users pay for fuel through {Provider 3}, she visited the provider's office so a teller could teach her how to use the application. She now uses it for other use cases such as paying for water, electricity, WiFi, and receiving money from her husband.

"When it became necessary to use {Provider 3} for fuel filling, I started using the {Provider 3} application accordingly."

Recommendations from social networks have also influenced respondents to use digital payments for the first time. End users trust the recommendations of people in their social network, especially when those friends or family members share positive user experiences, creating a positive perception towards digital payments.

> **"I discovered it as people were using it, I was hearing people talking about {Provider 5}, so that's how I started using it too."**
>
> — Female, user, individual consumer, Guinea

Habitual usage

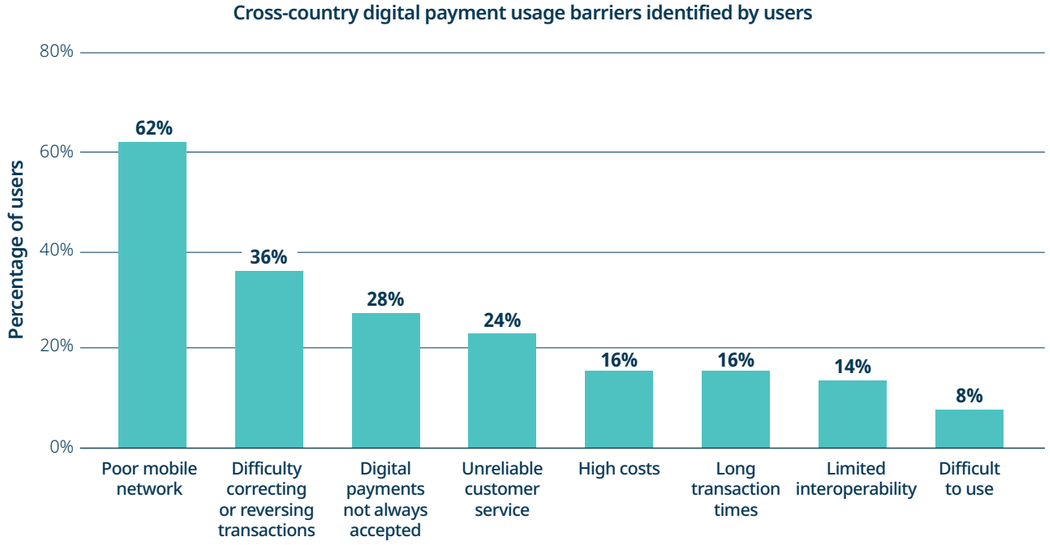
Barriers to habitual usage

Transitioning from early or ad-hoc use of digital payments to habitual use often requires users to overcome a distinct set of barriers from the ones they faced when deciding whether to try digital payments in the first place. These include unreliable mobile networks that disrupt user experiences—this is the most prominent habitual usage barrier for respondents in Ethiopia, Guinea, Mauritius, and Uganda—as well as difficulty correcting or reversing transactions in the case of a mistake or fraud, and limited acceptance of digital payments, among others (see Figure 3.5).

In the case of network outages, users fall back on using cash, seek customer support, or develop other coping mechanisms (see Box 3.6).

> **"Once when I was with my husband, we tried to pay with a digital payment option, but it didn't work because there was no network."**
>
> — Female, user, business consumer, Algeria

Figure 3.5 | Percentage of respondents naming each barrier



Top 3 barriers per country				
Algeria	Ethiopia	Guinea	Mauritius	Uganda
1. Difficulty correcting or reversing a transaction	1. Poor mobile network	1. Poor mobile network	1. Poor mobile network	1. Poor mobile network
2. Digital payments not always accepted	2. Difficulty correcting or reversing a transaction	2. High costs	2. Digital payments not always accepted	2. Unreliable customer service
3. Poor mobile network	3. Digital payments not always accepted	3. Digital payments not always accepted	3. Difficulty in correcting or reversing a transaction	3. Difficulty in correcting or reversing a transaction

Box 3.6 | User experience: Coping mechanisms for poor network in Mauritius

Akshay sells electronics such as mobile phone accessories and video games. Bank representatives introduced him to the {Provider 1} digital payment application when he went to open a bank account. For him, digital payments are a simple, easy, and convenient way to receive customer payments. However, the lack of a reliable internet connection is a major challenge his customers experience when making payments. It prevents them from completing card (POS) payments and scan-to-pay methods. The disruptions are particularly impactful given the extent of digital payment use by customers.

To counter this, Akshay has installed Wi-Fi at his business premises. Customers can now access his Wi-Fi instead of relying on the cell network, and make digital payments through the {Provider 1} app. "Wi-Fi is another thing I considered, which is why I added it so that customers can have a better internet connection when making payments through {Provider 1} app."

Network downtime can contribute to the need to reverse transactions, which nearly all the survey respondents experienced. When the network goes down mid-transaction, users do not receive confirmation messages. Assuming the payment did not go through, the user may attempt to repeat the payment transaction only to find that they paid twice and must reverse the second transaction. How easily they can do that varies by country. For example, nearly all respondents in Guinea have been able to resolve their transaction issues, thanks to accessible and responsive customer support. In contrast, in the other surveyed countries, less than half of the respondents have managed to resolve mistaken transactions. Particularly in Mauritius and Uganda users struggle to get consistent assistance (see Box 3.7). Based on these past experiences, individuals may lack confidence in payment services, and therefore hesitate to use them habitually.

Given that many of the surveyed users worry about making mistakes when using digital payments, the lack of consistent help from service providers only exacerbates those fears.

> **"It's just a little bit complicated for me, I fear charging the wrong number or something."**
>
> — Female, user, individual consumer, Algeria

Box 3.7 | User experience: The impact of unreliable customer service on digital payment usage in Uganda

Musasizi works as a freelancer in Uganda. He enjoys using digital payments, as they provide a safe way of storing cash. He says, however, that customer support is slow to respond when he experiences transaction errors. "I accidentally sent money somewhere else. When I called (customer service), they never helped, and it took almost two weeks to reverse my money back into my account." Musasizi has tried other methods to contact customer service to express his concerns, such as sending email. This is not always successful either. "The other time is when I sent money to a wrong number and tried calling them (customer service) … sent emails, but they never helped or replied to me."

Beyond network-related issues that create the need to reverse transactions, fraud and scams can also require intervention and undermine trust in digital payments.

> "Earlier when I had my money in my phone, scammers will call, so that's why I like my money in cash because nobody can steal it from me."
>
> — Female, non-user, business consumer, Guinea

Instances of fraud are particularly prevalent in Guinea and Uganda, where more than half of the respondents have experienced it. The lack of available customer support in Uganda coupled with high levels of fraud leaves users vulnerable to its consequences, which exacerbates trust issues and ultimately discourages them from using digital payments as their default.

Looking beyond network and customer support barriers, respondents also pointed out that their preferred digital payment method is not always accepted everywhere. This barrier came up particularly in Algeria and Mauritius. Limited digital payment adoption in an ecosystem discourages end users from relying on these methods and results in them resorting to using cash.

> "I have no choice; I have to pay in cash in certain stores."
>
> — Female, user, individual consumer, Algeria

Transaction costs can also be a barrier in some countries. Perceptions about the cost of digital payments as compared to their value differ between countries. Users usually receive transaction cost information from price charts or confirmation messages provided by the service provider. Based on this information, they do a mental calculation of the cost of using digital payments in relation to what they save—for example, did the digital transaction allow them to save the travel expenses they would have paid to go transact in person? Respondents in Algeria, Ethiopia, and Guinea generally perceive transaction costs to be manageable and the costs of digital payments to be worthwhile given the overall cost savings.

> "The math you have to do is the value of your time to run your business or go to a bank just to save the money you pay for the transaction you are making."
>
> — Male, user, business consumer, Ethiopia

For instance, digital payments allow users to get goods shipped to them instead of having to pick them up, making digital payment cheaper than cash.

> "[...] for something costing 400,000 francs, the shipping cost is 5,000 francs. Compared to when you're going to travel here to Madina, you have to consider the cost of transport with the traffic jams where you'll be tired. So I prefer to send digitally than to go to the supplier."
>
> — Male, user, business consumer, Guinea

In Guinea, the perceptions about transaction costs shifted after the main PSP lowered them. This has accelerated the uptake and usage of digital payments in Guinea (see Box 3.8). Users in Mauritius and Uganda, however, said they find the costs too high, which discourages them from using digital payments. In Uganda, users find withdrawal fees especially high, which impacts their digital payment usage because they need to cash out. While respondents in Mauritius perceive bank-to-mobile money transfers as affordable, interbank transfers and card payments are perceived to be costly.

> "When I pay by card for cigarettes, they add Rs 15 or Rs 20 to the initial cost and when I pay for gas it has to be a minimum of Rs 300 in order to be able to pay by card."
>
> — Male, user, individual consumer, Mauritius

Box 3.8 | User experience: Reducing transaction costs accelerated digital payment usage in Guinea

The main provider in Guinea reduced transaction fees, which multiple respondents said made digital payments more affordable and resulted in a positive perception towards the provider.

> "{Provider 5} used to charge us a lot. In the past, when you wanted to make a deposit, you had to add a lot of fees so that people could receive the total amount of their money, but now they've lowered the transaction fees, and that's good for us."
>
> — Male, user, individual consumer, Guinea

> "In the past, it wasn't easy, so it wasn't affordable, but over time {Provider 5} decided to reduce the fees, so now it's affordable in my opinion."
>
> — Male, user, individual consumer, Guinea

> "I think they've reduced the cost. Digital payments are important because they prevent you from overspending, that's the advantage of keeping the money in your phone instead of at home. Before, the cost was too high, but now it's fine. It's more economical and advantageous because it allows you to save your money and carry out transactions."
>
> — Male, user, business consumer, Guinea

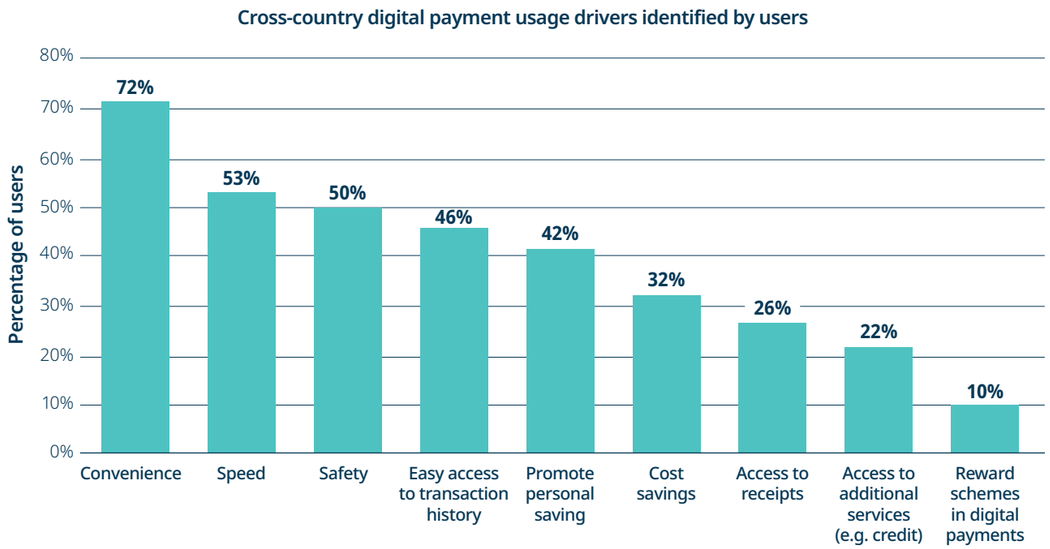
Enablers of habitual usage

Despite the barriers to habitual usage, there remain significant enablers that motivate individuals and MSMEs to adopt digital payments as their default. The most important among them across all countries is convenience, which users typically associate with time and cost savings (see Figure 3.6). In Ethiopia and Mauritius, users value the ability to access digital payments from anywhere, allowing them to sidestep the hassles of lengthy queues in bank branches and at ATMs.

In Uganda and Guinea, users find it convenient to use digital payments to make long-distance transactions, as it saves them time and money. For respondents in Algeria, the ability to make quick and easy purchases, avoid carrying cash, and pay bills remotely are all factors that incentivize users to use digital payments more broadly (see Box 3.9).

> **"It allows you to accomplish various payments conveniently over the phone from the comfort of your home."**
>
> — Female, user, individual consumer, Ethiopia

Figure 3.6 | Percentage of respondents naming each driver



Top 3 barriers per country				
Algeria	Ethiopia	Guinea	Mauritius	Uganda
1. Convenience	1. Convenience	1. Convenience	1. Convenience	1. Convenience
2. Easy access to transaction history	2. Speed	2. Promote personal saving	2. Safety	2. Safety
3. Speed/Safety	3. Safety	3. Speed	3. Speed	3. Speed/Promote personal saving

Box 3.9 | User experience: Different facets of convenience and how they drive digital payment usage in Algeria

Foudil is a micro-enterprise owner in Algiers. He uses digital payments because they are convenient, enabling him to save time and pay for essentials such as hospital bills when cash is not accessible. "This one time my mom got sick, so I took her to the hospital and from the rush I did not carry cash with me. As soon as I arrived there, I used my card."

He also uses digital payments to make online purchases from international stores. This helps him to save as local purchases often cost more, "We need digital payments to buy goods from international sites like Alibaba. Once I bought a Bluetooth headphone that was triple the price in the local market. I find myself saving."

The speed of digital payments is the second-most cited enabler of habitual use. Respondents in Ethiopia, Guinea, and Mauritius particularly emphasized how digital methods enable them to pay instantly and with instant confirmation. This creates trust and convenience.

> **"I would call digital payments the fast train, because it's a fast method and it's good."**
>
> — Male, user, individual consumer, Algeria
>
> **"Speed is my reason. {Provider 10} is very swift, you get confirmation message instantly and I like that."**
>
> — Male, user, business consumer, Ethiopia

Respondents also use digital payments to avoid theft. Surveyed users in Ethiopia, Guinea, Mauritius, and Uganda consider digital payments to be safer than cash.

> **"In terms of safety, I would rather use a mobile banking option to make payments than carry cash on hand."**
>
> — Male, non-user, business consumer, Ethiopia

In Algeria, Guinea, and Uganda, respondents use digital payments because they promote personal saving, in part by helping them forego impulse spending. They also enable easy access to their transaction history.

> **"I put my money in my bank account as soon as I get paid to avoid spending it. Each time I need something, either I use the app or take out some cash and buy what I want."**
>
> — Male, user, business consumer, Algeria

3.2 End-user barriers important for IPS design

The end-user research insights have important implications for the design of IIPS and the preconditions for their success. These implications apply to the digital and governmental ecosystem that enables IIPS operations, to the IPS operators themselves, and to the participants, as follows:

Implications for the payment ecosystem

Several of the primary barriers to digital payment access, early usage, and habitual usage are outside of the control of IPS operators, either because they depend on essential infrastructure such as telecommunication networks, or on regulatory enablers. Nonetheless, these issues should be part of the discussion about IPS enablement. Chief among them are:

Infrastructure: End users have highlighted unreliable mobile networks as a major disruptor to digital payment access and user experience in all three rounds of SIIPS end-user research. National digitalization strategies are key to improving mobile network reliability.

Government policies: Governments can play a critical role in driving digital payment adoption by mandating digital payments for selected use cases and by digitalizing social transfers and grants, as well as government salary and supplier payments.

Implications for IIPS operators

The implications that fall within the power of the IIPS operators can be built into the scheme design from the outset for new systems or upgraded for live systems as a priority of inclusivity. They include:

- **Data privacy and trust.** The importance of data privacy emerged in this year's round of end-user research, and also in SIIPS 2022—the latter in the context of end-user concerns about agents handling customer data. These issues point to the priority users place on data privacy and trust. Clear and comprehensive data protection measures, coupled with requirements for transparent end-user communication about how their data will be used, should be defined within the scheme rules and applied by PSPs.
- **Customer service and recourse.** Users in the last three rounds of end-user research have expressed their concerns about errors and fraud. Though customer service and recourse are the responsibility of the PSP, operators can define customer service principles and standards in the IPS scheme rules to set the expectation for how, and how promptly, participating entities must provide effective support and address user concerns.
- **Use cases.** Receiving income digitally, including through G2P payments, is a core motivator for end users, since those digital payments automatically enable them to store their money in their account. In response, IPS should prioritize enabling G2P and B2P wage payments which are large-volume, recurrent payment streams and have been identified under the Payment Aspects of Financial Inclusion (PAFI) guidelines as a key driver of digital payment adoption (World Bank, 2017). Paying for goods and services is an integral part of end users' everyday lives, making merchant payments and B2B payments priority use cases alongside G2P and B2P payments. Diversifying the use cases for an IPS increases customer convenience, as it enables them to conduct more of their transactions digitally.

Implications for IIPS participants

PSPs have a powerful role to play in delivering digital payment solutions that serve the needs of end users, including those who are typically underserved, by addressing the following barriers and enablers:

- **Pricing.** Costs matter. As the example of Guinea demonstrates in this year's research, and as Rwanda did in the SIIPS 2023, reduced transaction fees can have a strong accelerating effect on digital payment usage. As a result, participating institutions should seek ways to keep transaction costs low and accessible for a wide range of end users. Digital financial services should be affordable to smooth the transition to digital payments for cash-dominated markets.
- **Convenience.** Convenience can be a major driver when end users compare the time and costs of making a digital transaction with cash or in-bank transactions, or expensive long-distance transfers. Designing intuitive user interfaces and versatile applications that cater to diverse use cases, as well as leveraging QR codes, aliases, and other overlay services like request-to-pay will further improve the overall convenience of digital payments.

Case study|

PayShap South Africa

Origin story

Challenge

Despite high financial account ownership rates, the South African economy still has high levels of cash use. Approximately eight out of 10 retail transactions were conducted in cash before the COVID-19 pandemic (BankservAfrica, 2024). To promote a transition from cash to digital transactions, the South African Reserve Bank's (SARB) National Payment System Framework and Strategy Vision 2025 released in 2018, proposed the establishment of "a flexible payment system architecture to help all stakeholders meet the ever-evolving end-user demands and allow payment systems to become platforms for innovation that are fit for the future." This conceptualized the instant payment system (IPS) that was established out of the Rapid Payments Programme (RPP), and was underscored by the SARB's Position Paper on Faster Payments, which was released in 2022.

PayShap, which launched in March 2023, is the first phase of this modernized payment system architecture. The objective is to improve access to payment products and enhance financial inclusion by enabling the underbanked to access digital solutions for their financial needs. It also aims to facilitate the safe and reliable onboarding of the unbanked into the payments system.

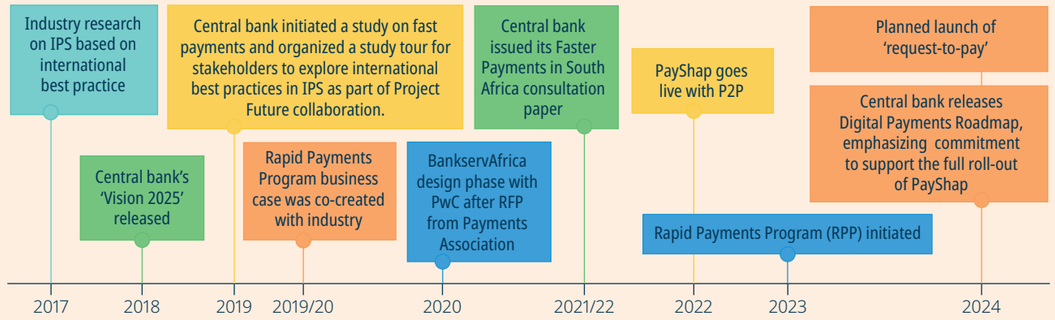
Adding value

PayShap is the second real-time payment system to launch in South Africa. It joins Real-Time Clearing (RTC), the country's real-time electronic fund transfer system for banks, which was established in 2006. PayShap operates via a credit-push instrument and soon will include the request-to-pay (RTP) feature, expected before the end of 2024. Its value proposition is ease-of-use, immediacy, and interoperability.

For ease, PayShap enables transactions via mobile numbers (ShapID) rather than bank account numbers (though participants could use the account number if they chose). Furthermore, the IPS is finalizing its RTP functionality. The system clears funds instantly.

PayShap is currently available across ten commercial banks and enables interoperability between these participants. As such, it is a bank IPS. The eventual plan pending regulatory amendments to permit direct non-bank participation in the National Payment System, is to enable all-to-all interoperability between all licensed payment service providers (PSPs) in the country, including non-bank PSPs such as mobile money operators.

The PayShap IPS timeline



Source: BankservAfrica, 2024

In 2017, the Payments Association of South Africa (PASA), the payment service clearing operator BankservAfrica (BSA), the commercial banks, and the SARB commissioned a study on fast payments provision in the country. Stakeholders also embarked on a study tour to understand international best practices in IPS as part of a joint *Project Future*. In 2018, the SARB released its Vision 2025.

In June 2020, the SARB issued its Faster Payments in South Africa consultation paper, followed by a position paper in 2022. Both papers highlighted functionality gaps in RTC and proposed measures to encourage adoption of a future-proofed, faster payments infrastructure. The goal was to modernize the national payment system to better serve consumers and micro, small, and medium-sized enterprises (MSMEs).

In 2021, the management consulting firm PWC was appointed as the Independent Project Management Office (IPMO) to oversee the project, which included the development of the design phase of the IPS. PASA, as the payment system management body, appointed the Special Project Committee (SPC) as the steering committee for RPP. BSA, the Payment Clearing House System Operator (PSO), banks, PASA, and the SARB became members of the special purpose committee, ensuring alignment and cohesion in delivering the minimum viable product. SARB oversaw the IPS in line with its Vision 2025 goals and provided the regulatory framework guiding the onboarding process.

The industry launched the Rapid Payments Programme (RPP) in 2022. The collaborative stakeholder process allowed for in-depth discussions to resolve issues around solution requirements, rules, risk mitigation, and driving alignment with national goals in a context with competing interests. Leveraging the RPP, PayShap was finally launched in March 2023.

As of May 2024, PayShap supports person-to-person (P2P) and some person-to-merchant (P2M) transactions, where such merchants operate personal bank accounts. Person-to-business (P2B) merchant payments are in planning. No non-bank participants have joined the scheme, partially due to the cautious stance of the SARB and the payments industry around allowing non-bank PSPs to have direct clearing access. However, regulatory reforms are underway that will allow non-banks direct access to the national payments system. As the operator, BankservAfrica has initiated several marketing campaigns for PayShap, but also encourages the IPS participants to market the product and brand to their end users. Marketing by participants is considered essential for enhancing PayShap's visibility and credibility, thereby hastening adoption rates and broadening its user base.

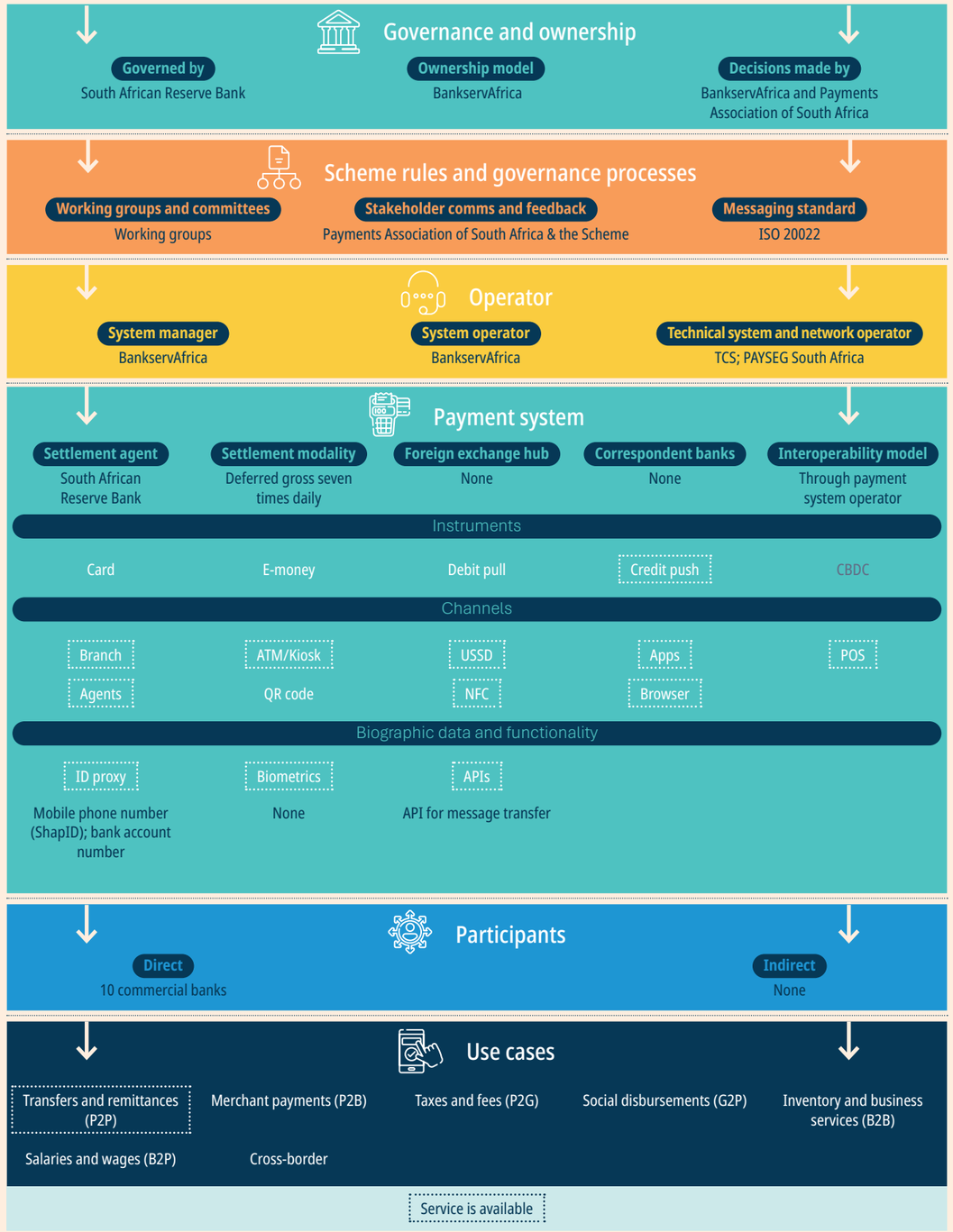
In addition to its ShapID concept of being able to make payments using mobile phone numbers as a proxy, another key value proposition of PayShap is the RTP function, which will allow individuals and merchants to initiate transactions and request payment, rather than waiting for payers to push the payment. This feature has the potential to drastically increase user convenience and reduce payment errors. RTP is set to become available in the latter half of 2024. It is envisioned that RTP will help drive PayShap adoption and enable the system to reach its target of one billion transactions and 688,000 end-user MSMEs by 2027 (BankservAfrica, 2024). As of May 2024, uptake was still in its infancy. BSA collects data disaggregated by new and repeat users, as well as by user demographics, to improve its value proposition.

Other expansion plans include integrating non-banks in the system. PayShap also plans to enable quick response (QR) codes to initiate payments as a way to enhance adoption for critical use cases, such as P2B. There are also considerations to link PayShap to the regional Southern African Development Community (SADC) Transaction Cleared on an Immediate Basis (TCIB) cross-border scheme, although no execution plan has been developed yet.

Governance and operations

Payment system overview

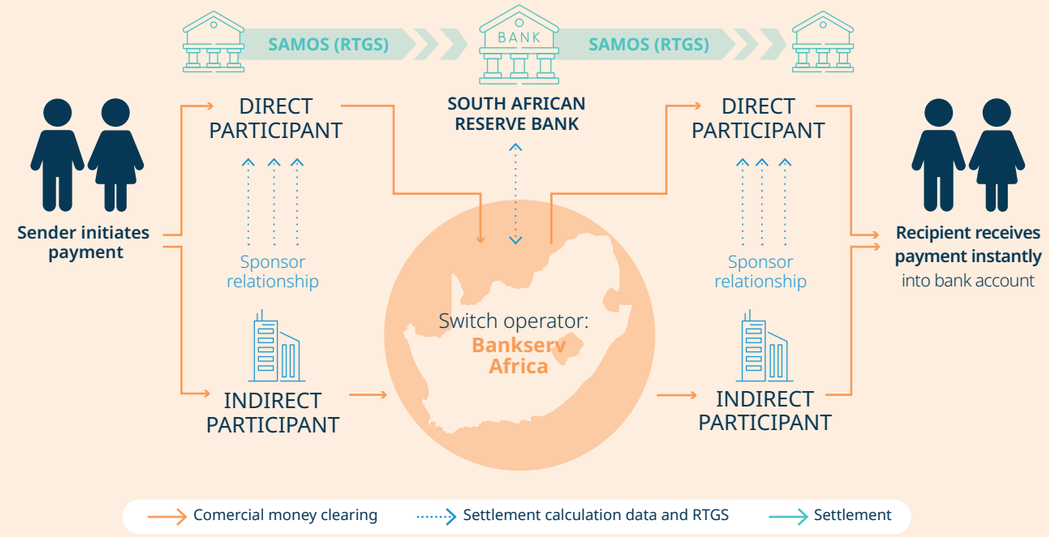
PayShap model overview



Though PayShap is currently a bank system with 10 commercial bank participants, it aspires to become a cross-domain system. There are no indirect participants as of May 2024, though non-bank PSPs can technically become indirect participants through sponsorship agreement with a commercial banking partner.

In the future, the ecosystem will include banks and designated non-banks as direct participants, and non-banks and various fintech firms as indirect participants, with the central bank enabling payment settlement. Participation is voluntary, with participants opting into the scheme and its associated products. Ongoing engagements with banks form part of the scheme's business development strategy.

PayShap transaction flow



All transactions via PayShap are in commercial money. The IPS is operated by BankservAfrica, which is owned by commercial banks. BSA built and has operated South Africa's core interbank payments infrastructure since 1972. It also operates RTC and TCIB.

PayShap is targeting transactions of less than South African rand (ZAR) 3,000, or roughly US $183. It has deployed clearing features and services through cloud architecture. Settlement occurs on-premises between primary and secondary sites, each equipped with hardware redundancy and secure communication lines to SARB's SAMOS, the country's real-time gross settlement (RTGS) system. There are seven settlement windows throughout the day. Transactions have a maximum processing time of 10 seconds. BSA does not maintain pre-funded accounts, but the reserve and settlement accounts are held with the central bank for each participant to meet current settlement requirements as defined by RTGS at the central bank. PayShap enables credit push transactions via ISO 20022. Application programming interfaces (APIs) play a role in facilitating data sharing among the different entities.

Governance

BSA governs the IPS as the system manager and operator. Since commercial banks own BSA, PayShap is participant-owned and industry-led. It operates according to a private-association governance model. PASA licenses the PSO as mandated by the SARB under the NPS Act; PASA has only light involvement in the scheme governance. Decision-making lies with the BSA board of directors, while the Payment Clearing House Participant Group (PCH PG) influences clearing and settlement decisions within the current regulatory framework. System-related decisions outside this scope are handled by the PayShap Scheme Governance Council. Currently, BSA conducts quarterly sessions with the regulator. PASA is a key custodian of the clearing rules, as it oversees the clearing rules and the PCH PG constitution, and the participant criteria for PayShap. Industry-led scheme rules have the potential to increase the system's value proposition for participants. Given that direct participation is limited thus far to banks, there is less engagement with non-bank PSPs, which may affect inclusivity.

Broader involvement of all licensed PSPs could help PayShap meet SARB's financial inclusion objectives. PayShap's efforts focus on attracting a broader participant base by delivering a compelling product and identifying use cases. Unless designated, non-banks can only participate as indirect participants due to current regulatory constraints. There is an increasing interest from banks in facilitating participation of non-banks, which should foster growth in the PayShap ecosystem (BSA, 2024).

Functionality

PayShap is a credit push instrument, and the operator expects to enable the RTP service within the 2024 calendar year. PayShap's functionality is designed for smartphone access. There are no restrictions on the channels banks can offer, however, if they support the accepted message standard. This includes USSD.

Mobile numbers serve as the primary proxy identifier, or ShapID. End users need a ShapID to receive a payment, not necessarily to make one. Individual users can link multiple bank accounts to their ShapID; each account would then read 'mobile number@bank name.' End users with only one account linked to their ShapID can receive payments just using their mobile number. Over 2.5 million users have opted into using the ShapID, which eliminates the need for the beneficiary's bank account details (Gavaza, 2024). PayShap is considering adding other identifiers like email addresses or identity numbers in the future.

Payments to account numbers are also available. This method includes a payee verification system that shows the payer a summary of the transaction details they must confirm. The approach is intended to reduce errors.

Technical standards and use cases

PayShap achieves interoperability through standardized messaging formats, technical rules, and product specifications, all monitored within the ecosystem. The system has adopted the ISO 20022 messaging format, which enables banks to include more data in payment instructions, facilitating compliance with FATF requirements.[44]

BSA is working to integrate use cases beyond P2P, starting with business-to-business (B2B) and merchant transactions. Merchants can already use their ShapID to receive payments, creating a low-value P2B use case in practice, although the transaction is still classified as P2P. The operator would need to make system enhancements to support more use cases and address social needs, which would require stakeholder discussions. South Africa has a large government-to-person (G2P) social assistance program, led by the South African Social Security Agency. G2P payments are already sent to accounts and are not processed via PayShap. Routing them through the IPS could increase habitual use of instant payments and add scale to the system.

Enhanced capabilities, including RTP and QR codes are expected to significantly drive demand and end-user value. QR codes are already well established in South Africa for merchant payments via cards (BSA, 2024). RTP functionality will enable additional use cases and broaden PayShap's utility for everyday transactions. RTP will mainly facilitate transactions in the merchant space, allowing service providers such as plumbers or electricians to request payment from customers for services rendered. Such features are user-centric and increase convenience while reducing the error rate.

Business model

BSA funded PayShap through a shareholder loan. Cost recovery is integrated into the BSA business model; the system itself does not employ an independent cost recovery mechanism. BSA operates on a mutual basis for scheme operations; the decision about whether to operate as a for-profit rests with the participants. End-user fees are determined by participants, with no standard fee enforced across all of them. Consequently, PayShap's first months saw marked differences in pricing by

44 FATF Recommendation 16 mandates the sharing of sender and recipient information in wire transfers for anti-money laundering purposes (FATF, 2023).

banks, with some charging transaction fees above the existing RTC service and others opting to make PayShap payments free below a certain transaction size. Over time, the pricing has converged since high costs to end users deterred uptake. As of 2024, most banks offer free PayShap payments up to approximately US $5.35 (ZAR 100), thereafter offering tiered pricing models at the participant's discretion.[45]

Scheme rules

The scheme rules typically outline operational guidelines and compliance requirements. PayShap's scheme rules are currently shared on a need-to-know basis and are not publicly available. End-user recourse mechanisms are not explicitly outlined in the scheme rules. Instead, accountability for fair treatment of end users falls under existing regulatory frameworks. The BSA's website, social media, and "how-to guides" for participants include efforts to educate end users about rights and dispute resolution processes. The participants primarily interact with their customers, though occasional interactions between the scheme operator and the end users occur in response to complaints through social media or other forms of direct contact.

Volumes and values processed by the payment system

BSA reports monthly through the PCH PG at the PASA meetings, as well as at the governance council. It collects data in real time, with volume and transaction data reported daily and monthly as required. The scheme collects both on-us and not-on-us transactions; given BSA's other roles as the country's clearing house, not-on-us data collection appears to be somewhat easier. The scheme therefore periodically requests on-us data from participants, but it is not reported. In its first year, the IPS between March 2023 and March 2024 processed over 18 million transactions with a value exceeding US $588 million (ZAR 11 billion), resulting in an average transaction size of around US $32 (BankservAfrica, 2024). This is a promising transaction size, as it indicates that the system is used for smaller and theoretically more frequent purchases. At 0.1% of gross national income in 2023, the uptake of PayShap is still limited, especially compared with RTC's utilization, which stands at 23%. There is a risk of competition between these two systems, as they are both offered by the banks. Since RTC has been around for much longer and charges high end-user fees, banks may be disincentivized to push PayShap. We see this in the initial pricing strategies deployed by some of the banks.

Regulation

Participants of the scheme must adhere to various regulations encompassing but not limited to the NPS Act, Banks Act, Financial Action Task Force (FATF), AML, Protection of Personal Information Act (POPIA), and the Consumer Protection Act. Currently, non-banks have limited involvement in PayShap. The SARB is reevaluating the regulatory framework to enable non-banks to participate and engage in the NPS without bank partnerships. The scheme operates without requiring licensing, though future regulatory amendments may introduce licensing requirements under the NPS Act.

45 An exchange rate of ZAR 18.7 per US$ was used, as per www.oanda.com (April 30, 2024).

Inclusivity learnings

According to the AfricaNenda Inclusivity Spectrum, PayShap is not ranked because P2B payments are not yet live. Once it enables merchant transactions, it will have achieved a basic level of inclusivity. To advance to the progressed level, it must expand participation to include licensed non-bank entities, achieving cross-domain interoperability. Non-bank participants would also need to be integrated into the decision-making process. Through closer central bank involvement at the governance level—for example, by mandating the integration of non-bank PSPs—there is potential to achieve the desired inclusivity outcomes.

Since bank participants influence PayShap use, there is a risk that the IPS will not reach optimal pricing. Without regulatory intervention to drive all-to-all interoperability at the lowest cost to the end user, there will be barriers to inclusivity. Conversely, exploring new use cases like G2P social grant payments and adopting a not-for-loss business model can propel PayShap towards maturity.

In the design and rollout of PayShap, several inclusivity learnings emerged:

- **Industry alignment drives success:** Establishing a Special Purpose Committee, comprising regulatory bodies and industry leaders; helped ensure alignment and collaboration among bank participants.
- **Leveraging participant marketing boosts adoption:** Encouraging participants to actively market PayShap to end users through various channels is instrumental in driving adoption and scaling the system. By leveraging participant marketing efforts, PayShap gains visibility and credibility, thus accelerating adoption rates and expanding its user base.
- **Payment details confirmation builds trust:** Verifying recipient account details before payment authorization is a critical feature that enhances trust and reduces the risk of erroneous transactions for customers.

4

Trends and emerging opportunities to drive IPS inclusivity

The previous chapters outlining the supply side instant payment system (IPS) landscape and the demand side end-user insights collectively highlight three concrete barriers to IPS inclusivity in the payment space. Specifically, the lack of robust end-user recourse approaches and inconsistent support for popular use cases exacerbate, respectively, the end-user concerns related to trust in digital payments and the belief that they won't get value from them. Yet these issues are not the only factors that affect inclusivity in the digital payment realm. Larger market, system, and consumer trends also play a role.

In this chapter, we put the IPS and end-user insights into context with several broader trends that affect IPS inclusivity, with key opportunities for addressing them. These trends fall under three broad categories:

- Market trends relate to the environment in which an IPS and its stakeholders operate.
- System trends refer to those that arise from the IPS itself.
- Consumer trends reflect specific consumer behaviors and needs.

Beyond the landscape and end-user findings, these trends reflect broader insights from key informant interviews and instant payments literature.

4.1 | Market trends and opportunities

Table 4.1 | Market trends and opportunities summary

Trends	Opportunities
DPI shapes the IPS debate more explicitly.	IPS operators can take advantage of the momentum to position their schemes as an inclusive and sustainable public good.
IPS and financial inclusion impact depend on mature national infrastructure digitalization.	IPS can prioritize infrastructure workarounds where networks are unstable and co-create upgrade plans.
IPS innovation will continue to be constrained by regulation and under-use of data to inform IPS processes.	Push for innovation-friendly regulation.

Trend 1 | The DPI concept shapes the IPS debate more explicitly

The concept of digital public infrastructure (DPI) first entered the public discourse several years ago in the wake of successful innovations, such as the development of India's Unified Payments Interface (UPI). DPI has since gained exponential attention at high-level forums such as the G20 and United Nations (UN) General Assembly (World Economic Forum, 2024). In August 2023, the G20 New Delhi Leaders' Declaration accepted an official definition of DPI as, "a set of shared digital systems that are secure and interoperable, built on open technologies, to deliver equitable access to public and/or private services at a societal scale."

The UN made DPI one of 12 high-impact initiatives with the potential to accelerate the Sustainable Development Goals (SDGs), to which 100 countries committed (UNDP, 2023b). It is viewed as the foundation of national digitalization. While its three elements of instant payment systems, digital identity, and data exchange are not new concepts, the appeal of DPI lies in its holistic and interlinked approach to all three.

Well-designed DPI has the potential to accelerate gross domestic product (GDP) growth for lower-and-middle income countries (LMICs). The UN estimates LMICs that implement DPI could achieve an additional 1%-1.5% of annual GDP by 2030, compared to their current trajectory. This projected GDP growth would be the result of improved digital access to payments and identity (UNDP & Dalberg, 2023a).

Moreover, that estimate does not consider the potential compounding growth effect that more efficient and inclusive economies could develop over the medium-to-long term, provided they have the requisite policy and regulatory environment (ILO, 2023). In all, the potential for DPI is so profound that it in some way influences the trajectory of many other trends in this chapter.

Examples of high-profile DPI initiatives include:

- **The "50-in-5" campaign**, a country-led advocacy campaign with the goal of helping 50 countries design, launch, and scale components of their DPI by 2028. Its partners are the Bill & Melinda Gates Foundation, the Centre for Digital Public Infrastructure, Co-Develop, the Digital Public Goods Alliance, and the UNDP (50in5, 2024). Four African countries (Ethiopia, Senegal, Sierra Leone, and Togo) are among the 11 first-mover countries benefitting from the campaign.
- **The DPI Safeguards Initiative**. The UN launched six working groups in 2024 composed of 43 members tasked with developing a Safeguards framework for DPI (DPI development task force). The objective is to empower countries to accelerate the SDG progress through safe DPI deployment. Through in-country engagements, the members aim to develop the DPI Safeguards framework and an accompanying resource hub. Members of the initiative include global experts from public and private sectors, as well as representatives from AfricaNenda, the Bill & Melinda Gates Foundation, the regional development banks, the International Telecommunication Union (ITU), the World Bank, and UN bodies.
- A **United National Development Program (UNDP) compendium and playbook** to assist countries in their individual DPI deployments with assessment frameworks and best practice references (UNDP, 2023b).

Opportunity

There is a great opportunity to leverage and inform the DPI discussion by framing IPS as an enabler of the DPI payments layer. Practically, linking with the DPI community could improve strategic coordination critical to IPS design, deepen capacity support, and tap into potential sources of funding.

Specific to Africa, at least 22 African countries have already embarked on their DPI journeys, mostly in the digital identity space.[46] As many of these countries also have an IPS live or in development, there is an opportunity to take advantage of the support available as part of the DPI movement to mobilize resources and spearhead coordination with the instant payment system component. The link between digital identity systems and payment systems is particularly strong and there is precedent for the positive impact of combined national ID and financial inclusion programs—for example in India with its Aadhaar ID program (Carriére-Swallow, et al., 2021). A joint strategy that takes the recommendations by G20, UN bodies as well as other development partners into account, and that results in stakeholder collaboration, including for the data exchange layer, could produce significant benefits in Africa.

Given the structured nature of discussions, there is additional potential for greater harmonization in DPI approaches and collaboration between IPS stakeholders from different countries and programs. This is particularly relevant for cross-border IPS. With harmonized standards, such as messaging standards, open APIs, cybersecurity, data exchange (including for clearing and settlement), and governance, as well as regulatory alignment, domestic IPS can be more easily integrated for cross-border payments.

The DPI umbrella therefore unites stakeholders to holistically assess needs and agree on standards that cut across a digitalized economy and across borders. Central to this opportunity for IPS stakeholders is the premise to establish IPS as a public good and the steps it takes to make safe and low-cost digital instant payments a reality.

Timeframe to achieve:
Shorter term (1-3 years).

Preconditions for success:
As custodians of the financial system, financial regulator(s) and policymakers need to be part of the DPI development task force. To maximize the opportunity and outcome, stakeholders from the data governance, identity, and payment sectors require a joint engagement strategy.

Trend 2 | IPS and financial inclusion impact depend on mature national infrastructure digitalization

Universal electrification and telecommunication network access are key enablers of a digitalized economy. By extension, they are essential for IPS operators to deliver reliable, trusted, shared infrastructure for their participants, who rely on it to deliver a positive end-user experience through technology-enabled channels. Without reliable infrastructure, IPS will struggle to achieve scale and sustainability. This is because, as highlighted in the SIIPS end-user research and in the Global Findex 2021, end users are less inclined to transact digitally if they view the solutions as unreliable, even if the problems are caused by network outages or other technical problems. Unreliable digital infrastructure can pose a particular barrier in countries in Sub-Saharan Africa, where less than half of adults have internet access, even though 81% have a mobile phone (Demirguc-Kunt, et al., 2022). Rural populations battle in particular with patchy mobile network coverage and a lack of electricity to power mobile phones or mobile network towers (Klapper, 2024).

The African community recognizes these issues and has been working to address them. A continent-wide strategy around digitalization already exists in the form of the African Union's Digital Transformation Strategy for Africa 2020-2030.[47] The majority of African countries also have launched digital programs and strategies, such as Egypt's 2030 ICT Strategy, Ghana' digital acceleration project, Kenya's Digital Economy Blueprint, the Digital Mauritius 2030 Strategic Plan, and Nigeria's National Digital Economy Strategy and Policy 2020-2030. These are typically led by ICT ministries, but with a strong link to financial services. Regional bodies, such as the East African Community (EAC), are also developing digital strategies (Stakeholder interviews, 2023).

There has also been significant investment in the roll-out of 5G networks in 14 African countries (Botswana, Egypt, Gabon, Ghana, Kenya, Malawi, Mauritius, Nigeria, Seychelles, South Africa, Tanzania, Togo, Zambia, and Zimbabwe). The service is mostly

46 Countries include Algeria, Benin, Botswana, Burkina Faso, Cameroon, Chad, Ghana, Guinea, Ethiopia, Madagascar, Malawi, Mauritania, Mauritius, Morocco, Rwanda, Senegal, Seychelles, Sierra Leone, Somalia, Togo, Zambia, and Zimbabwe (Stakeholder interviews, 2024).

47 Apart from building a Digital Single Market by 2030 in line with Africa's Continental Free Trade Area (AfCFTA), its goals include that by 2023 all African people "[…] should be digitally empowered and able to access safely and securely to at least (6 mb/s) all the time where ever they live in the continent at an affordable price of no more than (US$ 1cts per mb) through a smart device manufactured in the continent at the price of no more than (US$ 100) to benefit from all basic e-services and content of which at least 30% is developed and hosted in Africa" (African Union, 2020).

confined to the urban centers, however, and faces roll-out delays. It is predicted that by 2025, 5G will account for 4% of total connections in the region. In contrast, about 70% of Africans only have access to 2G or 3G networks (Omnitele, 2023). These networks can mostly only support USSD transactions given the slow internet speeds.

There is more urgency about these efforts as digital financial services and channels have become an essential part of the financial end-user experience, inexorably linking the success of digital financial inclusion efforts to the maturity and reliability of a country's digital infrastructure. The SIIPS end-user research of the past three years provides real-world insights into the ways that connectivity affects digital payment use for all end users, even those in more urban areas. For example, Ethiopia's internet penetration rates and mobile network coverage are comparatively low, and the country's reliance on a single primary mobile network provider often leads to network congestion and therefore failed transactions. Likewise, respondents from Cameroon, Malawi, and Rwanda highlighted a lack of access to the internet as a major impediment to digital payment access in SIIPS 2023. Respondents from Nigeria, Tanzania, and Zambia (SIIPS 2022), Guinea, Mauritius, and Uganda (SIIPS 2024), and Senegal (SIIPS 2023), lamented the unreliable mobile networks. The Democratic Republic of Congo respondents in SIIPS 2022 mentioned how erratic electricity power supply results in network down time.

Gender inequality in terms of access to a device also persists. In Sub-Saharan Africa, 86% of men have a mobile phone, compared with 77% of women (Demirguc-Kunt, et al., 2022).

Opportunity

As countries or regions upgrade their digital infrastructure, there is an opportunity for IPS stakeholders to evolve digital payment services to take advantage of more advanced digitalization. Examples include deploying modern payment acceptance and transfer options. In markets with more stable networks this is already happening. South Africa, for instance, shows rapid gains in dynamic QR code and request-to-pay services. "Scan to Pay," powered by Ukheshe, is the largest QR ecosystem in the country, with more than 500,000 vendors and over 100 payment service providers utilizing the service (Selibas, 2023). Ethiopia recently released a QR code payments standard and joins the ranks of Ghana, Kenya, Mauritius, and Nigeria, which have also released national standards (Shega, 2024). IPS can ensure they prioritize currently underserved communities by coordinating with PSPs to align roll-out roadmaps with known electrification or telecommunications upgrades.

In the shorter term, and in the absence of significant infrastructure upgrades, IPS and their participants should support workaround options. This could include offline payments, or near-field-communication (NFC) tags, which end users can glue to basic phones.[48] Countries that already have reasonable connectivity and infrastructure that supports broadband (e.g., ADSL, fiber, and other non-mobile connectivity) can enhance P2B use cases independent of the mobile networks with internet-enabled devices that support NFC readers, NFC tags, and contactless cards over fixed-line networks.

Native apps that require low connectivity levels, as well as USSD options, also need to be available to cater to the population without smartphones, or those who cannot afford data packages. Transparency around the status of a payment (especially when there is a connection issue in the middle of the transaction) and adequate recourse channels will increase trust by end users.

Timeframe to achieve:
Longer term for infrastructure upgrades (>3 years), shorter term for workarounds (1-3 years).

Preconditions for success:
Reliable electricity, internet (including data centers), and mobile network infrastructure will require significant up-front investments as part of a comprehensive digitalization plan.

48 NFC relies on electromagnetic radio fields, while Bluetooth and Wi-Fi use radio transmissions for communication.

Trend 3 | IPS inclusivity is constrained by regulation and under-use of data to inform IPS processes

Laws, regulation, and regulatory guidance shape the instant payments products and services available in a market. While various countries in Africa have released recent updates to their regulatory frameworks,[49] the majority cannot accommodate all IPS-relevant innovation. Examples range from a lack of regulatory frameworks for non-bank payments providers in the Democratic Republic of Congo and Somalia, to a continent-wide lack of regulation for the use of virtual assets in payments. Published open finance and/or open banking regulation only exist in Nigeria, though Egypt, Ghana, Kenya, Morocco, Namibia, Rwanda, South Africa, and Zambia are actively defining their regulatory approaches (Cenfri, 2024).

IPS-relevant legal and regulatory frameworks include national payment systems (NPS) acts; banking acts; PSP licensing frameworks (including e-money regulation that may be under a different regulator); agent regulations; anti-money laundering (AML), countering the financing of terrorism (CFT) and counter proliferation financing (CPF) acts; cybersecurity and information security laws; consumer and data protection acts; and regulation that touches cross-border flows, such as capital outflow restrictions, forex lessening, and balance of payments and trade regulations. Given the myriad payments laws and regulations, which often involve not just the central bank but also the telecommunications regulator, payments innovations are hard to achieve. This is particularly the case if the proposed payments activity falls outside of the existing regulated payments categories.

The assessment of fintech regulation in countries with live IPS provided in Chapter 5 revealed that many countries have outdated licensing categories that prevent fintechs from participating in the market. The consequence is that IPS have fewer participants delivering innovative solutions (see Chapter 5 for more detail).

Regulation related to know-you-customer (KYC) and customer due diligence (CDD) creates further unintended inclusion hurdles. The availability of digital identity data as well as the regulations permitting eKYC (or not) shape a PSP's processes. While most countries with live IPS make provisions for at least parts of eKYC, there is a notable lack of guidance by regulators on how to interpret the laws (see Chapter 6 for more detail). This can lead PSPs to embrace rules-based compliance, for example by insisting on face-to-face identity verification (Stakeholder interviews, 2024).

Exacerbating the challenge is the Financial Action Task Force (FATF) greylisting of additional African countries in 2024, bringing the total number of flagged jurisdictions with AML/CFT/CPF deficiencies to 11.[50] Greylisted countries may apply more stringent and conservative approaches that are counterintuitively less effective, thereby inhibiting risk-based payments innovation while increasing risks to the financial system. See Chapter 6 for an exploration of eKYC regulation in countries with live IPS.

Opportunity

There is ample opportunity for countries and regions to update their regulatory policies based on country diagnostics and needs assessment, as well as emerging DPI considerations. The Alliance for Financial Inclusion (AFI) provides a host of guidance documents for countries relating to regulation and digital financial services, including:

- 2023: Guidance to develop national fintech strategies
- 2022: Actionable guidelines for policymakers to integrate digital financial services in national financial inclusion policies
- 2021: Policy framework on the regulation, licensing, and supervision of digital banks
- 2020: Inclusive financial integrity: a toolkit for policymakers
- 2019: Cybersecurity for financial inclusion: framework & risk guide
- FATF also released guidance and case studies on digital ID and eKYC solutions.

49 Including the Central Bank of West African States (BCEAO) Payment Service Provider Instruction of 2024, Ghana's Payment Systems and Services Act of 2019, Central Bank of Kenya (Amendment) Act of 2021, and Uganda's National Payment Systems Act of 2020.

50 List of greylisted countries from Africa: Burkina Faso, Cameroon, Democratic Republic of Congo, Kenya, Mozambique, Namibia, Nigeria, Senegal, South Africa, South Sudan, and Tanzania.

There are also international supervisory groups, such as the International Financial Consumer Protection Organisation (FinCoNet), which engages supervisory entities with financial consumer protection mandates.

The opportunity for IPS stakeholders lies in advocating for specific changes to the regulations and national/regional strategies. As the providers with direct engagement with end users, IPS have a unique perspective that should be considered in laws, regulation, and regulatory guidance.

There is also an opportunity to meet regulatory and supervisory needs regarding AML/CFT/CPF by having IPS provide identity verification services. As a centralized service, IPS can house eKYC facilities and KYC data and make it available to participants in the network. Alternatively, the IPS could provide the connection to a public database for verification, similar to what is being developed in Mauritius.[51] The data architecture, including level of information, end-user consent mechanisms, data storage, participant access, and protection mechanisms, among other elements, need to be carefully explored and managed. IPS should ensure data protection and privacy of customers data. This can be achieved through the adoption of privacy by design approach and use of de-anonymization, encryption, and other data security measures, as well as requesting end-user consent for the processing and further usage of such data. IPS can underpin privacy protection, for example, by using artificial intelligence innovations, such as synthetic data, or via secure data links supported by adequate consent management engines (for example driven by biometrics) (Mondato, 2023).[52]

Supervisory data collection and reporting also fall within this trend. IPS stakeholders are major providers of supervisor-relevant data, including gender and geographic disaggregated transaction data. As such, they provide a vital link between quality data and evidence-based regulation. There is a significant opportunity to structure and standardize data collection and use. In this context, AFI released a guide for ecosystem-based data collection approaches in 2024.

Timeframe to achieve:
Longer term (>3 years).

Preconditions for success:
Regulatory authorities must take a consultative approach to regulatory reform.

51 In Mauritius, the BoM is establishing bridge between the licensees and government databases for eKYC verification. The approach to eKYC in Mauritius is further explored in the case study on MauCAS (Chapter 2) as well as the eKYC deep dive (Chapter 6).

52 Synthetic data is information that is artificially manufactured rather than real-world data. It is created algorithmically and is used to validate mathematical models and to train machine learning models (TechTarget, 2023a). The large language models utilize synthetic data to train neural networks.

4.2 | System trends and opportunities

Table 4.2 | System trends and opportunities summary

Trends	Opportunities
Regional IPS face roll-out delays.	Prepare domestic IPS for regional integration and focus on solving forex, data sharing, and cooperation challenges.
Dramatic increase in instant payment capacity.	Optimize the business model through appropriate IPS design and participant enrolment strategy.
IPS prioritize payments via mobile phone.	Install identity validation services and adequate consumer protection.

Trend 1 | Regional IPS face roll-out delays

If setting up a domestic IPS is complicated, a regional IPS is even more so. Regional IPS operators must accommodate the priorities and regulations from multiple countries, including rules on cross-border data sharing; settlement; and KYC, CDD, and participant licensing. IPS designs, laws, regulations, and standards are also different, and some face operational volatility. This complexity is why all three regional systems under development—namely the Common Market for Eastern and Southern Africa (COMESA) Digital Retail Payments Platform, the West African Monetary and Economic Union (WAEMU) interoperability project, and the East African Community (EAC) interoperability project—continue to face delays (Stakeholder interviews, 2024).

The WAEMU project has been under construction for over a decade, yet it faces relatively less complexity given the common use of the West African Franc between its eight member countries, as well as having one central bank as opposed to multiple as in the EAC and COMESA projects (Stakeholder interviews, 2024). While it is expected to launch in the shorter term and is now in pilot, its delay highlights the need for perseverance in achieving such an ambitious project, even between countries with the same currency. As for COMESA, its business council announced that the platform, which started development five years ago, will be launched in late 2024 (COMESA Business Council, 2024). The EAC project is still in its infancy. The East African projects have the additional complexity of needing to agree around foreign exchange mechanisms for clearing and settlement currencies. Both RECs have member states with illiquid and/or volatile currencies that are more complex to source and to trade. Adding a currency conversion step via the US dollar, Euro, or other non-regional currencies adds costs to a transaction that are passed on to the end user. Such a step also imports an array of regulations around the currency from the origin, i.e., the United States, European Union, etc. that increase costs. The foreign exchange mechanism is therefore a key IPS design component that requires significant time and resources to ensure it does not impede use of the IPS in the longer term.

Even the live systems face continued delays. The Pan-African Payment and Settlement System (PAPSS) and the Transactions Cleared on an Immediate Basis (TCIB) system in the Southern African Development Community (SADC) have both technically been live since 2021 but are still only partially operating in a controlled-live environment, and processing limited live transactions.

GIMACPAY in the Central African Economic and Monetary Community (CEMAC) (which is also a monetary union and therefore has no foreign exchange issues to accommodate) had the fastest regional IPS roll-out to date. Its foundations were laid in 2012 before a pilot in 2016 and official launch in 2020 (AfricaNenda, 2023b).

Based on the record of these IPS, it appears that regional systems, both those that are in a monetary union and those that are not, take well over a decade to achieve live status and promising usage numbers. By that estimate, the regional projects in process will require years before they reach sufficient status and scale to compete with the many proprietary and closed-loop solutions on the continent.

In the meantime, private solutions have been capturing demand for cross-border payments, and especially remittances, in intra-Africa corridors via a host of new partnership deals in 2023 and 2024, including:

- **MTN MoMo** partnered with **Orange, Tigo, M-PESA, and Airtel** to add 25 new mobile wallet corridors across 10 African countries to improve remittance links between South Africa and the Democratic Republic of Congo, Ethiopia, Gabon, Kenya, Madagascar, Malawi, Mozambique, Senegal, Sierra Leone, and Tanzania (Ndlovu, 2024).
- **Onafriq** and **M-PESA** signed an international money transfer agreement that connects Ethiopian remittance recipients to Onafriq's 500 million mobile money wallets and 200 million bank accounts across 40 African markets (Ekhator, 2024).
- **Access Holdings** from Nigeria signed a partnership with Coronation Group and M-PESA to provide a bank-to-wallet and wallet-to-bank remittance corridor between East and West Africa. The partnership is prioritizing remittances between Ghana, Kenya, Nigeria, and Tanzania before expanding to another four markets. In total, more than 60 million customers and five million businesses will be connected (Eleanya, 2024).

These private solutions operate within the regulatory frameworks of the sender and recipient countries and get corridor-specific licenses rather than having the option to expand services across the entire region. While an onerous process, they can deploy their solutions faster than if they had to wait for a regional IPS to accommodate them. Several aggregators, such as Mastercard, Onafriq, Terrapay, Thunes, and Visa constitute closed-loop IPS networks that offer connections to many PSPs. However, the end user still faces costs that are well above the SDG transaction cost target of 3-5% of the send amount. These bilateral or multilateral integrations serve the same participants as the regional IPS that are live or in development. PSPs that join them have less need and therefore less incentive to also join regional IPS.

Opportunity

One of the more practical approaches to building regional and cross-border payment capabilities is to connect domestic IIPS with one another through a central platform. This is instead of connecting all PSPs in the region directly to a regional IPS. In this hub-switch model, there is then potential to interlink all regional hubs to achieve continent-wide inclusive interoperability. The opportunity for IPS stakeholders is to prepare their domestic IPS for regional integration—for example, by addressing regulatory harmonization and technical standardization issues at the country level even as the regional IPS is under development. This requires participation in discussions in the regional economic communities (RECs).

Competing with private or closed-loop IPS over participants provides an opportunity for IPS to carefully consider their business models and source of differentiation, both domestically and cross-border. On the one hand, regional systems can double as domestic IPS, as is the case in GIMACPAY and the planned WAEMU system. In these environments, countries without a live IPS can leverage the regional clearing capacity to bring efficiencies to the local market. For domestic IPS and for regional IPS that are considering direct integration of participants, however, there needs to be a clear value proposition for PSPs, so they have fewer incentives to join private IPS or to utilize their existing links to closed-loop networks. Regulatory frameworks can assist by mandating interoperability, both from a regional and a domestic perspective. For example, Angola, Zimbabwe, and CEMAC mandate integration with the national switch as part of the PSP licensing framework.[53]

To increase the value proposition for PSPs involved in cross-border payments, there are key opportunities for remittances and trade payments providers, and their regulators, to reduce costs related to foreign exchange, settlement, cross-border data sharing, and regulatory cooperation between jurisdictions (Stakeholder interviews, 2024).[54] Regional IPS stakeholders that solve these challenges will create buy-in for their solution.

Timeframe to achieve:
Medium to longer term for IPS in development (3+ years).

Preconditions for success:
Appetite by PSPs for regional IPS, and more collaboration between cross-border payment regulators.

53 In Angola, all e-money issuers were required to join the KWiK system within 60 days after receiving a license (National Bank of Angola, 2022). In Zimbabwe, regulations require all providers to connect to the national switch to enable interoperability (Reserve Bank of Zimbabwe, 2020). In the CEMAC states, BEAC requires all payment systems, platforms, wallets, or cards to be interoperable with all other instruments of the same nature in the CEMAC region (BEAC, 2018).

54 The exchange rate constitutes a key profit driver for remittance service providers. If access to foreign exchange pools or a technological solution in the form of synthetic currencies could reduce costs associated with foreign exchange management, there is less excuse for surcharging of end users through large spreads on forex rates.

Trend 2 | Dramatic increase in instant payment capacity

The number of domestic IPS on the continent is poised to almost double, with 31 countries planning to install a new system or upgrade their existing payments infrastructure. The projects are at different stages of development, and some have faced delays similar to the regional initiatives. It is clear nonetheless that the continent will see increased instant clearing capacity in the years to come—potentially multiples of actual payment demand.

For example, Lesotho, a country of 2.5 million people and the newest country to have launched its own IPS, cited its prior dependency on South Africa as a motivation for developing its own system. LeSwitch offers an option to settle transactions locally at the Central Bank of Lesotho, rather than routing them through international or closed network systems (Central Bank of Lesotho, 2024). This is just one example of a country without a large addressable end-user market nonetheless investing in a domestic IPS.

A challenge arises, however, if setting up and running the IPS costs more than what the system can recover through transaction and/or participant fees. If costs are ultimately passed down to end users, they may see little value in digital payments over cash, leading to even less service usage in a negative feedback loop.

In addition to the expanding development of new open-loop IPS, closed-loop options are also increasing in several countries, as mentioned in the market trend on regional roll-out delays. Industry actors are pressing ahead with bilateral solutions that compete for scale with the IPS, especially via cards. Recent deals include:

- **Mastercard's** US $200 million investment (3.8% minority stake) in MTN MoMo (Ekhator, 2024) and the subsequent partnership to provide virtual cards in 13 African markets (Benin, Cameroon, Côte d'Ivoire, Eswatini, Ghana, Liberia, Nigeria, Republic of Congo, Republic of Guinea, Rwanda, South Africa, Uganda, and Zambia) (MTN, 2024).
- **Mastercard and Awash Bank**, a commercial bank in Ethiopia, announced a prepaid card and payment gateway service. Customers can perform contact and contactless card transactions at ATMs and POS terminals, including e-commerce (Mutisi, 2024).
- **Visa and Safaricom** signed a partnership to provide virtual cards in Kenya in 2022 (Vodacom, 2022).

Lastly, central banks are also exploring domestic interoperability via mechanisms such as central bank digital currencies (CBDCs). While no new retail CBDC IPS has been released on the continent since the eNaira in Nigeria, 70% of central banks in Sub-Saharan Africa are actively exploring the opportunity.[55] A recent International Monetary Fund (IMF) survey of 30 Sub-Saharan African central banks showed that 23 of them have already engaged in or will engage in research, experiments, or developmental work related to the implementation of CBDCs (IMF, 2024). While most central banks expect to issue a CBDC in only four to six years, there is a risk of capacity constraints and/or fragmentation of resources, especially in countries that are also in the process of upgrading their domestic payments infrastructure (IMF, 2024). There is evidence of 25 countries (six of which are sharing the Central African franc and are exploring CBDC as one) exploring, piloting, or having launched CBDC (Table 4.3) (CBDCtracker.org, 2024).

Table 4.3 | Status of Africa CBDC projects

Country/ region	Year of announcement	Status
Algeria	2022	Research
Botswana	2022	Research
CEMAC (six countries)	2022	Research
Côte d'Ivoire	2022	Research
Egypt	2018	Research
Ethiopia	2024	Research
Ghana	2021	Pilot
Madagascar	2021	Research
Mauritania	2023	Research
Morocco	2019	Research
Namibia	2021	Research
Nigeria	2021	Launched
Rwanda	2019	Research
South Africa	2019	Research
Sudan	2022	Research
Tanzania	2021	Research
Tunisia	2021	Research
Uganda	2022	Research
Zambia	2022	Research
Zimbabwe	2021	Research

Source: CBDCtracker.org, 2024

55 Zimbabwe's new currency, the ZiG, launched in 2024, is a gold backed CBDC but it does not yet run on its own IPS.

Opportunity

The effect of this trend is that the different instant solutions within countries could end up battling each other for scale. Successfully positioning itself as the payment layer of their country's DPI requires an IPS to have a compelling business model and scale in its participant network. IPS stakeholders can leverage the goal of DPI engagement to improve the system's value proposition. Attracting dominant PSPs as participants requires an IPS that addresses unmet needs in the market. These could relate to KYC verification services, for example, or better interchange/interoperability fee structures, or the prospect of accessing a much larger network of PSPs.

Regulatory interventions also play a role, as in the examples of Egypt, Mauritius, and Zimbabwe, where the central bank mandated banks, MMOs, or both to join the domestic IPS to become interoperable. While this approach can level the playing field for all PSPs and move closer to a DPI, there is a risk that dominant PSPs join the system on paper while still utilizing their preferred processing approach on the back end. The regulator therefore needs to balance the intended and the unintended consequences of using regulatory means to achieve interoperability.

Another option is for interested industry actors to design the IPS. Once these players are connected, they may be able to compete with dominant players outside the system, creating an incentive for the dominant player to join the IPS.

In the case of CBDC exploration, there is an opportunity for IPS stakeholders to leverage the findings of feasibility studies to adjust available services via their system. For example, the IMF survey states that the central banks in Sub-Saharan Africa have been motivated to explore CBDC by the need for domestic payment efficiency (along with financial inclusion). Central banks can achieve these efficiency goals with a sustainable IPS that has wide reach with PSPs.

Timeframe to achieve:
Shorter term (1-3 years).

Preconditions for success:
Willingness by IPS operator/owner to adjust business model and participant engagement strategy; regulator willing to play a role in IPS governance.

Trend 3 | IPS prioritize payments via mobile phone

Africa remains the global leader in mobile money adoption. The continent boasts 169 live mobile money services and experienced a 19 percentage point increase in registered mobile accounts between 2023 and 2024. More than 70% of the global growth in registered accounts came from Sub-Saharan Africa (GSMA, 2024b). Mobile phone usage is also motivating IPS developments across the continent, as highlighted in Chapter 2. Rather than cards, tablets, or laptops, it is apps and QR codes for mobile phones that are the dominant channel for both person-to-person (P2P) transactions and merchant payments (30 IPS offer apps and 17 offer QR codes). Apps are also increasingly popular with end users in countries where smartphone adoption is rising, as highlighted in Chapter 3. Mobile numbers furthermore serve as the most popular proxy identity or alias (17 IPS allow end users to make payments using mobile numbers to identify the recipient).

Opportunity

The opportunity for IPS lies in the roll-out of user-friendly mobile technology, including QR codes and apps with features such as request-to-pay (RTP)—a priority, for example, in PayShap (South Africa) and IPN (Egypt)—and a verification message containing recipient account details before the transaction is completed (already available in some IPS, for example MauCAS (Mauritius)). IPS participants that integrated solutions from popular messaging platforms, such as WhatsApp in the case of ZIPIT (Zimbabwe), can smooth the end-user experience further and reduce the need for a stand-alone app. National QR code standards can increase interoperability and safety measures. New technologies, such as tap-on-phone payments via NFC-enabled devices can be leveraged to improve the user experience.

In line with increased functionality, there is an opportunity to upgrade mobile phone security and processes via the IPS. In a recent survey by GSMA, professionals from 34 African, Asian, and Latin American countries name identity fraud, social engineering, and SIM swaps as the most pressing concerns (GSMA, 2024a). Identity fraud includes identity theft (including stealing ID documents and biometric theft) and fictitious identity fraud (including non-existent identities and synthetic identities). Social engineering includes fraudsters impersonating a trusted or known individual, smishing, vishing, online scams, and reversal fraud.[56] In a SIM swap, the fraudster takes over the identity of the SIM card holder by ordering the MMO to transfer the mobile phone number to another SIM card. GSMA released a comprehensive guide on mobile money fraud typologies and mitigation measures in 2024. A centralized KYC facility at an IPS, supported by appropriate consent management, allows for additional CDD checks if the SIM registration process is not sufficiently robust for eKYC. Additional KYC measures have been adopted by IPN in Egypt, for example, where customers must visit a bank branch to register their SIM card number in addition to their mobile number to be able to transact via their phone numbers.

IPS stakeholders must also consider the realities around USSD popularity. While enabling the USSD channel can increase risk to the IPS given its unencrypted 2G channel, it has the potential to reach a lot more people. While smartphone penetration is increasing rapidly, 49% of mobile phone connections were still via basic/feature phones in 2022 (GSMA, 2023c). Smartphones remain unaffordable for many (GSMA, 2023c). There is therefore still an untapped market for USSD channel enablement in countries that do not offer it.

Timeframe to achieve:
Shorter term (1-3 years).

Preconditions for success:
Robust KYC process for SIM card registrations.

56 Social engineering is an umbrella term for attempt to trick someone into revealing information (e.g., a password) that can be used to attack systems or networks (NIST, 2023). This could be through for example text messages (smishing) or voice/telephony (vishing). Another type of fraud is reversal fraud, which is where a consumer intentionally initiates a payment reversal or chargeback for a legitimate mobile transaction they've made, with the intention of receiving a refund while retaining the purchased goods or services (GSMA, 2024a).

4.3 | Consumer trends and opportunities

Table 4.4 | Consumer trends and opportunities summary

Trends	Opportunities
The barriers to habitual payment use persist.	Optimize the IPS business model, recourse, and security features.
Recurring digital income is becoming a main catalyst for instant payment use.	Integrate use cases that offer regular inflows (G2P).

Trend 1 | The barriers to habitual digital payment use persist

Chapter 3 highlighted the main barriers to end-user adoption of digital payments. These have remained mostly consistent over the past three years in all countries sampled. Among the most consistent barriers are fraud, data privacy, and cost.

Fraud has increased at a rate disproportionate to the growth rate in mobile transactions. For example, between 2019 and 2020, the share of fraudulent mobile app transactions globally increased by 83% while the share of transactions via mobile apps increased by only 38% (Outseer, 2021). Less financially literate IPS end users are particularly vulnerable—for example, women living in rural environments (CGAP, 2022b). While prevention is the most cost-effective way for IPS stakeholders to protect users, if fraud occurs, quick recourse is vital for restoring trust and protecting the end-user's finances.

Data privacy is also an increasing topic of concern for end users. As highlighted in Chapter 3, end users fear surveillance of their financial activities, whether by tax authorities or other public-sector authorities. End users furthermore believe that IPS and PSPs have full visibility of transaction details, which enforces preference for the anonymity of cash. In the case of abuse of customer data, end users can face harassment (especially women) from agents as well as via spam calls, or social engineering attacks.

Finally, end users remain price sensitive. Cost was not only highlighted in Chapter 3 but can also be seen in country-level transaction behaviors. Tanzania, for example, abolished taxing mobile money transactions and Ghana reduced its levy in 2023 after both saw increased use of cash subsequent to applying these taxes (GSMA, 2024b). Similarly, the Central Bank of Kenya reintroduced wallet-to-bank and bank-to-mobile wallet transaction fees in 2023, after abolishing them during COVID-19, and saw transaction values drop (Mburu, 2023). Volumes still grew, especially as end users reverted to sending smaller amounts that triggered no or smaller fees.

These examples show how sensitive people are to IPS charges. Countries that are in the process of adjusting their pricing strategy (such as Egypt and Mauritius) should carefully consider the implications for lower-income end users.

Opportunity

In terms of fraud, the opportunity for IPS stakeholders lies in improving security features, such as use of two-factor authentication. Robust and risk-based KYC processes, including a shared IPS KYC facility, can reduce identity theft and SIM swaps. IPS can also tackle social engineering fraud by increasing end-user awareness around the risks and common approaches by criminals. Fast redress in the form of an additional end-user recourse avenue can improve trust by end users (CGAP, 2022b). Real-time fraud detection advancements, such as the open-source project Tazama, can provide additional security.

Concerns around data privacy are harder to address given the perceived anonymity of cash. However, a responsible and robust IPS data governance framework, ideally informed by regional or country strategies around data protection and cybersecurity, can mitigate the risk of actual data abuse. To date, only 37 African countries have legislation in place to protect personal data (Africa Data Protection, 2022).

Regarding instant payment pricing, there is an opportunity to evaluate the effects of zero-cost transaction fees on digital payments uptake in a country or region. Many countries experienced the power of free digital payments during COVID-19. Transactions increased in Rwanda after the country introduced zero-cost mobile money transfers (Cenfri, 2023b). In light of DPI and inclusivity discussions, IPS stakeholders can take the opportunity to revise their pricing strategies to get to the end-user fees as low as possible.

Timeframe to achieve:
Shorter term (1-3 years).

Preconditions for success:
Country- or region-specific barriers to consumer adoption of digital payments are well understood.

Trend 2 | Recurring digital income is becoming a main catalyst for instant payment use

Data from both the SIIPS 2024 end-user research and the Global Findex 2021 indicate that receiving money regularly directly into an account is a significant driver of both financial inclusion and digital payments use. The Global Findex 2021 finds, for instance, that 39% of adults in developing economies opened their first transactional account with a bank or other brick-and-mortar financial institution to receive a payment from the government (whether a wage or social disbursement) or from a private sector employer (Demirguc-Kunt, et al., 2022). The Global Findex also finds that once they receive a digital payment, well over 90% of account holders also make digital payments. Respondents in the SIIPS end-user research countries over the past three years also highlight how being paid digitally translates into using digital payments, as no cash out is needed.

Opportunity

As many people on the continent rely on social assistance payments as their main form of income, there is an opportunity for IPS stakeholders to digitalize government-to-person (G2P) use cases. Salaries and wages from private and public sectors are another form of regular (monthly or bi-monthly) income, as are, for many, domestic and cross-border remittances. Only six IPS have enabled the G2P use case, however. While some countries may have digitalized the government payment process through a relationship with a commercial bank or some other closed-loop system, the limited network or exclusive distribution by a limited number of PSPs can create an incentive for people to cash out instead of keeping the money in their account and transacting digitally. Centralized KYC information at IPS level can assist in beneficiary confirmation.

Timeframe to achieve:
Shorter to medium term, depending on the existing level of G2P digitalization (1-3 years or 3+ years).

Preconditions for success:
The country or region has a G2P program.

Case study

ZIPIT Zimbabwe

Origin story

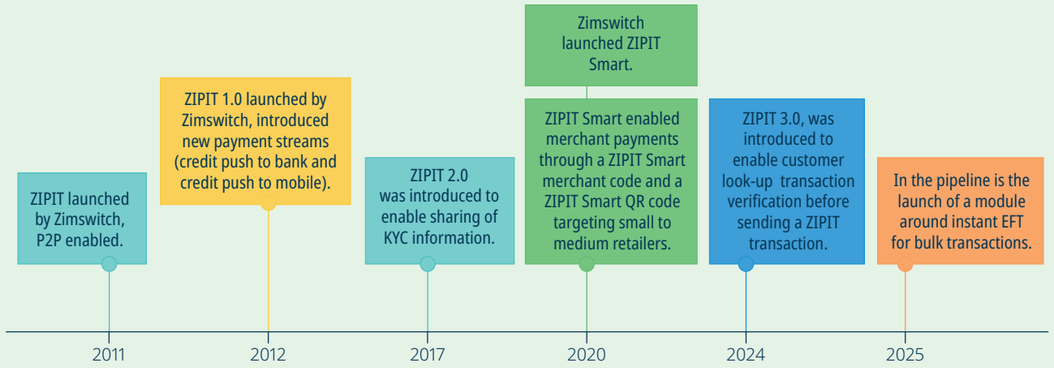
Challenge

The Republic of Zimbabwe experienced widespread cash shortages around 2010, driving the demand for a solution that could facilitate real-time digital value exchanges as an alternative to cash. Zimbabwe's payments landscape only enabled non-cash transactions via automated teller machines (ATM), point of sale (POS) devices, and checks, the latter taking up to seven days to settle. Transfers via the real-time gross settlement (RTGS) could also take several days to reflect in recipient accounts. The country needed an innovative solution, especially as mobile money services had not yet been introduced in Zimbabwe.

Adding value

In 2011, the Electronic Payments Association of Zimbabwe (EPAZ) and the Reserve Bank of Zimbabwe (RBZ) collaborated with industry stakeholders to establish the Zimswitch Instant Payment Interchange Technology (ZIPIT). ZIPIT was the second instant payment system (IPS) on the continent, launched the same year as Nigeria's NIBSS Instant Payment and only preceded by Real-Time Clearing in South Africa (launched in 2006). ZIPIT facilitates real-time inter-bank credit push transfers among payment providers within the Zimswitch network, including banks and mobile money operators (MMOs). It is a cross-domain system, enabling transactions between bank accounts and mobile wallets. Financial inclusion through end-user convenience and ease-of-use were key design principles for ZIPIT. The system includes support for transfers via app, and mobile payments via feature phones.

ZIPIT timeline



Source: Zimswitch, 2024

In 2011, Zimswitch launched ZIPIT with RBZ, EPAZ, and Zimbabwe's commercial banks. Over the years, ZIPIT and its participants have embarked on extensive end-user sensitization campaigns, backed by the central bank, to accelerate the slow digital payments uptake. The country's banks have joined ZIPIT gradually, and EcoCash, the country's most popular mobile money service, was a later participant. Today, 17 commercial banks, five deposit-taking microfinance institutions (DTMFs), six MMOs, and one payment service provider (PSP) participate in the system.

ZIPIT 1.0 enabled person-to-person (P2P) transactions, which remains its most popular use case. The service is available via USSD, WhatsApp, or as an option in available mobile banking apps. Over the years, ZIPIT has enabled the transfer of US dollars held in bank accounts in addition to transactions in the local currency, the Zimbabwean dollar (ZWL)—replaced with Zimbabwe Gold (ZWG) from April 2024. Additional participants, such as EcoCash, were brought into the open-loop system based on a mandate that all licensed MMOs integrate with the national switch. Developed to target small and medium-sized enterprises (SMEs), the product enables merchant purchases from customer mobile phones using a merchant code in place of a POS machine.

ZIPIT 2.0 enabled payment messages to carry know-your-customer (KYC) information, including ID number, account number, or mobile number. ZIPIT Smart introduced person-to-business (P2B) merchant transactions and quick response (QR) codes. For USSD or app transactions, end users can use a merchant USSD code, which is linked to a merchant account.

The introduction of ZIPIT 3.0, which went live in the beginning of 2024, aimed to enhance acceptance among micro, small, and medium-sized enterprises. It includes transaction verification before completing a payment to reduce the number of erroneous transactions. ZIPIT has faced hurdles in facilitating merchant and business-to-business (B2B) payments due to the absence of end-to-end payment details for both merchants and customers.

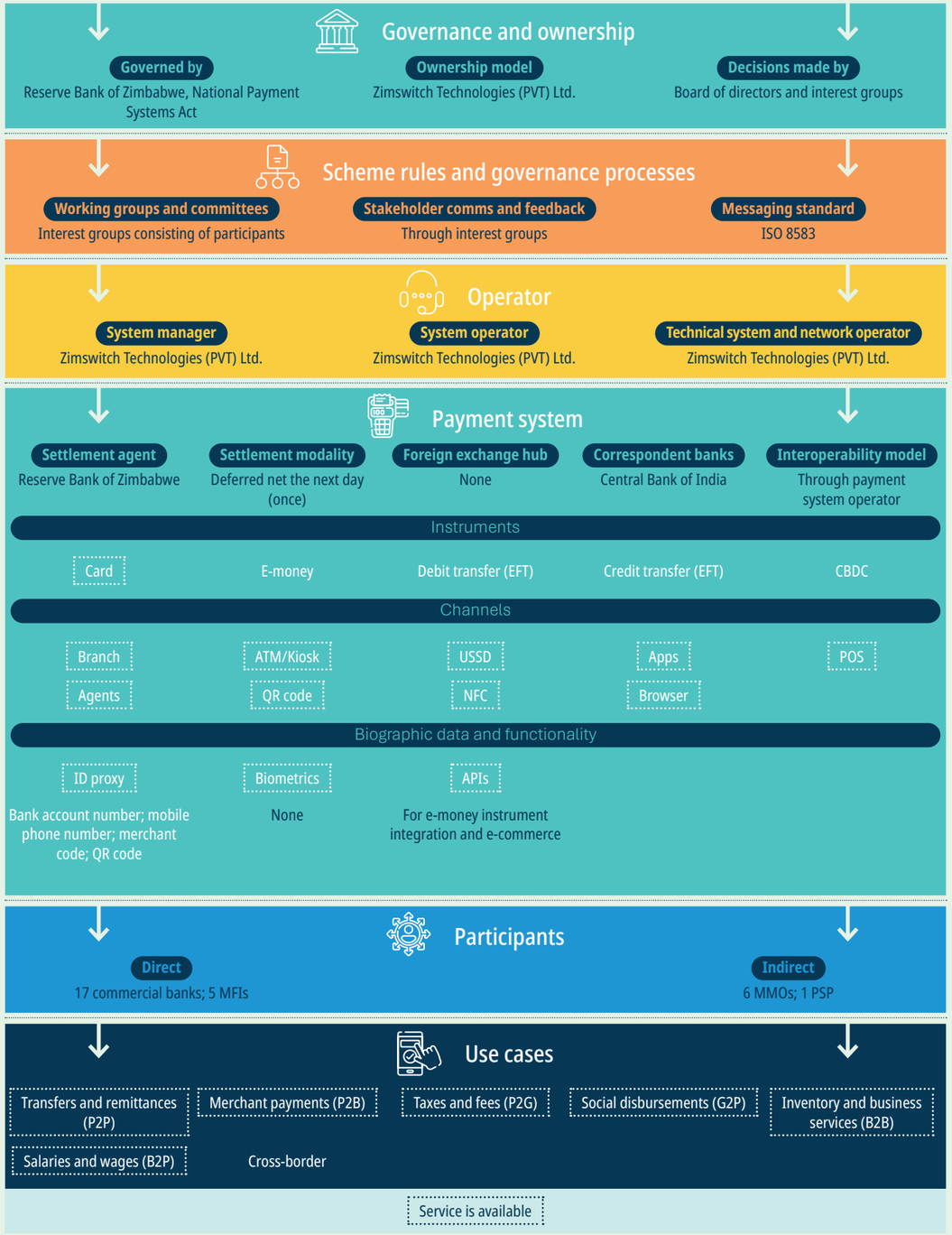
In the pipeline is a module for instant electronic fund transfer (EFT) for bulk transactions, currently done via ZEEPAY, the Zimswitch acquiring system for bulk payments.

Key performance indicators for ZIPIT include the number of participants, growth in transaction volumes and values, and market share in mobile payments.

Governance and operations

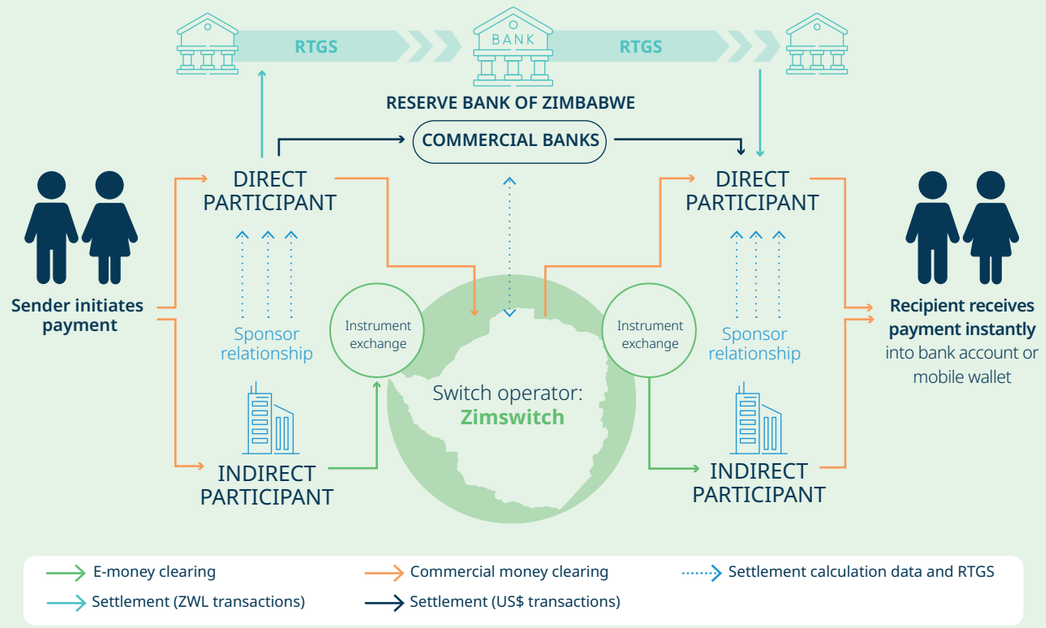
Payment system overview

ZIPIT model overview



As a cross-domain system, ZIPIT is available to any licensed PSP, including commercial banks, microfinance institutions (MFIs), MMOs, and other non-bank PSPs. It enables interbank card-based electronic funds transfers (EFTs) to any account or wallet held by a financial institution on the platform. ZIPIT targets both banked customers with either KYC lite or full bank accounts, and mobile wallet holders. Both US dollar and ZWL-denominated transactions are possible via the system. The IPS is operated by Zimswitch Technologies, a private limited company, established in 1994.

ZIPIT transaction flow



ZIPIT's direct participants include commercial banks and MFIs. Indirect participants are non-bank PSPs, including MMOs. They can access the system via a sponsorship arrangement with a commercial bank, which holds trust accounts for clearing. ZIPIT uses an application programming interface (API) gateway for e-money. The central bank mandates participation for MMOs in the 2020 Banking Regulations. Other players are not obligated but encouraged to join.

The Reserve Bank of Zimbabwe's RTGS settles the transactions via a deferred net settlement arrangement that occurs on the day following the transaction (T+1). There are no pre-funded accounts involved in these transactions. The RBZ maintains collateral to cover settlement obligations in case of default. Zimswitch performs the net settlement calculations and provides information for the positions to settle via the RTGS. Indirect participants settle through their sponsor banks and the trust accounts. ZWL transactions are settled through the RTGS and US dollar (USD) transactions are settled via commercial banks.

Governance

ZIPIT is a Zimswitch solution solely owned by Zimswitch Technologies (PVT) Ltd. Governance of all Zimswitch solutions including ZIPIT is through the National Payment Systems (NPS) Act. RBZ acquired a 15% stake in Zimswitch in 2020 to assist with interoperability. ZIPIT is therefore jointly owned and has a public-private partnership governance model.

Zimswitch is overseen by a board of directors and is licensed by the RBZ National Payment Systems Department to provide clearing services to Zimbabwe. Decisions regarding ZIPIT are made by the Zimswitch board of directors under the regulatory guidance of the central bank. Various stakeholders influence the decision-making process, including RBZ, ZIPIT participants, and other interest groups.

The RBZ, as the regulator, influences the governance and operations of Zimswitch, including key appointments, product approvals, and pricing. Participants, represented by industry associations such as EPAZ, the Banker's Association of Zimbabwe, the Interbank Operations Committee, and the Payment Service Providers Association of Zimbabwe, contribute to requirements and operating rules of the IPS, including limits, pricing, and liability rules. Other interest groups, such as the Retailer's Association of Zimbabwe, Confederation of Retailers in Zimbabwe, and Consumer Council of Zimbabwe, also play a role in shaping decision-making processes. The collaborative decision-making approach ensures that participants have input into the IPS design, an important inclusivity driver.

Functionality

ZIPIT facilitates transactions across all channels, including web-based platforms, mobile applications (including USSD), POS, and ATMs. The PSPs decide which channels to offer their customers. ZIPIT transactions via NFC are limited.

Transactions clear via a card instrument, with API integration for e-money payments. Through the API, the sender's transaction information goes to the partner bank, where it is converted into the ISO 8583 messaging standard that ZIPIT runs on. The PSPs are identified in the clearing messages using bank identification numbers (BINs). Another API is used to enable e-commerce transactions.

Proxy identities (proxy IDs) or aliases include the end user's bank account number, mobile phone number, QR code for apps, and merchant codes for USSD payments. The provision to use QR codes is available under the ZIPIT Smart transaction suite; there have been some transactions, though adoption to date has been limited. There are ongoing conversations within the market about making QR codes interoperable via standardization, since several players offer QR payments.

The feature that sets ZIPIT apart in the market is the ability to conduct transactions in both USD and ZWL, which could encourage Zimbabweans to hold dollars in bank accounts rather than in cash. The transaction limits set by the regulator on ZIPIT are US $500 per transaction and up to US $1,000 a month.

Technical standards and use cases

ZIPIT operates on the ISO 8583 credit push messaging standard. There are no plans to upgrade to ISO 20022. Developments are underway to offer an ISO 20022 EFT clearing house solution. Workarounds using ISO 8583 have enabled the system to increase the identity information in the payments message without needing to upgrade the standard.

Apart from P2P and P2B bill and merchant payments, ZIPIT facilitates business-to-business payments, salaries, and taxes and fees. Efforts are underway to develop a real-time government-to-person (G2P) option, aligning with the organization's broader strategic objective of financial inclusion. G2P payments are currently routed through a different channel via ZEEPAY and take approximately 10 minutes to reach the recipient account. Once integrated with ZIPIT, G2P transfers will be near instant. There is currently no cross-border transaction capability.

Business model

Zimswitch Technologies (PVT) Ltd. provided the initial start-up funding for the Zimswitch IPS, supplemented by a technology partner, whose current share stands at 25%. The central bank contributed start-up funds. Switch fees assist in recovering the operational expenses of the IPS. The initiative operates with a for-profit model. End-user fees vary based on what the banks charge their customers, as there is no universal fee structure. Zimswitch charges banks a 1% fee, while banks set their customer fees between 1% and 3%, based on their pricing models and competitive advantages. This is exclusive of a 2% government tax (Zimswitch, 2024). Transaction limits are regularly adjusted to mitigate the impact of inflation rates, ensuring continued accessibility for users across various economic strata.

Scheme rules

ZIPIT's scheme rules are not publicly available. Compliance with anti-money laundering (AML), countering the financing of terrorism (CFT) and counter proliferation financing (CPF) is mandatory for all participants. This includes adopting a risk-based approach to compliance, guided by legislation and regulatory directives. The risk-based approach has not yet been widely adopted across the continent, making Zimbabwe stand out.

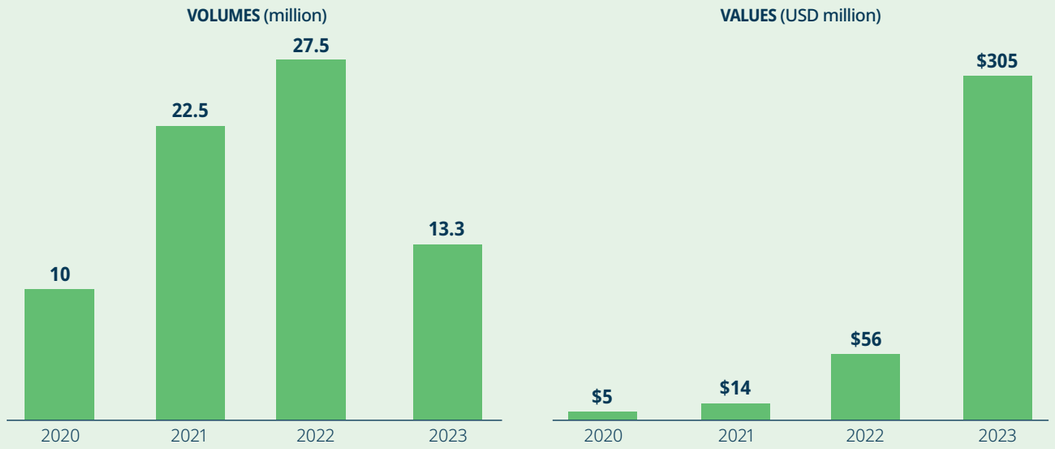
Zimswitch also established a query and dispute management process within the scheme rules, supported by a dedicated system for tracking and resolving end-user queries and disputes. Dispute resolution rules and policies apply to each member, guiding query resolution processes across the entire value chain, including merchants and end users. In terms of the process, the sender initiates the query to their bank, which captures it on a Zimswitch platform and then resolves between the sender and the recipient bank. ZIPIT requires the query to be resolved within 48 hours, after which ZIPIT acts as an arbitrator should the parties not come to a settlement. This process also applies to erroneous mobile money transactions. While centralized monitoring is a step in the right direction, ZIPIT does not yet provide an additional avenue for end users to access recourse mechanisms outside of their PSP.

Volumes and values processed by the payment system

Zimswitch does not collect information for on-us transactions from the IPS, limiting the view to payments made internal to a given PSP. Zimswitch reports quarterly to the RBZ. Information on performance is also available daily.

ZIPIT saw solid growth in volumes between 2020 and 2022, partially correlated with increased digital adoption following the COVID-19 pandemic. Within the last year, transaction volumes decreased from 27.5 million to 13.3 million. Over the same period, value transacted increased from US $56 million (ZWL 340 billion) to US $305 million (ZWL 1.9 trillion).[57] This increase in value was driven entirely by inflation of the ZWL. In actual terms, there was a decrease in values transaction (Zimswitch, 2024). Given the currency volatility over the past year, people had less incentive to use the formal financial system. ZIPIT processed the equivalent of 1% of gross national income in 2023, pointing to a continued large opportunity to expand digital payment in the country.

ZIPIT transaction volumes and values



Source: Zimswitch, 2024

57 An exchange rate of ZWL 6,104.7 per US$ was used, as provided by Zimswitch. Given its volatility, there is no official exchange rate for ZWL on www.oanda.com and the currency has since been replaced by the Zimbabwean Gold (ZWG).

The different currencies used for retail transactions in Zimbabwe introduce hurdles to digital payments uptake, as consumers have a deep distrust in the formal financial services sector due to high inflation. The Zimbabwean local currency is only used for about 20% of all transactions. The US dollar has dominated ever since its introduction into the country in 2009. ZWL has been mostly used to give out change by businesses (Dzoma, 2024). In April 2024, RBZ introduced its sixth currency since 2008, the Zimbabwe Gold (ZWG), to tackle inflation and cash shortages. All PSPs were offline for about a week to deal with the conversion, disrupting the digital ecosystem. Unless clear guidance and risk mitigation procedures are communicated by the regulator, such events can lead to a drop in consumer confidence in the robustness of an IPS.

Regulation

Key pieces of legislation/regulation for participants of the scheme include the Banking Act, which regulates the financial institutions on the platform and the National Payment Systems Act, which regulates payment service providers, including Zimswitch and MMOs. Additionally, the 2020 Banking (Money Transmission, Mobile Banking and Mobile Money Interoperability) Regulations mandate the integration of MMOs to the NPS for interoperability.

AML/CFT/CPF and sanctions legislation, including the Money Laundering and Proceeds of Crime Act, the Bank Use Promotion Act, and the Suppression of Foreign and International Terrorism Act also apply. The operator reports regulatory constraints such as restrictive transaction limits stipulated by the regulator to address issues of illegal forex trading prevalent in the market and subject to abuse by the product. There is no open finance or virtual asset regulation in Zimbabwe, but a national QR code is under development.

Inclusivity learnings

According to the AfricaNenda Inclusivity Spectrum, ZIPIT has achieved the progressed level of inclusivity. It facilitates inclusive functionality for key use cases like P2P and P2B transactions and offers its end users their preferred transactions channels. The system provides all-to-all interoperability via a cross-domain model, and the central bank is part of the governance structure. Lastly, all participants of ZIPIT have equal input opportunity into key decisions.

To advance to mature inclusivity, ZIPIT must expand its use cases, especially integrating G2P payments. In addition to its monitoring of disputes, it can consider implementing additional recourse avenues to increase trust by end users. Finally, a not-for-loss or cost-recovery business model would ensure that surcharging does not impede uptake by end users. In terms of the regulatory environment, Zimbabwe has an updated banking act and deploys a risk-based approach to AML/CFT/CPF, which is adequate.

In the design and rollout of ZIPIT, several key inclusivity learnings emerged:

- **Merchant codes facilitate P2B payments, reducing errors:** ZIPIT Smart introduced merchant codes linked to merchant accounts, enabling more seamless P2B merchant transactions. This reduces errors. QR codes are even more convenient, but their uptake is still limited—the next frontier for ZIPIT to explore.
- **Establishing a dedicated dispute resolution process increases trust:** In the case of an unresolved dispute, ZIPIT introduces an additional channel for end users. The typical resolution process involves the sender initiating a query through their bank, which logs it on the Zimswitch platform and facilitates resolution between the involved banks. If no settlement is reached within 48 hours, ZIPIT acts as an arbitrator to resolve the dispute. By implementing clear and enforceable rules for handling disputes at the participant level, systems like ZIPIT increase confidence and reliability.
- **Multiple currencies increase digitalization:** ZIPIT enables the transfer of both US dollar and ZWL/ZWG-denominated transactions without the need for conversion. In a country plagued by high inflation and the erosion of trust in PSPs, these features can offer end users more choice and potentially reduce the proportion of currency held in cash.

5

Expanding the reach of IPS: Removing barriers to fintech licensing

Throughout this report, we have highlighted ways in which the broader financial ecosystem for a given country or region affects IPS inclusivity. The regulatory environment is one of the most powerful ecosystem forces. For example, we have seen in the landscape chapter how central bank engagement and interoperability mandates have contributed to more mature inclusivity for many of the IPS at the progressed level of the AfricaNenda Inclusivity Spectrum. Another regulatory area that has significant impact on IPS inclusivity and growth is licensing practices for non-bank PSPs. This chapter specifically explores the current state of fintech licensing in the countries with an IPS, and what changes could enable more participation by fintech actors, resulting in inclusivity benefits.

5.1 The role of payment fintechs for enabling inclusivity

Traditionally, a small number of providers—usually banks—have controlled the payments value chain in each country. More recently, however, a new category of payment service providers (PSPs) has emerged, with innovation along the payment value chain (Forbes, 2016). This has led to a more diversified and competitive landscape in payments, with implications for IPS. Traditional providers such as banks and other deposit-taking institutions are now co-existing and even collaborating with specialized entities, such as money transfer operators, e-money issuers, payment aggregators, and payment gateway providers (World Bank, 2016). Fintech entities offering payment solutions have been driving much of this trend.[58]

One defining characteristic of the current diversification of the payments sector is that payment fintechs do not all fulfill the same functions. They may leverage technology to offer innovative financial solutions that enhance affordability, convenience, variety, security, transparency, or access (CFA Institute, 2023). But they may do that at different points in the value chain. Including them as IPS participants has the potential to help operators achieve scale and deepen financial inclusion. For example:

- **M-PESA (Kenya)** is one of the most renowned examples of payment fintechs expanding the reach of payments. As one of the first solutions to leverage Kenya's high mobile phone penetration rates to develop and offer mobile money, M-PESA has contributed to a 58-percentage point increase in financial inclusion in the country, from 26% in 2007 to 84% in 2021 (OMFIF, 2024).

- **MNT-Halan (Egypt)** offers a one-stop-shop and end-to-end payment ecosystem in Egypt. It offers a suite of services ranging from buy-now-pay-later, nano-loans, and financing, as well as person-to-person (P2P) transfers, payroll disbursements, and bill payments. In addition, it offers an electronic wallet for disbursing, collecting, and transferring money (MNT-Halan, 2024). By offering its services on an easy-to-use platform, with low barriers to access and lower costs, MNT-Halan has been able to reach hard-to-reach customer segments. In 2022, 90% of all clients were based in rural areas, 419,000 productive loans were disbursed to low-income women, and the company financed approximately 1,700 small and medium-sized enterprises (DPI, 2024).

Despite their presence in the market and proven track record of finding ways to reach underserved end users, African fintechs are seldom direct IPS participants. Only 10 of the 31 IPS have non-bank participants other than mobile money operators.[59] Payment fintechs with newer business models, specifically those beyond e-money, are often challenged from joining IPS, either because they struggle to get licensed or are perceived as increasing risk related to financial stability, integrity, and consumer protection.

58 For the purposes of this report, a payment fintech refers to a firm that is not a bank, microfinance institution, or postal service, yet provides technology-enabled digital payment services.

59 The ten IPS with non-bank participants that are not mobile money operators are IPN and Meeza Digital (Arab Republic of Egypt), EthSwitch (Ethiopia), GIP (Ghana), MauCAS (Mauritius), MarocPay (Morocco), eNaira (Nigeria), NFS (Zambia), and ZIPIT (Zimbabwe), as well as GIMACPAY (CEMAC).

To become inclusive, the IPS should aim to serve the largest possible share of end users at a low cost, rather than focusing only on the most profitable segment. That will be challenging without help from new and innovative providers—including payment fintechs—dedicated to serving traditionally underserved end-user groups. Thus, policymakers and IPS operators must understand the barriers payment fintechs currently face entering their markets and getting licensed, both prerequisites of IPS participation. Similarly, regulators need to understand which regulatory or licensing approaches could equip them to effectively manage the risks that fintechs pose, such as risk to consumers, fraud, insufficient scalability, and reliability (especially in terms of potentially triggering system downtime), without stymying innovation.

This deep dive explores the regulatory challenges, current approaches, and opportunities for enabling payment fintechs to participate in IPS while still managing risks.

5.2 Payment fintech licensing challenges

Payment fintechs face barriers at every point of the licensing process. Table 5.1 lists the prominent challenges they face in Africa, as highlighted by research and key informant interviews.

Table 5.1 | Payment fintech licensing barriers

Type of barrier	Part of the licensing process where the barrier arises		
	Application	Processing and approval	Post-approval
Limiting or limited license value	✖	-	✖
Regulatory uncertainty	✖	✖	✖
Onerous, lengthy, and costly processes	✖	✖	-
Limited innovation support	✖	✖	-

- **Limiting or limited license value.** Payment fintechs operating with new or alternative business models say that they face barriers in the application and approval stages because existing licensing categories do not apply to their products and services. Even if existing licenses meet some of their needs, they may impose limits around where the license holder can operate and who they can serve. This can result in their application not being submitted; thus, the application process ends before the regulator processes it or the regulator rejects it in the processing stage. Another common challenge, this time at the post-approval stage, is the lack of license passporting, meaning that a license for one activity in one jurisdiction does not make it easier to apply to operate in another jurisdiction. Instead, the payment fintech needs to repeat the process. The costs of applying for another license, especially in smaller markets, inhibits expansion.

- **Regulatory uncertainty.** Payment fintechs struggle to navigate complex regulatory regimes, which can often be unclear about which licensing categories and regulations apply to them and which specific regulator(s) oversee their domain. After applying, fintechs also may have no insight into the state of

their application while it is processed. Moreover, fintechs receive no explanation when asked to submit additional information, and no transparency about the reason behind a rejection. Applications that make it to the post-approval phase may also face challenges caused by regulatory volatility. Ongoing debates about blockchain and crypto assets, for example, have resulted in decisions that are inconsistent or reversed due to policy uncertainty. Fintechs operating in those spaces have lost licenses, needed to change their products/services to remain operational, or lost business due to reduced end-user confidence.

Onerous, lengthy, and costly processes. Manual and inconvenient processes, long wait times (both in terms of time needed to apply and time spent waiting for an outcome), the cost of the application, the cost/resources needed to keep the business afloat while waiting for the license, and repetitive processes (being asked for the resubmission of evidence or to submit additional documentation or evidence) all create barriers to licensing. In the application phase specifically, fintechs highlight the barriers caused by high capital requirements, the need for physical documentation, in-person engagements, and the requirement of having a physical presence in a jurisdiction. These factors can create a disincentive to entering a market or force fintechs to withdraw from it.

Limited innovation support. While many jurisdictions boast innovation offices and fintech accelerators, not all these institutions are equipped to support fintechs through their licensing journey. Subsequently, payment fintechs face higher chances of falling out of the application process and of being declined due to omissions and inaccuracies, for example applying for the wrong license, applying for a license with incorrect functions, or not having the necessary documentation of governance structures to support their application. Associations have observed that regulators sometimes prefer to have fintech companies approach them directly, which can inadvertently limit the support that associations can offer.

In response to these challenges, a payment fintech may either abandon their business, sell it, amend their services so as not to need a license to operate, or opt to operate without one. Any of these choices limit their ability to join an IPS and, therefore, may limit innovation in the IPS ecosystem. An additional risk is that technologically advanced payment fintechs could join the informal market, thereby strengthening the informal systems which compete against licensed providers and exposing customers to unmitigated risks.

Alternatively, fintechs may overcome their licensing barriers by partnering with an existing IPS participant. This approach may be more cost effective than applying for a license and adapting the business to accommodate licensing requirements. It also allows the payment fintech to benefit from the partner PSP's regulatory standing and provides access to the partner's existing customer base. The partnership route does not suit all payment fintechs, however, as it often requires them to adapt their products and services to fit the partner's risk appetite and needs. Neither does it necessarily serve the innovation and inclusion goals of an IPS, as it limits the fintech's reach to the customers of that partner and limits the innovations it can offer to those the partner chooses.

To ensure fintechs and other non-bank financial institutions have reasonable options to compete and contribute to payment innovation, countries need innovation-friendly regulatory approaches and licensing tools. In the payment space, an innovation-friendly licensing regime would allow payment fintechs to operate long-term in the market, expand, and join an IPS. To do so, regulators need an approach that can adapt to the rapidly evolving nature of payment fintech business models, activities, and risks—one that still accommodates fintechs with light and agile structures.[60] As such, a necessary regulatory approach is for regulators to define the risks fintechs pose and the roles they play, and leverage the licensing process to ensure that payment fintechs have the appropriate risk mitigation measures in place and that their activities are relevant for IPS purposes.[61]

60 The risks posed should not be underestimated in the promising light of innovation and inclusion. Therefore, there is a limit to which regulatory approaches and licensing can be streamlined for fintechs (Lawack & Puja, 2023).

61 These include risks associated with financial integrity (such as money laundering, terrorist financing, proliferation financing, and fraud), consumer and investor protection, regulatory arbitrage, and liquidity.

5.3 Approaches to license or otherwise accommodate payment fintechs

Across the countries in Africa with live IPS, regulators have adopted several approaches to regulating payment fintechs, depending on the type of fintech activity. The two dominant approaches are: (1) License them directly, the approaches to which vary; and (2) Leverage alternative approaches to support a fintech's development to the point where it could be licensed. Regulators may use both approaches in a complementary way in the same jurisdiction.

Direct licensing approaches

Traditionally, payment services have been regulated under an **institutional license**, whereby the regulator issues the license to an institution to engage in a pre-defined set of activities or services. Only specific categories of regulated entities such as banks, switches, clearing houses, microfinance institutions, or postal banks could receive institutional licenses, and the compliance requirements (to mitigate risks) of each were proportionate to the level of institutional risk that each posed. This introduced barriers to entry for smaller or alternative institutions into the payment value chain that provide more narrow payment functions with lower risk.

As the industry evolved and risk perceptions have changed, however, regulators have evolved to **activity-based licenses** (also referred to as function-based licenses).[62] The activity-based approach draws on the "same activity, same risk, same regulation" principle. It allows for regulations applied to specific payment activities, regardless of what type of institution fulfills them (BIS, 2022a). By focusing on the activity, PSPs can develop and operate niche and innovative business models under narrower, but less onerous activity-based licenses.

Over the past two decades African countries with an IPS have moved in line with this trend to create a broader spectrum of licenses beyond the traditional institutional licensing approaches. This shift has allowed payment service providers to participate directly in the payment system without having a banking or similar institutional license. Table 5.2 illustrates the growing list of payment related licenses available in African countries with an IPS, beyond the traditional institutional licenses required to offer payment services such as banking. E-money, remittances, issuer/acquirer, aggregators, point of interactions (POI), and payment system operators/switches licensing categories open the door for non-bank fintechs to offer payments, allowing an IPS to bring on a diverse network of participants beyond traditional PSPs.

62 The payment landscape has evolved over time, due to a myriad of factors including new guidance being issued by the Financial Action Task Force, learnings from sandboxes and other alternative licensing mechanisms, new considerations such as inclusion, and changing perceptions of risk.

Table 5.2 | PSP license categories across countries with live IPS open to non-bank fintechs[63]

	Licensing categories for payment functions beyond banking						
	E-money	Remittance	Agent	Issuer/ Acquirer	Aggregator/ bureau or bulk distributor	Point of interaction (POI)	Payment System Operators / Switching/ Settlement agents
Angola	✖	✖	✖	✖	✖	-	✖
Egypt, Arab Rep.	✖	✖	✖	✖	✖	-	✖
Ethiopia	✖	✖	✖	✖	✖	-	✖
The Gambia	✖	✖	✖	✖	-	-	✖
Ghana	✖	✖	✖	✖	✖	✖	✖
Kenya	✖	✖	✖	✖	-	✖	✖
Madagascar	✖	✖	✖	✖	-	-	-
Malawi	✖	✖	✖	✖	✖	-	✖
Mauritius	✖	✖	✖	✖	✖	✖	✖
Morocco	✖	✖	✖	✖	✖	-	✖
Mozambique	✖	✖	✖	✖	✖	-	✖
Nigeria	✖	✖	✖	✖	✖	✖	✖
Rwanda	✖	✖	✖	✖	✖	✖	✖
South Africa	✖	✖	✖	✖	✖	-	✖
Tanzania	✖	✖	✖	✖	✖	✖	✖
Tunisia	✖	✖	✖	✖	✖	-	✖
Uganda	✖	✖	✖	✖	✖	-	✖
Zambia	✖	✖	✖	✖	✖	-	✖
Zimbabwe	✖	✖	✖	✖	✖	-	✖
CEMAC	✖	✖	✖	✖	✖	-	✖

The move toward activity-based licenses has enabled fintechs to enter markets with targeted offerings. A prominent example is M-PESA. In Kenya, it offers mobile money under an e-money issuance activity-based license with reduced requirements compared to banks, since the latter fulfill a broader set of activities. Activity-based licensing has the potential to increase the types of payment channels, functions, and services available to end users, thereby helping expand the reach of instant payments. Given its benefits for diversifying the payment value chain, several African countries have, since 2019, revisited their payment regulation to enable a more inclusive PSP licensing approach. These include Angola, Egypt, Ethiopia, Ghana, Mauritius, Nigeria, Uganda, and Zambia.[64]

63 AfricaNenda has used the following sources for compiling the table above in order to validate payment activities covered within each country, (Associação Angolana de Bancos, n.d.), (MC&A, 2021), (Banco Nacional De Angola, 2020), (Lawyers Hub Cameroon, 2022), (4M Legal & Tax, 2023), (Eldib and Co, 2020), (Central Bank of Egypt, 2023), (International Bar Association, 2024), (PaySky, 2021), (National Bank of Ethiopia , 2023), (EthSwitch, 2024), (PayCly, 2024), (Central Bank of the Gambia, 2011), (IFAD, 2024), (Bank of Ghana, 2021), (Ghana Interbank payment and settlement systems limited, 2024), (Koriat Law , 2022), (GSMA, 2014a), (Central Bank of Kenya, 2023), (FinExtra, 2021), (BFAGlobal, 2021), (Africa Business Communities , 2021), (Committee of Central Bank Governors , 2008), (Buckley, et al., 2015), (Government of Malawi, 2017), (Pesapal, 2024), (DPO Pay, n.d.), (Government of Malawi, 2017), (Bowmans , 2021), (Bank of Mauritius , n.d.), (MIPS, 2024), (Mauritius Africa Fintech Hub, n.d.), (Mondaq, 2022), (Bank Al-Maghrib, 2024), (PayCly, 2024), (Cenfri, 2023a), (Club of Mozambique, 2022), (360Mozambique, 2024), (DAI Global, 2018), (Banco de Moçambique, n.d.), (Central Bank of Nigeria, 2020), (Central Bank of Nigeria , 2014), (Laws.Africa , 2018), (National Bank of Rwanda , n.d.), (PPM Attorneys , 2019), (Eternity Law , 2022), (Global Compliance News , 2021), (Bowmans, 2022), (The Citizen, 2022), (Bank of Tanzania, n.d.), (Mobile World Live, 2018), (Central Bank of Tunisia, 2014), (OECD, 2023), (Kampala Associated Advocates , 2020), (Cenfri, 2018c), (Moira Mukaka Legal Practitioners , 2023), (Central Bank of Zambia, 2024), , (Reserve Bank of Zimbabwe, 2017), A desk review of e-money regulations for IPS country central banks (AfricaNenda, 2023c).

64 This list of countries was identified through a review of the dates of relevant regulation across the IPS countries.

Though activity-based licenses have helped increase financial inclusion in Africa, ongoing differences in how regulators define payment activities and the requirements they set may still limit their inclusion potential. A review of the payment regulatory frameworks for countries with an IPS revealed different licensing approaches for similar payment roles. For example, Ghana and Rwanda categorize their licensing tiers by services permitted, whereas Ethiopia categorizes based on the role played in the payment value chain, such as ATM operators, POS operators, or online payment gateway operators. This latter approach may be too prescriptive for license applicants with business models that don't quite fit the mold. Differences across jurisdictions may likewise complicate a fintech's ability to operate in different countries—more evidence for the importance of regulatory harmonization to help payment services reach all population segments. Even within a domestic context, an overly narrow categorization of activities could lead to fragmentation of the regulatory framework and could stall innovation.

The answer is not to move away from the more flexible activity-based approach but rather to apply it with a risk-based lens. Doing so could equip regulators to manage risk in the payments sector without stifling innovation or limiting inclusivity. Toward that end, some financial regulators are moving away from the rules-based compliance approach, whereby the regulation focuses on inputs and tick-box compliance, towards a risk-based approach (also known as the principles-based approach) focused on outcomes and risk management (FATF, 2014).

A risk-based approach has the following advantages:

- **Strengthen risk mitigation**. Regulators can better identify, monitor, and empirically assess the risks that each payment role poses and thereby apply the appropriate resources and strategies to mitigate risk to acceptable levels (CGAP, 2020b). A risk-based approach also equips regulators to distinguish real risks from those that are still theoretical or immaterial.
- **Streamline the licensing process**. By better understanding the real risks of a given payment activity, regulators will be able to define licensing requirements that are proportionate to them. The practical outcome will be an easier and less labor-intensive licensing process for low-risk payment fintechs, freeing regulator attention for higher-risk payment activities, which would also benefit from faster reviews.
- **Foster inclusion**. Streamlining the licensing process will pave the way for innovative providers to enter the market focused on small functions in the payment value chain or specific segments of the population, potentially increasing reach and inclusion.
- **Balance participation**. A proportionate approach will also deter fintechs that cannot meet respective licensing requirements and encourage them to partner with a licensed PSP. This will allow for direct IPS participation by payment fintechs that can meaningfully expand the system's reach and maintain its integrity, while less suitable ones join forces with existing participants or offer services outside the IPS value stream.

Despite these benefits, the risk-based approach to licensing faces several challenges. It may be difficult, for example, for regulators to establish the organizational culture and mindset for risk-based supervision, especially in the absence of training and development programs. Regulators may also lack the data and systems necessary for accurate and efficient monitoring and risk assessments. Similarly, they may not have the capacity to recognize or differentiate the risks present in newer business models and provider types. This is exacerbated by the fact that there is no single set of global risk principles (CGAP, 2020b).

Box 5.1 | Country examples of leveraging the risk-based approach to licensing

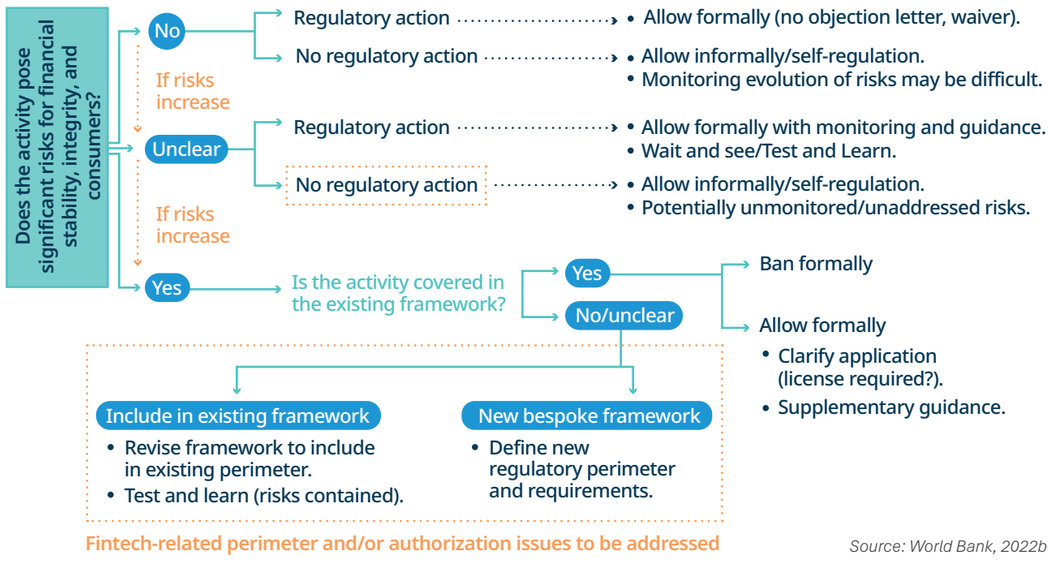
Ghana. Based on the Payment Systems and Services Act of 2019, Ghana currently has six fintech license categories: Dedicated Electronic Money Issuers (DEMI's), PSPs categorized into three licensing tiers (Standard, Medium and Enhanced), PSP schemes, and Payment and Fintech Service Providers (PFTSPs) (AFI, 2023). Since the promulgation of the Act, the Bank of Ghana has issued 46 licenses, most of which have been in the enhanced PSP category (Bank of Ghana, 2024). This segmented approach has allowed the Bank of Ghana to associate risks to each payment role, assign them a category, and allocate proportionate resources to it. The license categories and the tiering approach has also allowed smaller PSPs to scale up and apply for licenses to deliver a wider set of activities (Bank of Ghana, 2024).

Kenya. To overcome challenges associated with recognizing evolving fintech business models and reconciling competing and conflicting regulatory mandates, the Central Bank of Kenya (CBK) is preparing to bring all digital financial services under the regulatory purview of the CBK (National Assembly Bill No. 21). This is Africa's first all-encompassing approach to regulating digital financial services conduct, supervision, and licensing (Bowmans, 2021a). This will allow the CBK to comprehensively assess the risks associated with each payment activity across different sectors and develop fit-for-purpose licensing categories.

Rwanda. The Central Bank of Rwanda has revised the regulations governing PSPs to include tailored licenses and a streamlined process for modifying licenses (National Bank of Rwanda, 2023). This allows licensees to add or remove specific payment services with approval by the central bank (Kayisanabo, 2023).

The World Bank's Fintech Regulatory Decision Tree below provides a useful illustration to guide African IPS countries' decision-making where navigating activities that pose significant risks for financial stability, integrity, and consumers as depicted in Figure 5.1 below:

Figure 5.1 | The Fintech Regulatory Decision Tree



Source: World Bank, 2022b

In navigating regulatory responses to new activity risks, African countries with an IPS should consider the nature of fintech activity along with country specific factors such as the state of the payment market, capacity constraints, and their existing financial regulatory framework. The decision tree also provides a useful illustration of alternative regulatory approaches that most African IPS countries have begun adopting as a response to addressing activities that are not covered by an existing regulatory framework but still require regulatory action.

Alternative approaches to licensing

In addition to the licensing approaches described, regulators are leveraging one or more alternative approaches to supervising new and emerging payment fintechs. The three most popular alternative approaches in African countries with IPS are the wait-and-see approach, the test-and-learn approach, and the innovation facilitator approach, as follows:

The wait-and-see approach

The wait-and-see approach involves regulators observing and monitoring an innovation before intervening. Regulators typically adopt this approach when there is regulatory ambiguity around a fintech's activity or business model. Waiting and seeing brings the advantage of allowing regulators to avoid rushing into a long legislative process unless it proves necessary. The disadvantage is that waiting requires careful monitoring, as unrestricted innovation can pose risks to consumer protection and financial stability. It is therefore an interim rather than a permanent solution (World Bank, 2020c).

Box 5.2 | Wait and see in Nigeria

The Central Bank of Nigeria (CBN) applied the wait-and-see approach to virtual assets (cryptocurrencies) before introducing official regulations. Between 2017 and 2020, the CBN closely monitored virtual asset service providers (VASPs). In that time, it released several guiding notices to the public, including a notice on the inherent risks associated with dealing in cryptocurrencies. By 2021, the CBN had determined that virtual assets posed too great a risk and were too volatile. It therefore prohibited banks, non-bank financial institutions, and other financial entities from opening accounts for VASPs. As time progressed, however, the landscape around VASPs evolved, as did global trends and approaches to risk mitigation. Based on new knowledge, the CBN developed appropriate regulations outlining how banks and financial institutions could open cryptocurrency accounts, provide settlement services, and facilitate foreign exchange inflows for firms transacting in virtual assets (African Business, 2024).

The test-and-learn approach

The test-and-learn approach allows regulators to leverage provisional licensing mechanisms, such as a letter of no objection, to new technologies and business models. Provisional licenses are limited to a controlled environment, for example, through a sandbox. Almost all regulators with IPS have developed regulatory sandboxes, thereby presenting innovators with an opportunity to test their products without having to fully comply with regulations. Sandboxes also allow regulators to learn about the potential risks and impacts their products present to the market and to end users (Cenfri, 2021).

Different countries implement sandboxes with their own rules and structures, tailored to their regulatory goals

and the specific needs of their markets. Sandboxes can also be wielded as a tool for financial inclusion. For example, the Central Bank of Egypt has tailored the eligibility criteria for its sandbox to products or services that support financial inclusion (IMF, 2023).

The test-and-learn approach is agile in that it allows regulators to grant restricted licenses or partial exemptions on a small scale, while providing oversight. This creates an active learning environment which produces sufficient data and evidence to allow regulators to understand risks and observe how the market is evolving. This enables them to develop a targeted regulatory strategy better suited to the product and business model and the risks it poses. Ultimately it also improves regulator capacity, supports open and active communication between regulators and innovators, and allows for the accommodation of more, and more developed, fintechs in the payment landscape.

Despite these advantages, regulators often struggle to gather the necessary capacity and resources to provide the required oversight. The differentiation in business activities often makes it difficult to ensure equal treatment of participants, and the risk of providing insufficient monitoring is very high (it can create risks for end users or restrict innovation). Thus, the test-and-learn approach is designed to be an interim measure or stepping stone towards full licensing (World Bank, 2020c).

Box 5.3 | The test-and-learn approach in South Africa

South Africa's Intergovernmental Fintech Working Group has adopted a distinct approach to testing and learning. Its regulatory sandbox launched as a joint initiative and included participation from the National Treasury, Financial Intelligence Centre, Financial Sector Conduct Authority (FSCA), National Credit Regulator, South African Reserve Bank, South African Revenue Service, and Competition Commission. The goal of the sandbox is to explore how regulators can more proactively assess emerging risks and opportunities in the market. In parallel, it developed a Regulatory Guidance Unit to help market innovators resolve specific questions regarding the policy landscape and regulatory requirements (IMF, 2023).

Innovation facilitators

The third approach is to leverage innovation facilitators—such as innovation offices, hubs, and accelerators—to create a central point of contact for regulators to support and engage with fintechs wishing to deploy innovative payment technologies (IMF, 2023). Innovation facilitators enable partnership arrangements and collaboration between innovators and government authorities to accelerate growth, innovate on shared technologies, and develop market solutions to financial sector challenges. This allows regulators to become familiar with fintech products, concepts, and firms, so they can regulate and supervise them more effectively (World Bank, 2020c).

These facilitators are only beneficial to the market if they run effectively, and if they have sufficient market participants, thus making them resource-intensive and context-sensitive. Thus, they are more suitable for more developed fintech markets where innovation hubs tend to have wider participation from multiple agencies (IMF, 2023).

Overall, most African countries with IPS use at least one alternative approach to support fintech development as a complement to their licensing approaches. While some have created innovation facilitators, the sandbox is the most popular approach found. Table 5.3 below lists examples across the IPS countries in Africa:

Table 5.3 | Alternative approaches to licensing by country[65]

IPS countries	Example
Angola	Regulatory Sandbox, National Bank of Angola
Egypt, Arab. Rep	Fintech Application Lab Sandbox, Central Bank of Egypt
Ethiopia	The Innovative Finance Lab Sandbox, National Bank of Ethiopia
Ghana	Regulatory and Innovation Sandbox, Bank of Ghana
Kenya	Fintech Sandbox under Kenyan Capital Markets Authority
Madagascar	Habaka - Malagasy is a technology innovation hub that supports a community of entrepreneurs, developers, and innovators.
Malawi	Malawi Fintech Challenge
Mauritius	Regulatory Sandbox focused on financial inclusion, Mauritian Economic Development Board
Morocco	Regulatory Sandbox, Bank Al-Maghrib
Mozambique	Regulatory Sandbox, Central Bank of Mozambique and Financial Sector Deepening Mozambique
Nigeria	Financial Industry Sandbox, Central Bank of Nigeria and Nigeria Inter-Bank Settlement System (NIBSS)
Rwanda	Regulatory Sandbox, National Bank of Rwanda
South Africa	Regulatory Sandbox, Intergovernmental Fintech Working Group
Tanzania	Fintech Regulatory Sandbox, Bank of Tanzania
The Gambia	None noted to date
Tunisia	Sandbox, Central Bank of Tunisia
Uganda	Regulatory Sandbox, Bank of Uganda
Zambia	• Regulatory Sandbox, Bank of Zambia • Fintech4U innovation accelerator (UNCDF in collaboration with BongoHive)
Zimbabwe	Regulatory Sandbox, Reserve Bank of Zimbabwe

65 AfricaNenda compiled the initiatives from a variety of sources, namely, Central Bank websites, UNCDF website, and the Open Bank Project website (Open Bank Project, 2023).

Box 5.4 | Country examples of alternative approaches to expand the fintech ecosystem and create pathways to market entry

Malawi introduced a fintech challenge. The Malawi Fintech Challenge is a flagship initiative led by the United Nations Capital Development Fund (UNCDF) in collaboration with the Reserve Bank of Malawi and supported by several partners to further financial inclusion in Malawi. The objective is to catalyze the development of innovative digital financial solutions and help expand access to and usage of financial services in underserved communities, especially by small-holder farmers, women, youth, and vulnerable groups (UNCDF, 2024).

Zambia launched an innovation accelerator. In partnership with BongoHive (an innovation hub), the UNCDF in Zambia is implementing a FINTECH4U program. The goal is to demonstrate the potential of DFS and supporting the growth of the digital economy by increasing access to financial services for all Zambians. The program aims to support 10 small-to-mid-sized fintechs to navigate the regulatory, licensing and compliance requirements with relevant regulators. The latter include the Bank of Zambia, Zambia Information and Communication Technology Authority, and the Securities and Exchange Commission (UNDP, 2020).

Angola and Ethiopia are leveraging official partnerships to introduce sandboxes. The National Bank of Angola is leveraging a partnership with Beta-i, an innovation consultancy, to create the first fintech regulatory sandbox in the country. One of their objectives is to increase financial inclusion using technology. By 2020, this project had already supported 20 Angolan startups (Fintech Futures, 2020). Similarly, the National Bank of Ethiopia has partnered with the Innovative Finance Lab (IFB) and the Ethiopian Capital Markets Authority. The resulting sandbox aims to help regulatory authorities identify suitable regulatory requirements to foster innovation, and to assist firms in understanding regulatory obligations, thus accelerating their market entry (RegTech Africa, 2024).

5.4 Four enablers to improve inclusive IPS outcomes from fintech licensing

A combination of risk-proportionate licensing and alternative approaches can help advance financial inclusion goals. Whatever the approach, however, regulators can make them more effective at encouraging fintechs' participation and reducing the cost of compliance by acting on the following four enablers:

- Provide guidance on the regulatory process.
- Revise and expand the licensing process.
- Leverage supervisory technology.
- Make financial inclusion an integral part of the regulatory sandbox or innovation hub criteria.

Provide guidance on the regulatory process

Regulatory uncertainty, lack of support and onerous processes can disincentivize payment fintechs from pursuing licensing, especially if they do not have regulatory expertise on their leadership team. Though regulators do not want to regulate every new technology or activity, they can leverage tools to guide market players and create clarity. For example:

- **Publish relevant guiding policies.** Guiding policies can help prepare payment fintechs for the licensing process by identifying which regulatory body oversees a given activity and defining the regulatory direction, thereby steering fintech activities and ensuring that these firms operate according to key principles (Cenfri, 2021). For example, Rwanda's Fintech Policy (2022–2027) sets out the national strategic objectives for fintech and signals that Rwanda's financial regulators are open to innovation and keen to engage (MINICT, 2024). South Africa's Financial Inclusion Strategy highlights fintech as a source of technological innovation that enables financial inclusion. The strategy also articulates how regulators support fintech as part of enabling a diversified provider and distribution base (FSCA, 2020). In the context of IPS, guiding policies like these provide clear information to payment fintechs so they can develop in a way that fulfills the regulations required for participation.
- **Empower ecosystem enablers.** Innovation offices can play a key intermediary role by fostering transparent communication between the regulator and the market and acting as a resource for innovators to ask questions, understand the process, and get updates on their license application. South Africa's FSCA, for example, encourages payment fintechs to engage before they apply for a license (Stakeholder Interviews, 2024). Innovation offices can also help to ensure that payment fintechs contribute to national goals. For example, Ghana's fintech innovation office has a financial inclusion mandate, and has requested fintech license applicants to modify their products to advance financial inclusion or mitigate against financial exclusion (for example, by making the product/service available through less modern devices, like feature phones) (AFI, 2023).
- **Ensure strong communication and coordination channels with industry associations.** Fintech associations have the potential to bridge the communication and coordination gap and help fintechs prepare for the licensing process. This can be done by publishing regulatory materials (guidance papers, policies, Q&A documents, and process overviews), providing a common space for fintechs to brainstorm and develop their ideas, and organizing forums between the regulator and fintechs.

Revise and expand license categories

Licensing approaches can evolve in the following ways to ensure they are as inclusive as possible:

- **Preliminary oversight.** At the initial stages, not all fintech activities require licenses and can be regulated through fintech partnerships with existing license holders. Fintechs can also commence operations under letters of no objection during the testing and monitoring stages, which serve as important starting points for new areas of innovation, such as in the case of M-PESA in Kenya.
- **Update licensing categories once an activity has been effectively tested in the market.** Fintechs do not necessarily need a specific entity-based license (i.e. a fintech license). Rather, license categories can be updated and/or added based on new activities that have been thoroughly tested.
- **Use licensing categories to accommodate evolving activities.** When fintechs innovate by combining multiple existing activities into a new offering, they may not require regulators to create a new license type, but instead to provide a license that covers a combination of existing activities, which can evolve over time. In fact, some regulators are introducing flexible and agile licensing regimes. Ghana, for example, has enabled seamless license progression and/or add-ons (see Box 5.1). Rwanda has done something similar in *Regulation Governing Payment Service Providers 2023*. The revisions include tailored licenses and a streamlined process for modifying them (National Bank of Rwanda, 2023).
- **Leverage the risk-based approach to inform licensing (including tiering options).** Taking a risk-based approach to licensing enables regulators to better identify and empirically assess risks, develop appropriate risk mitigation strategies, apply a proportionate share of resources depending on the level of risk, and allow new business models to enter the market with a right-sized degree of oversight.
- **Put the building blocks in place for license passporting.** Despite the growing interest from fintechs in a fintech license passport (or license portability), the current risks and concerns from regulators make it unrealistic (Stakeholder interviews, 2024). There is, however, a growing impetus for harmonizing regulations and licensing standards within regions to enable PSPs to expand across borders without needing a bank partner in the target market.

Leverage supervisory technology

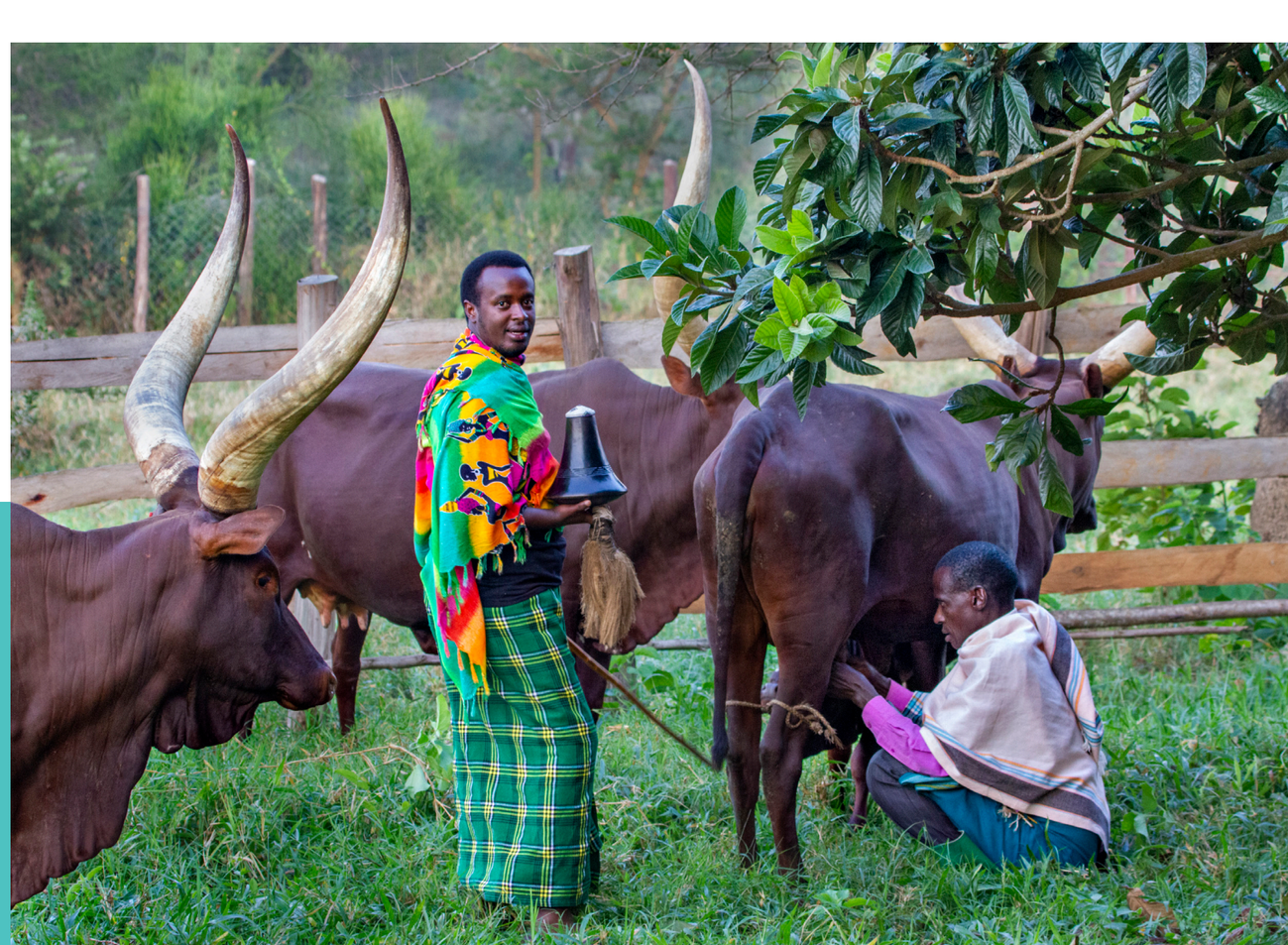
To lighten the load of supervisory tasks, enhance the observation and learning process, and free up capacity, financial regulators should explore using supervisory technology (suptech). Digitalizing the supervisory process and automating standard repeat tasks can free up supervisory resources to provide more complex support, thereby streamlining and accelerating the licensing process. Ghana's integrated financial surveillance system, for example, allows the regulator to centrally collect prudential data and manage the licensing and authorization of supervised entities (AFI, 2022).

Make financial inclusion a foundation of the regulatory sandbox or innovation hub criteria

Finally, regulators embracing a sandbox or facilitator approach can define the eligibility criteria to provide preferential access to products or business models that target unserved or underserved end users and require that these groups are included in the testing samples. Sandboxes and facilitators could also consider financial literacy requirements for new products or services and put safeguards in place to ensure end-user protection (BIS, 2020).

5.5 | Conclusion

Including payment fintechs as participants in IPS has the potential to expand the reach of instant payments, and by extension, of financial inclusion. Yet fintech participation is only possible in countries with regulatory and licensing approaches that accommodate them. By developing a country-specific approach to addressing the challenges that prevent fintechs from accessing licenses, regulators can safely support payment fintechs and the broader payments sector in delivering services that enhance financial inclusion.



Case study|

Tanzania Instant Payment System (TIPS)

Origin story

Challenge

Digital financial services (DFS) have significantly transformed the financial services landscape in Tanzania over the past decade and have played a crucial role in accelerating financial inclusion. As of 2021, 52 percent of adults in Tanzania owned a financial account, up from 17 percent in 2011.[66] Widespread adoption of mobile money services and increased access to agent banking helped drive this increase. These services allow users to store, send, and receive money through their mobile wallets and have improved the reach of formal financial services in rural Tanzania.

Despite the successes, the DFS ecosystem in Tanzania faced several key challenges.[67] One of the main issues involved the industry-led bilateral interoperability arrangements between financial service providers during the early days of mobile money deployment. Off-net vouchers were the primary mechanism for sending money between providers before the launch of account-to-account interoperability in 2014. Digital payment recipients served by a different provider from the sender would be notified via SMS to cash out using a voucher code. The money could then exit the system and the sending provider paid the agent a cash-out commission. These arrangements led to fragmented pricing strategies and added operational costs for mobile money operators (MMOs), resulting in high transaction costs when sending payments between different Payment Service Providers (PSPs).

The complexity of these interoperability arrangements involved costly negotiations, which could be a barrier for smaller players without significant negotiating power. Bilateral interoperability often favored larger, more established players, creating an uneven playing field and hindering competition. Smaller providers struggled to negotiate on equal terms, which had the potential to hinder innovation and slow down market growth. Relying on numerous bilateral agreements also created operational bottlenecks and inefficiencies, as each agreement could be based on different standards and protocols. This lack of standardization made it harder for MMOs to scale their services efficiently and to integrate new systems or upgrades.

In 2014, a new set of standards governing person-to-person payments across networks gave new impetus to the effort to enhance account-to-account interoperability.[68] In recognizing the need for a more integrated and efficient payment ecosystem, the Bank of Tanzania (BOT) mandated interoperability in 2015 and in 2018 initiated the development of the Tanzania Instant Payment System (TIPS), which is a national retail payment infrastructure offering low-value instant or real-time payment transactions across different PSPs. TIPS went live in 2021 with pilot PSPs and use cases, and officially launched in 2024.

66 For details, see The Global Findex 2021 databank.

67 The Impact of Mobile Money Interoperability in Tanzania, 2016.

68 The Impact of Mobile Money Interoperability in Tanzania, 2016.

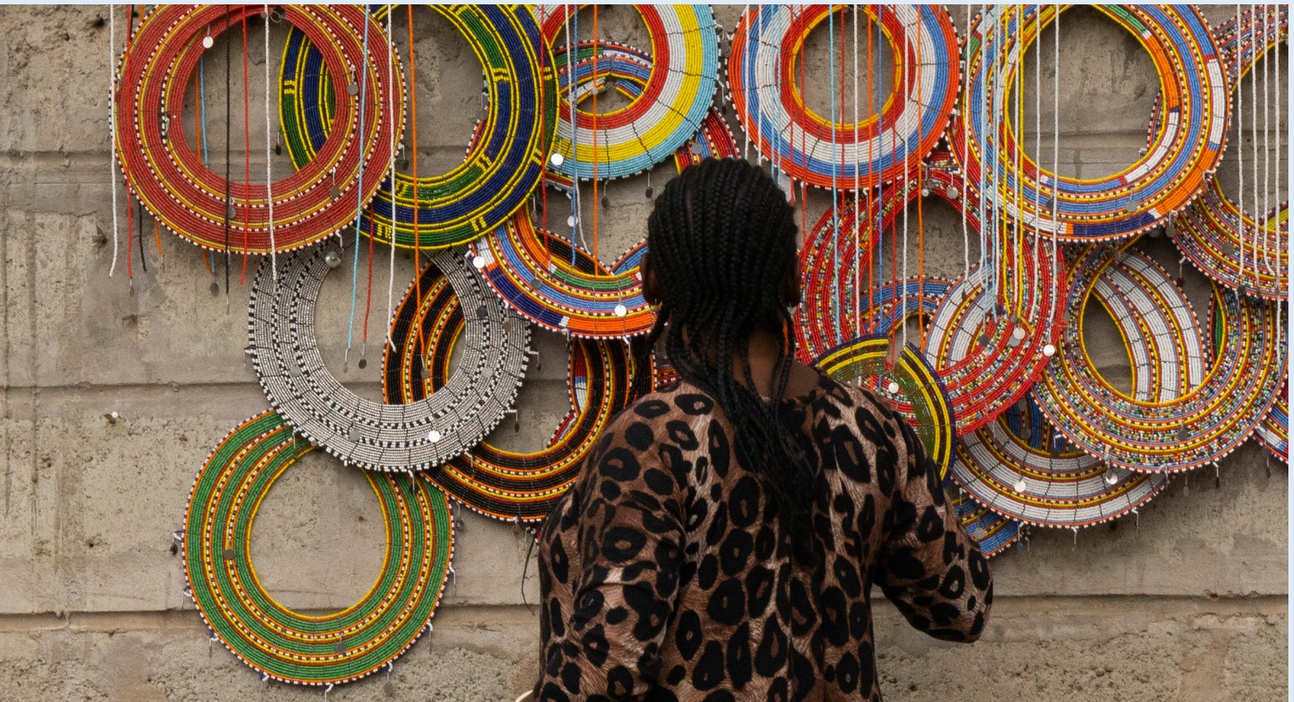
Value proposition

TIPS incorporates various technical functionality to ensure all-to-all interoperability for secure, and efficient real-time payment transactions. This functionality is designed to support a wide range of use cases, enhance interoperability, and ensure the robustness of the payment ecosystem. TIPS is intended to accelerate usage of DFS and to reduce the transaction costs for individual and business end users. Further, TIPS provides an opportunity for both bank and non-bank (electronic money issuers) financial service providers to connect directly to a payment system to instantly process payment requests. The value proposition to participants is multi-fold, and includes the following: (1) Improved interoperability and ubiquity; (2) Greater ability to support additional use cases; (3) More efficient payment processing leveraging shared services and infrastructure; (4) Increased cross-net transactions; (5) Improved liquidity management and savings, due to reduced working capital and more efficient reconciliation.

Timeline

The development of TIPS was anchored in a strategic vision to create a secure, and inclusive payment system that could support financial inclusion. In 2018, The BOT in collaboration with industry stakeholders in Tanzania undertook a mini study to establish the business case for the development of an instant payment system. Insights from the study provided a detailed blueprint and valuable inputs into the business needs and challenges facing consumers, PSPs, and other stakeholders, as well as the complexities and benefits of implementing such a system in Tanzania. This report framed the needs and support required for a robust IPS based on input from all stakeholders, including banks, electronic money issuers (EMIs), customers, and the government.

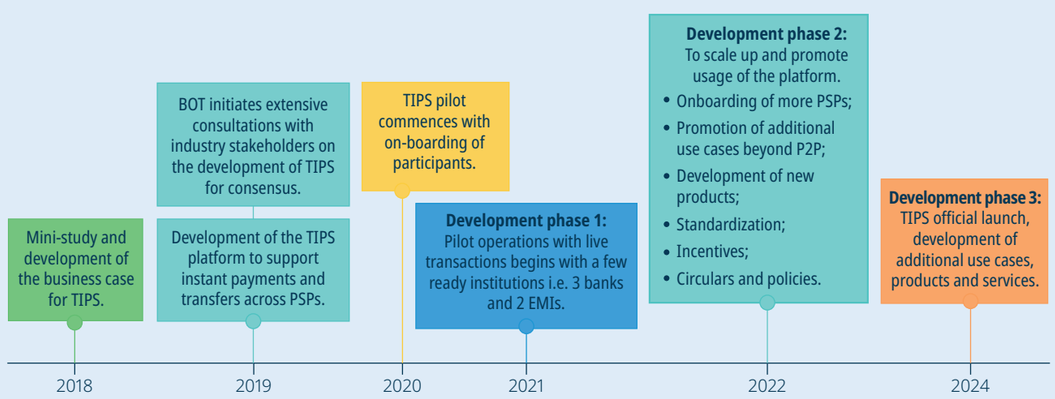
In 2019, The BOT initiated extensive consultations with industry stakeholders involving banks, MMOs, fintech entities, and the Tanzania Bankers Association, among others, to gather insights and build consensus. It fostered public-private partnerships to leverage the strengths and expertise of diverse stakeholders in the financial ecosystem. BOT led this initiative in collaboration with other government entities to develop the real-time retail payment system (TIPS) alongside a diverse set of financial service providers (both banks and EMIs). This exercise was followed by a comprehensive design phase focused on creating a robust technical architecture that could support real-time processing, interoperability, and high-security standards.



In 2020, the pilot began and participant onboarding commenced. Pilot PSPs participated based on their institutional willingness and technical readiness. The process involved first onboarding three banks and two EMIs; the rest of the qualifying licensed players were onboarded in the post-pilot expansion phase. Live transactions began in 2021 with the five pilot PSPs. The rest of the PSP were onboarded by the end of 2023. The institutional and technical readiness of the PSPs brought about some challenges, as they were required to upgrade their payment platforms and therefore required both financial and technical resources. The onboarding process involved continuous engagements between stakeholders and there were several project timeline adjustments to accommodate key milestones. Other challenges included decisions about commercial models for various use cases. These required continuous discussions between participants and the operator to reach a consensus on standards, business models, and interchange rates. The BOT, as the TIPS owner and operator, played a crucial role in driving active engagements and participation between PSP advisory groups to mitigate emerging risks.

The BOT officially launched TIPS in March 2024, at the 21st Conference of Financial Institutions hosted by the BOT in collaboration with the Tanzania Bankers Association. Following the launch, the next phase of the implementation of TIPS will include the incorporation of additional functionality and use cases. These aim to broaden the reach and inclusion of Tanzanians in the digital financial ecosystem, as well as make payments more affordable and real-time for all. TIPS is also expected to link to other regional instant payment systems to process cross-border transactions. The expansion of TIPS is a continuous process according to a phased approach.

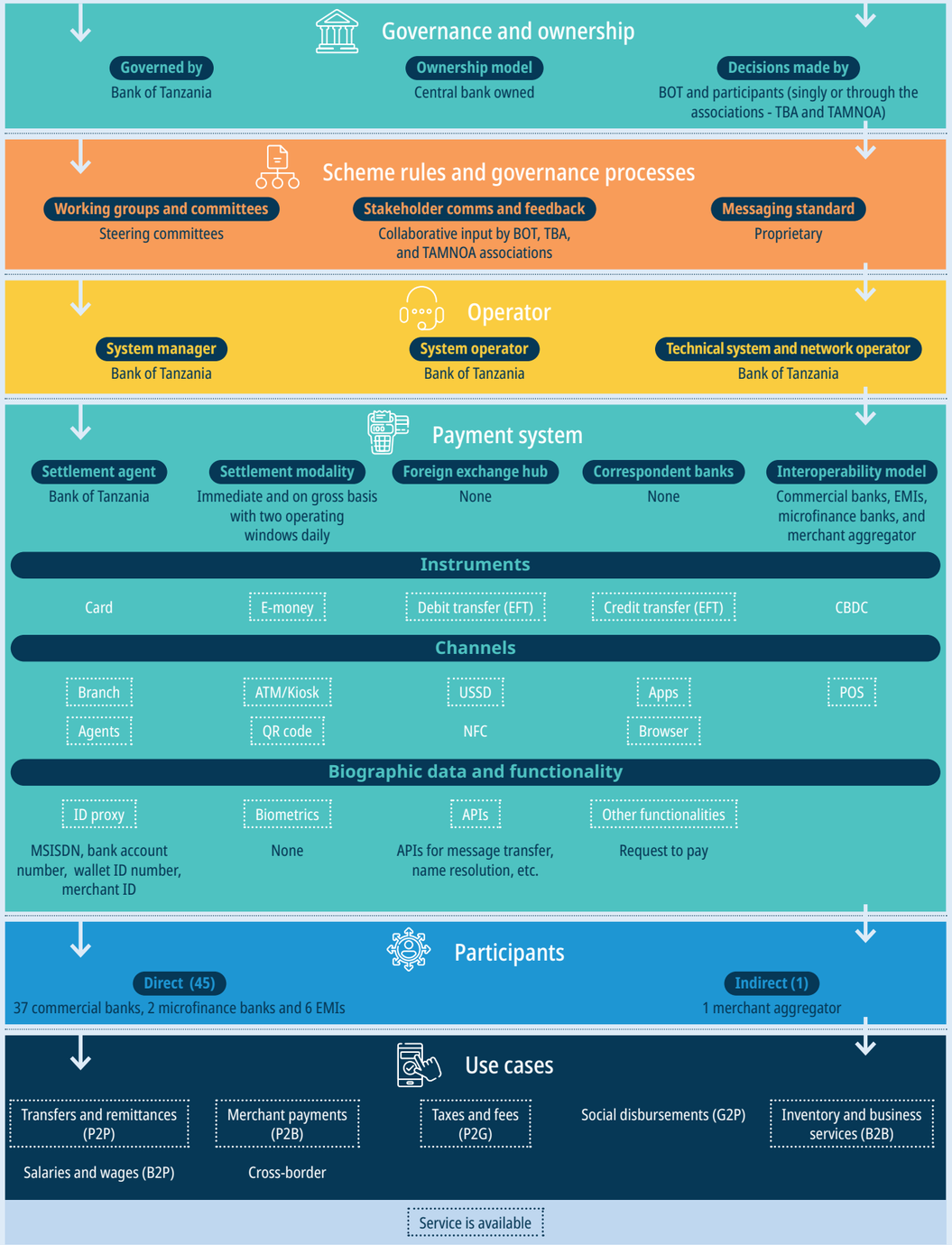
TIPS development timelines



Governance and operations

Payment system overview

TIPS model overview



Currently, there are 45 direct participants in the TIPS scheme, including 39 banks (37 commercial banks and 2 microfinance banks) and six EMIs as well as one merchant aggregator as an indirect participant. As more players enter the market, TIPS will onboard them, as participation is mandated by the central bank. TIPS utilizes Application Programming Interfaces (APIs) to facilitate seamless integration with PSPs and technical service providers, who have adopted common communication and transaction standards established by the BOT for TIPS. This includes messaging formats, transaction types, and data validation rules.

Settlement in TIPS is immediate and on a gross basis, facilitated by pre-funded accounts held at the BOT. The BOT and TIPS participants closely monitor these accounts and signal when there is a need for additional pre-funding. The system has been configured to enable several reconciliation windows. Currently, there are two operating windows in a day.

Governance structure

TIPS operates according to a structured, inclusive, and transparent governance approach. Although it is fully owned and operated by the BOT, decision-making in TIPS takes place according to a comprehensive governance framework that involves multiple stakeholders, clear guidelines, and structured processes, as established in the scheme rules. The decision-making process is collaborative, involving discussions, consultations, consensus building or through majority decision.

Functionality

TIPS is channel-agnostic. It supports various interoperable channels embraced by different payment service providers PSPs including both banks and non-banks. These channels include USSD, ATMs, POS, mobile apps, web browser, and QR codes. Currently, participants are not required to display the TIPS branding on their customer-facing menus or channels. However, the National QR Code standard for local currency payments (the Tanzania QR Code - TANQR), as a merchant payment channel requires the TIPS brand on the QR stickers. Payment instruments supported by TIPS include e-money, credit EFT, and debit EFT. The TIPS platform also has the request to pay functionality.

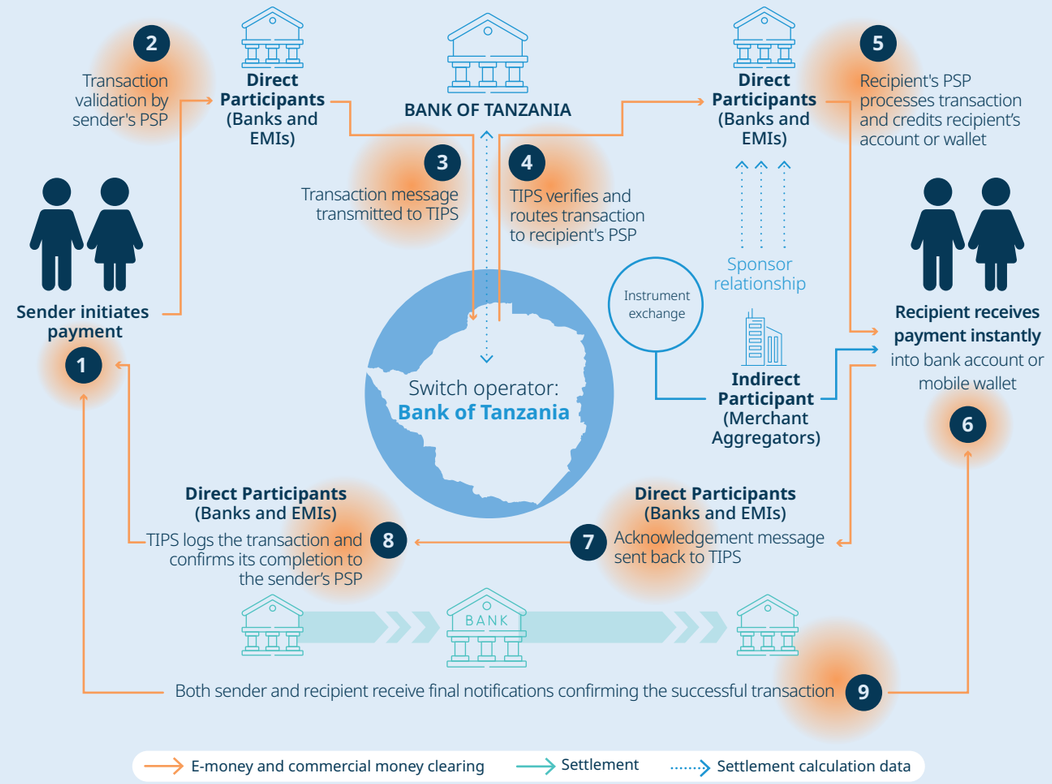
TIPS serves as a centralized platform for achieving interoperability. TIPS facilitates a seamless and efficient real-time payment transaction loop by integrating multiple PSPs such as banks and non-banks.

The process begins with the sender initiating a payment or funds transfer request through any channel. The transaction details are validated by the sender's PSP to ensure identity verification and fund availability. This transaction message is securely transmitted to TIPS, which verifies and routes the transaction to the recipient's PSP, which then processes the transaction, credits the recipient's account or wallet in real time, and notifies the recipient of the completed transaction. An acknowledgment message is sent back to TIPS, which logs the transaction and confirms its completion to the sender's PSP. Both the sender and recipient receive final notifications confirming the successful transaction.

Throughout this process, TIPS employs robust security measures such as encryption and authentication protocols, ensuring the integrity, confidentiality, and swift execution of transactions, while also maintaining detailed logs for transparency and compliance purposes.

TIPS uses various types of identity aliases or proxy IDs to route payments or transfers efficiently and securely. These include the MSISDN—the full phone number for a device that is the technical identifier used by the mobile network operators (MNOs), bank account number, wallet ID, merchant ID, as well as other types of IDs that may be considered. These proxies are essential for linking transactions to the correct accounts and wallets across different banks and non-banks.

TIPS transaction flow



Technical standards and use cases

The TIPS system operates using a proprietary messaging standard for electronic data interchange between financial institutions. Defined by BOT, this messaging format is localized, and requires extensive adoption by the entire payment ecosystem to be successful. The TIPS system exposes a set of open APIs to offer various functionalities to PSPs such as name resolution, transfers, transfer reversal, settlement, enquiries, messaging and other administrative functions.

TIPS opted to deploy different payment use cases in phases, with the initial phase supporting Person-to-Person (P2P), Person-to-Business (P2B), and Business-to-Business (B2B) use cases. The subsequent phase introduced the Person-to-Government (P2G) use case. In the next phase, TIPS intends to deploy the Government-to-Person (G2P) use case and to enable cross-border functionality.

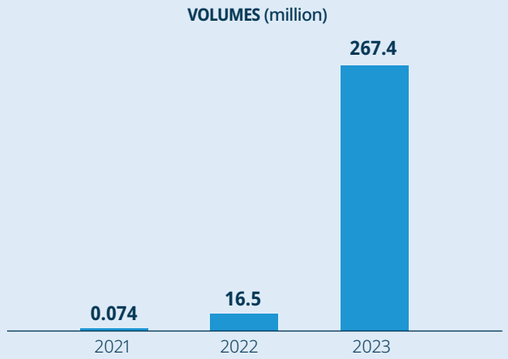
Business model

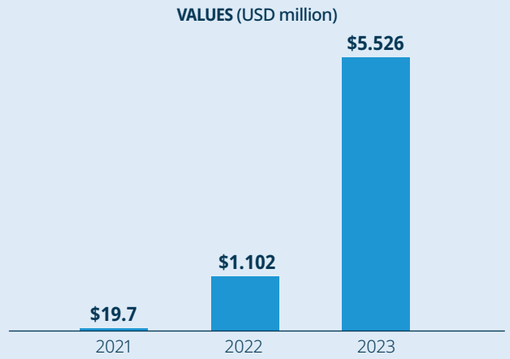
Funding for the successful implementation of TIPS in Tanzania was provided primarily by the government of Tanzania, as well as the FSD Tanzania (FSDT), and the Bill & Melinda Gates Foundation. The TIPS scheme was developed as a public good and as such operates in a way that enables cost-recovery, on a not-for-loss basis, to incentivize innovation. The system currently does not charge participants, with the aim of allowing them to operate for an initial period and perhaps recoup ongoing costs, including those associated with technical adjustments.

Scheme rules

TIPS has comprehensive scheme rules outlining the procedures and guidelines for operating within the IPS, including clear definitions of roles, responsibilities, and decision-making authorities at various levels. TIPS incorporates a risk-based and inclusive customer due diligence (CDD) process for participating PSPs. This forms part of the scheme rules and ensures compliance with national and international anti-money laundering (AML) and counter-financing of terrorism (CFT) regulations, while promoting financial inclusion. As the scheme operator, BOT ensures that participants fulfill the eligibility criteria. The scheme rules are available to participants as well as to non-participants upon request.

TIPS transaction volumes and values





TIPS has mechanisms to monitor consumer recourse processes and provide avenues for redress, ensuring that end-users can effectively resolve issues. The system's scheme rules outline the responsibilities and procedures for handling disputes among PSPs. Participants are required to adhere to KYC requirements for their consumers and are responsible for resolving any consumer queries. PSPs also help raise consumer awareness and the BOT provides helpdesk services for PSPs and a consumer complaints desk to address queries and complaints, respectively.

Volumes and values processed by the payment system

In 2023 TIPS processed over 267 million transactions amounting to USD $5,526,147,640 (over Tsh 14Tr) in value. This reflects significant growth in the number of transactions since the system's inception in 2021, when it processed just over 74,000 transactions totaling about USD$ 19,793,140 (over Tsh 51 billion) in value. Currently, the TIPS-captured off-us transaction volumes and values data is processed daily, and broken down per participant per day, further highlighting the transaction totals, and number of completed, aborted, and invalid transactions. Separately, BOT receives on-us transaction volumes and values data monthly.

Regulatory framework

Tanzania demonstrates a supportive regulatory environment characterized by the collaborative relationship between the BOT and the PSP actors in the ecosystem. This is one of the key factors that enabled the launch of mobile money services in Tanzania. Over the years, BOT has been committed to facilitating innovation in collaboration with other stakeholders to increase access to financial services for the financially excluded. In this, the country is guided by a National Financial Inclusion Framework (NFIF) implemented under the National Council for Financial Inclusion; the 2023 – 2028 NFIF is the third edition (NFIF3).

The National Payment Systems Act, 2015 supports the regulation and supervision of digital payments with a view of promoting a sound financial system that includes payments, clearing, and settlement systems conducive to economic development.[69] Further, BOT supervises the payments system with the powers vested under the Bank of Tanzania Act 2006. The legal framework within this purview includes the Payment Systems (Electronic Money) Regulations 2015, and the Payment Systems (Licensing and Approval) Regulations 2015. Additionally, BOT issues circulars such as the Opening of Digital Channels through TIPS Platform 2023, and guidelines e.g. the Customer Experience Guideline for Merchant Payments 2023, to ensure that the payment systems operations are clear and to promote compliance. Other stakeholders are involved in the formulation of payment systems acts and regulations.

69 Bank of Tanzania website: Laws and Regulations.

Inclusivity learnings

According to the 2024 AfricaNenda IPS Inclusivity Spectrum TIPS has achieved a progressed level of inclusivity. The system supports basic P2P and P2B as well as the B2B use cases, meets inclusive channel requirements, and includes all licensed bank and non-bank PSPs as participants, each of which provides input into decision-making either directly or through the various associations. TIPS demonstrates strong leadership by the BOT, which champions all-to-all interoperability and collaborative mechanisms for enhancing the regulatory environment.

As TIPS advances its phased deployment, BOT needs to cultivate participant incentives and buy-in to support the deployment of additional use cases and continued collaboration in decision-making. It must also ensure that it maintains the optimal capacity to continue playing the dual role of owner and scheme operator.

To progress to the mature state of inclusivity, TIPS could activate additional use cases, especially G2P payments. This use case could be a powerful tool for driving the adoption of digital payments and enhancing financial inclusion in Tanzania. More efficient, transparent, and secure disbursements help integrate excluded and underserved populations into the financial system and promote digital and financial literacy. Examples like relief payments under The Tanzania Social Action Fund (TASAF), digital pension distributions under the pension funds, and education sector stipends illustrate how embracing G2P can benefit the broader economy and contribute to Tanzania's financial inclusion goals.

The following inclusivity learnings were identified for TIPS:

- **Gradual implementation of the IPS brings more value:** The gradual implementation of TIPS was essential for supporting financial institution readiness for onboarding into the system. This allowed time for capacity building, system testing, compatibility assessments, and compliance measures. The PSPs enhanced their operational effectiveness and continue to improve their customer engagement and foster trust in digital payment solutions. This phased approach ultimately contributes to the successful adoption of TIPS, promoting a more resilient and inclusive financial ecosystem in Tanzania.

- **Co-opetition is key:** The collaboration between BOT and the diverse participants was vital for the enhanced interoperability and progressive decision making needed for the successful implementation of TIPS. Leveraging each other's strengths through expertise, knowledge and information sharing, establishing common standards, and creating inclusive governance structures, created a collaborative approach to enhancing service delivery and consumer trust.

- **IPS scale depends on consumer trust:** Enhanced consumer trust and growth in transaction numbers come about through public awareness, reducing the cost of electronic payments, and ensuring a highly available platform to increase the uptake and adoption of electronic payments. BOT participates in various consumer exhibitions to showcase its payment system offerings. There are also campaigns in both print and electronic media highlighting the BOT's role in TIPS implementation and its benefits, to build more confidence among end users.

6

Removing payment access barriers through risk-proportionate eKYC regulation

Similar to licensing for non-bank PSPs, regulatory approaches to KYC have a significant impact on a PSP's ability to onboard customers and equip them to use digital payments. This chapter takes a deep look at regulatory approaches to eKYC practices in the countries with an IPS and what regulatory changes could enable eKYC while preserving the integrity of the financial system.

6.1 | The need for eKYC

IPS systems are vulnerable to the risk of money laundering, the financing of terrorism, and proliferation financing (ML/TF/PF). African countries with a live IPS are striving to enhance the robustness of their financial systems by implementing the recommendations provided by the Financial Action Task Force (FATF), the global standard-setting body on ML/TF/ PF risk management (FATF, 2023). Thus, payment service providers (PSPs) are compelled by local regulations to implement know your customer (KYC) and customer due diligence (CDD) measures to assess and mitigate ML/TF/PF risks before offering payment services.

The terms KYC and CDD are often used interchangeably, yet they refer to different approaches. While there is no standardized definition of KYC, it generally refers to a commercial compliance concept related to how institutions collect information or attributes about a potential customer and establish the veracity of this information using reliable, independent source documents, data, or information. In this chapter, the terms KYC and eKYC refer to the process of capturing and verifying identity information before allowing customers to fund an account or make payments. The same process and terminology apply to account holders and to one-time transactors.

CDD, on the other hand, includes and goes beyond customer identification and verification and is a systematic risk management concept defined in relation to elements such as developing customer risk profiles, understanding the nature and purpose of transactions and ongoing monitoring (CGAP, 2018; Financial Inclusion Global Initiative, 2021).

Implementing risk-based processes for CDD form a core part of the FATF standards. Yet, many countries struggle for implement the corresponding recommendations effectively. This leads to, in the local context, overly stringent and rigid KYC requirements, which are disproportionate to the level of risk involved. As a result, KYC processes typically require the end user to submit specific documents like a national identity document (ID) in combination with other documents such as wage slips or utility bills for identity verification. This prevents those without the required documentation from accessing payment services (Cenfri, 2018c; AFI, 2019; AFI, 2019). The problem is widespread in Sub-Saharan Africa, where 37% of unbanked adults cite lack of documentation as a reason why they do not have a financial institution account, and 30% of adults say it is a barrier to opening a mobile money account (Demirguc-Kunt, et al., 2022).

Over-stringent and rigidly prescriptive approaches to KYC and CDD, coupled with a strong reliance by PSPs on paper-based and manual processes, not only exclude people but lead to ineffective risk mitigation practices, high compliance costs, and burdensome processes for customers (FATF, 2021). High compliance costs can deter banks from offering low-cost options for common, low-denomination transactions such as remittance transfers (Cenfri, 2020). Digital-first non-bank PSPs have the potential to lower the costs involved in KYC processes, to simplify due diligence, and reach unserved or underserved segments by putting the use of technology at the center of their business model, unlocking remote customer onboarding and digitalized risk assessment processes. However, as Chapter 5 highlighted, due to a lack of risk-proportionate licenses, non-banks often need to partner with banks to conduct payments and thus become subject to the same level of compliance despite a lower activity risk profile (Cenfri, 2018c). This can bar non-bank PSPs from participating in IPS or result in excessive costs and KYC requirements that are inappropriate for end users and disproportionate to the risks they pose. eKYC can overcome some of these KYC-related challenges

by replacing paper-based, manual and in-person processes with reliable, electronic alternatives for verifying an end user's identity and enabling remote interactions.[70] PSPs benefit from a reduced likelihood of human error, and time- and cost savings. The ability to cross-reference an increased number of data points across multiple sources provides greater robustness and accuracy compared to paper-based processes. End users may see lower literacy barriers, more affordable services, improved access through remote interactions, and less reliance on onerous documentation (see Box 6.1). [71]

Box 6.1 | The three-step KYC process and the role of electronic methods

The KYC identification process can be broken down into three main steps—sharing attributes, providing credentials, and verifying credentials. Figure 6.1 provides examples of what eKYC could look like across all steps, and the benefits it could offer, compared with traditional (non-electronic) means of identification.

Figure 6.1 | Overview of the KYC process and the use of electronic means

	Step 1: Customer shares identity attributes (e.g., name, birth date, address)	Step 2: PSP checks identity attributes against credential provided by customer	Step 3: PSP verifies the credential
Non-electronic	• Paper-based form • Verbal sharing of details	• Physical credentials and documents (e.g., national ID card, proof of address)	• Physical inspection of the credential through 'touch and feel'
Electronic	• Electronically filled-out form • Automatically populated form from database/MRZ/QR/Chip-reading (if PKI/encryption involved, this includes step 3)	• Electronic copy of a physical credential • Biometrics • Electronic credential without any physical representation	• Electronic authenticity check and image/document validation • Cross-checking of attributes/credentials against database/MRZ/QR/Chip • Fraud detection • Video verification • Validation of token material • Liveness detection
Primary objective of eKYC	• Improves data accuracy • Improves customer convenience • Enables remote interaction • Overcomes literacy-related barriers	• Improves robustness • Enables remote interaction	• Improves robustness • Enables remote interaction

Customer interaction can be physical or remote. The option of remote customer interaction improves the accessibility of financial services.

70 This report uses the definition established by the Bank for International Settlements (BIS) for eKYC: "Electronic means to conduct customer identification processes, enabling digital or online verification of customer identity" (BIS, 2020). This extends beyond remote identity proofing to encompass using electronic methods for in-person and remote customer interactions.

71 eKYC can overcome some of these KYC-related challenges by replacing paper-based, manual and in-person processes with reliable, electronic alternatives for verifying an end user's identity and enabling remote interactions.

The benefits of eKYC extend to cross-border payments, which involve multiple parties and jurisdictions. Typically, each PSP involved in a cross-border transaction is required to conduct KYC and sanction checks independently, creating redundancy, long processing times, and high costs (World Bank, 2021c; BIS, 2022b). In regions or between countries with data-sharing agreements, in contrast, PSPs can leverage identity data that has already been collected and verified by another institution for remote identity proofing (Cenfri, 2020).[72] This removes redundancies and unlocks faster and cheaper cross-border transactions.

Flexible regulatory frameworks and clear guidance need to be in place to unlock the private sector's transition to eKYC. Regulators are increasingly recognizing the potential for eKYC to strengthen the financial integrity of payment systems and to reach excluded or underserved segments of the population, such as women, micro-businesses, migrants, and forcibly displaced persons. The Covid-19 pandemic accelerated the demand for contact-free interactions and resulted in regulators not only recognizing the need for eKYC but also exploring and implementing regulatory provisions for the use of eKYC (CCAF, 2020; Arab Monetary Fund, 2022). For example, in Ghana, mobile phone subscribers were allowed to use their registration details to open minimum KYC accounts during the pandemic (CGAP, 2020a). In the West African Economic and Monetary Union (WAEMU), the Central Bank of West African States (BCEAO) introduced new guidelines that enabled remote onboarding for the first time, allowing customers to open Tier 1 accounts via USSD text messaging or phone calls, and Tier 2 accounts via voice or smartphone interactions (Kazzaz, 2020).[73]

Despite these strides made by regulators towards facilitating eKYC, considerable gaps persist in regulatory guidance, which discourages PSPs from moving away from paper-based and in-person processes. Currently, many PSPs tend to err on the side of caution, over-complying with regulations due to regulatory uncertainty, rather than experimenting with leveraging technology for their KYC processes (CGAP, 2024).

Given these developments, this chapter aims to assess the current state of regulation surrounding eKYC in the countries with live instant payment systems (IPS), identify gaps, and establish recommendations for how to fill them.

6.2 | The current state of eKYC

AfricaNenda assessed the countries with an IPS to see whether they allow electronic methods for any or all the steps in a typical KYC process for customer onboarding or one-off transactions: End user shares identity attributes, PSP checks identity attributes through credentials provided by the end users and PSP verifies the credential (see Figure 6.1).[74] Additionally, the provisions regarding remote customer interactions were assessed.

For end-to-end eKYC to be in place in a country, the regulations surrounding customer attribute submission, credentials, and verification should either explicitly allow electronic processes or be flexible enough to accommodate them. Moreover, it should be possible to conduct all these steps remotely.

72 Identity proofing is defined as the ongoing process within digital identity systems where identification and verification procedures are conducted continuously throughout the lifespan of an account. This involves the utilization of supplementary data gathered during authentication, such as transactional data in combination with GPS and IP address data, to consistently enhance and reinforce the identity profile. Identity proofing is essential for ensuring that the identity profile remains current and precise, allowing for the implementation of appropriate Anti-Money Laundering and Countering the Financing of Terrorism (AML-CFT) controls in accordance with the principles of the risk-based approach.

73 Within a tiered KYC approach, countries commonly adopt three types of accounts: the lowest tier is a basic account with minimal opening requirements and transaction limits; the second tier provides higher ceilings and requirements but less than a full CDD; the third tier corresponds to a full CDD with much higher limits and more rigorous procedures for account opening. The exact thresholds and requirements may vary from country to country (CGAP, 2019).

74 Account opening involves the onboarding of customers to establish an account from which customers can initiate or receive financial transactions. These accounts may range from bank accounts to payment accounts like mobile money accounts. For one-off transactions, customers initiate a business relationship with the relevant PSP. This entails the thorough identification and verification of individuals engaging in one-off transactions that have not been onboarded by the PSP offering the services. Such transactions commonly occur in scenarios like remittances, where individuals utilize payment services without prior affiliation with the offering PSP.

The analysis shows that many countries are transitioning toward enablement of eKYC, even as challenges to end-to-end eKYC remain for some. All the countries have enabled elements of eKYC, as shown in Table 6.1. Most countries enable remote interactions, but many classify such interactions as high-risk. Eight countries (Egypt, Kenya, Mauritius, Nigeria, Rwanda, South Africa, Tunisia, and Zimbabwe) enable end-to-end eKYC processes, meaning that all three steps outlined in Figure 6.1 can be fulfilled electronically. The example of Mauritius (see Box 6.2) shows how flexible regulations paired with extensive guidance to providers and infrastructure development unlock eKYC.

For the remaining countries, the largest gap remains in the use (or non-use) of electronic credentials, which are either not allowed or for which there is a lack of guidance around how to use them. The latter can breed uncertainty among PSPs in how to comply with the law (Cenfri, 2018b).

Table 6.1 | eKYC regulation mapping across countries with live IPS

Country	Form of attribute submission	Type of credential	Credential verification	Remote customer interaction	Tiered KYC in place
End-to-end eKYC enabled					
Egypt, Arab Rep.[75]	Electronic allowed	Electronic allowed*	Electronic allowed*	Allowed*	Yes*
Kenya	No provisions	Electronic allowed	Electronic allowed	Allowed	No
Mauritius	No provisions	Electronic allowed	Electronic allowed	Allowed	No
Nigeria	Electronic allowed	Electronic allowed	Electronic allowed	Allowed (High risk)	Yes
Rwanda[76]	Electronic allowed**	Flexible	Electronic allowed**	Allowed	Yes
South Africa	No provisions	Electronic allowed	Electronic allowed	Allowed	No
Tunisia	Electronic allowed	Electronic allowed	Electronic allowed	Allowed	Yes
Zimbabwe	No provisions	Electronic allowed	Flexible	Allowed (High risk)	No
Elements of eKYC are enabled					
Angola	No provisions	Physical only	Physical only	Allowed (High risk)	No
Ethiopia	No provisions	Physical only	Flexible	Allowed (High risk)	Yes
Ghana	No provisions	Physical only	Electronic allowed	Allowed (High risk)	Yes
The Gambia	No provisions	Physical only	Flexible	Allowed (High risk)	No
Lesotho	No provisions	Electronic allowed	Flexible	No provision	Yes
Madagascar	No provisions	Physical only	Physical only	Allowed	No
Malawi	No provisions	Electronic allowed	Physical only	Not allowed	No
Morocco	No provisions	Flexible	Flexible	Allowed (High risk)	No
Country	**Form of attribute submission**	**Type of credential**	**Credential verification**	**Remote customer interaction**	**Tiered KYC in place**
Elements of eKYC are enabled					
Mozambique	No provisions	Physical only	Physical only	Allowed (High risk)	No
Tanzania[77]	No provisions	Physical only	Physical only	Allowed	Yes
Uganda	No provisions	Physical only	Physical only	Allowed	Yes
Zambia	No provisions	Physical only	Electronic allowed	Allowed	Yes
CEMAC	No provisions	Physical only	Flexible	Allowed (High risk)	No

** Only applicable to non-banks. ** Only applicable to e-money issuers.*

75 While the Central Bank of Egypt (CBE) currently does not have eKYC provisions in place, some banks and non-bank financial institutions have implemented a "lite" eKYC where everything is done electronically except for the signing of the documents — where customers still need to go in physically or sign through a courier (Stakeholder interviews 2024). However, the Financial Regulatory Authority (FRA), who regulates non-banks, issued extensive guidelines for digital identification in 2023 which has opened up end-to-end eKYC for non-bank institutions. Under these regulations, eKYC service providers can also become accredited to offer their identification and verification services to non-banks. Since regular banks are not covered by these regulations, they still need to get a physical signature, although the CBE has been known to issue exemptions on a case-by-case basis. The CBE is currently working toward developing eKYC regulation and a digital financial identity (Stakeholder interviews, 2024).

76 The National Bank of Rwanda issued new e-money regulations in 2022, which explicitly allows customer registration to be done electronically, and identity to be verified via the National Identification Agency's database. This opens up for end-to-end eKYC for e-money issuers (National Bank of Rwanda, 2022). The regulation applicable to banks does not have the same explicit mention of eKYC for verification and attribute submission, but takes a more flexible approach which refers to "reliable, independent source documents, data, or information" and allows for non-face-to-face interaction which also opens up for end-to-end eKYC (National Bank of Rwanda , 2022).

Once customers have been onboarded and have a standing relationship with a provider, according to FATF recommendations, PSPs can rely on existing KYC approvals and allow remote interactions, unless doubts arise regarding the veracity of identity information (FATF, 2023).[78] Most of the countries with live IPS are complying with this recommendation. As a result, even in jurisdictions where in-person contact is required during the onboarding process, PSPs may not necessarily need to maintain in-person KYC procedures once they have established a business relationship with the customer. For example, in the Arab Republic of Egypt, while end-to-end eKYC is only allowed for non-banks, banks may update customer data and information through electronic means when customer risk is low (Central Bank of Egypt, 2020; Financial Regulatory Authority, 2023). This opens the door for electronic or remote interactions with existing customers, including when a verified customer applies for new products or initiates new transactions. In practice, PSPs have demonstrated a greater willingness to leverage electronic means during ongoing due diligence rather than at the initial customer onboarding phase (Stakeholder interviews, 2024).

Understanding the eKYC ecosystem involves more than just evaluating regulatory provisions; it is a multifaceted puzzle. Despite the movement seen in many countries toward a progressive regulatory framework, some PSPs may still hesitate to adopt eKYC. PSPs with a more traditional mindset may hesitate to leverage flexible regulations. Also, electronic customer verification can be challenging to implement in practice if the country's digital ID infrastructure is non-existent or unreliable—another reason why digital public infrastructure (DPI) development is so important. On the other hand, PSPs that have a higher risk appetite may implement remote onboarding or other elements of eKYC, even where there are no explicit eKYC regulations in place. In some cases, regulators issue PSP exemptions informally or formally (such as a letter of no objections) until regulations 'catch up.' The Central Bank of Nigeria issued such an exemption for providers to implement remote identity proofing despite the regulatory framework still requiring in-person engagements. The Central Bank of Egypt has issued exemptions for banks to conduct eKYC through a service provider, as the eKYC regulations for banks are still under development and existing regulation only covers non-banks (Stakeholder interviews, 2024). As such, the analysis and opportunities detailed below should evolve through further analysis of other eKYC ecosystem elements.

77 Tanzania offers end-to-end eKYC for Tier 1 E-money transactions, if the individual already has a registered phone number and mobile money account (Bank of Tanzania, 2015a).

78 Recommendation 10 of the FATF indicates that PSPs should carry out CDD measures for existing customers based on materiality and risk, without needing to repeat identification and verification for each transaction.

Box 6.2 | Mauritius facilitates end-to-end eKYC with flexible regulation and public-private data sharing

Mauritius is advancing eKYC through regulatory updates and infrastructure development consistent with its Digital Transformation Strategy (2018-2022). The strategy emphasizes the "once-only principle," in which citizens should only have to provide documents once. The government's InfoHighway platform facilitates secure data sharing among government agencies, reducing the need for document duplication (MITCI, 2018). Originally for government services, the Central Bank of Mauritius is now signing agreements with authorities to expand the platform for use in the financial sector, with the goal of creating a central KYC system utilizing InfoHighway data (Central Bank of Mauritius, 2022). The regulatory framework, through the Financial Intelligence and AML Regulation issued by Bank of Mauritius (2018), allows for end-to-end eKYC through a risk- and outcomes-based approach to customer identification and verification, which includes explicit mention of electronic processes, including:

1. **Type of attribute submission:** Financial institutions must collect attributes such as name, date of birth, nationality, and address, but there is no prescribed list of documents, or specific mode of submission, allowing flexibility.

2. **Type of credential:** There is no individual credential specified in the regulation to confirm customer attributes. According to §3(1) of the regulation, institutions need to "*identify his customer whether permanent or occasional and verify the identity of his customer using* ***reliable, independent source documents, data*** *or* ***information,*** *including, where available,* ***electronic identification means,*** *or any* ***other secure, remote or electronic identification*** *process as may be specified by the relevant regulatory body or supervisory authority.*"

3. **Type of verification:** The provision in §3(1) covers both identification and verification. The AML Handbook also includes a section on how electronic verification could be conducted in line with a risk-based approach. It endorses use or more than one confirmatory source to match data and confirm authenticity. It also mentions use of computer systems to verify images, use of various of biometric information and/or geotagging (FSC Mauritius, 2022).

4. **Type of interaction:** Remote processes are allowed for identification as per §3(1). Non-face-to-face is not automatically classified as a high-risk or enhanced due diligence situation in the AML regulation, but financial institutions must consider its inherent risk in line with a risk-based approach. Enhanced CDD is not needed unless the customer is unable to be identified or there is uncertainty about the authenticity of documents provided (FSC Mauritius, 2022).

6.3 Core opportunities emerging for eKYC

Further expansion of eKYC will be critical to enable more inclusive IPS across the continent, including in a cross-border context. Creating legal certainty and promoting eKYC practices through national and regional policies can help drive this expansion through digital ID and eKYC programs (Perlman & Gurung, 2019). Moreover, harmonization across countries is crucial for cross-border payments to avoid costly duplications of CDD.

The following actions will be essential for promoting eKYC as an enabler of inclusive IPS across the continent:

Implement risk-proportionate CDD frameworks

The challenge

The FATF recommendations advise institutions to use a risk-based approach (RBA) to identify and verify customers—meaning the method should be proportionate to the ML/TF/PF risks posed by a customer group, financial product, the channel, or geographies involved. The risk posed by specific categories may both decrease or increase depending on variables such as the purpose of an account, and the regularity and size of the transactions undertaken. Under the RBA, PSPs can employ simplified due diligence (SDD) for customers, products, or market segments that have been assessed to be lower risk (FATF, 2023). One form of SDD is a tiered approach, whereby the KYC requirements increase in proportion with the risk level of the account functionality; for example, the transaction limit or cross-border transactions. Lower tiers with lower transaction limits face less stringent requirements (GSMA, 2019b). Some countries allow remote onboarding for lower tier accounts, as an example of how this concept could be applied (CGAP, 2019). Ten of the reviewed countries have tiered KYC provisions in their respective regulations, usually in the context of mobile money accounts. However, mobile money institutions often must partner with banks to access IPS and may therefore still be subject to additional requirements. Similar issues exist with local banks that might need to comply with correspondent banking requirements.

Adopting a tiered approach can alleviate access barriers in the short term but should be viewed as a step on the path towards adopting an outcomes-based model. The reason is that, in practice, tiered approaches often only consider a limited set of risk variables and might not represent on a comprehensive risk assessment process. Thus, the implementation of tiered approaches tends to be based on product risk (e.g., transaction limits), rather than on client risk. As such, there is the concern that they conflate compliance risk with ML/TF/PF risks.

Furthermore, tiered approaches often remain input-focused, mandating specific documentation and verification procedures, particularly in the higher tiers. There is still a tendency amongst jurisdictions to require documents like utility bills and wage slips to verify address, which can hinder access, especially for migrants (Stakeholder interviews, 2024). This is despite FATF recommendations being agnostic to which identifiers are used to verify the identity of customers. Additionally, certain mandated electronic customer verification processes, such as biometric or card readers, may come with high implementation costs, particularly for non-banks or smaller PSPs. When eKYC measures are implemented on a non-risk basis, this can be not only costly but also mostly ineffective as resources and time are not allocated towards higher-risk areas (FATF, 2021).

Recommendation

Regulators should move to implement an RBA to ensure greater flexibility in their regulatory frameworks, particularly shifting towards outcome-based CDD processes for banks and non-banks (see Box 6.3). This will require comprehensive empirical risk assessment processes at national and institutional levels, as opposed to largely perception dependent risk assessments, which

then pave the way for risk-rated products and simplified measures that align largely with the real-world context of the institution. FATF recommendations endorse an outcomes-focused CDD process, using "reliable, independent source documents, data, or information" for customer identification and verification (FATF, 2023). This has already been adopted in some jurisdictions, such as South Africa. Outcomes-focused CDD allows PSPs to better cater to individuals who may not have traditional identity documents. These include migrants, women, and people in rural areas. It also allows PSPs to implement cost-effective verification measures. Where banks and non-banks are subject to different regulators and supervisors, it is critical to align regulatory and supervisory practices. In the case of South Africa, for example, remittances and foreign exchange are governed under a different regulator. Without effective coordination and collaboration, involvement of multiple regulators can lead to difficulties in implementing RBA across all institutions.

Box 6.3 | South Africa's risk-based approach

Following the FATF's adoption of the risk-based approach in 2010, the South African Financial Intelligence Centre (FIC) began implementing an outcomes-based approach for financial institutions in 2017 with Guidance Note 7. This note outlines customer due diligence measures, emphasizing the importance of obtaining and verifying client information using reliable third-party sources tailored to the assessed ML/TF risks. (Financial Intelligence Centre, 2017). While flexibility is encouraged, the note recommends using government databases for conducting basic identity verification (Financial Intelligence Centre, 2017). The note stipulates the RBA "affords accountable institutions the flexibility to use a range of mechanisms to establish and verify the identities of their clients, creating opportunities for accountable institutions to explore more innovative ways of offering financial services to a broader range of clients and bringing previously excluded sectors of society into the formal economy," emphasizing the positive implications for financial inclusion. As a result, specific identifier and verification processes are not mandated in South Africa. Instead, institutions may use the findings from the risk assessment to determine the level and type of CDD applied to a client. Verification methods depend on the nature of the information provided and the extent to which the institution relies on the verification of the client's identity to mitigate ML/TF risk. In case the ML/TF risks are assessed as lower, simplified measures may be applied, meaning: "the degree, frequency and/or the intensity of the controls conducted will be relatively lighter" (Financial Intelligence Centre, 2017).

The case of South Africa also highlights, however, the need to harmonize approaches across different regulators within a country. Regulations governing remittances, such as South Africa's Exchange Control regulations, influence CDD requirements. In contrast to the outcomes-based Guidance Note 7, the Exchange Control regulations are strictly rules-based in nature as they prescribe the identifiers that financial institutions must use for CDD depending on the customer category.

Permit electronic credentials and electronic submission of attributes

The challenge

As shown in Table 6.1, nearly half of the jurisdictions still rely on physical credentials in the first step of the KYC process, and do not allow electronic submission of attributes. Eleven countries (Egypt, Kenya, Lesotho, Malawi, Mauritius, Morocco, Nigeria, Rwanda, South Africa, Tunisia, Zimbabwe) allow for flexibility or use of electronic credentials, including biometrics and digital versions of physical credentials.

In addition to the type of credential, there is a lack of clarity on how credentials can be submitted. Advancements in technology make it possible for PSPs to obtain identity attributes electronically. Yet among the jurisdictions included in this analysis, only Egypt, Nigeria, Rwanda, and Tunisia explicitly allow electronic submission of attributes.[79] FATF has published guidance on the use of digital identity systems for identification and verification of customers in line with the CDD requirements in Recommendation 10 (FATF, 2020). Yet, as regulations are largely written with physical interactions and credentials in mind, this creates uncertainty amongst PSPs on whether use of electronic credentials, or physical credentials submitted electronically, is allowed.

Recommendation

Clear specifications regarding the electronic submission of customer information and credentials can create regulatory certainty for PSPs (FATF, 2020). Regulators should publish guidance that gives clarity on what is allowed in terms of electronic attribute submission, use of electronic credentials, or electronic representations of physical credentials (see Box 6.4). Each of the four approaches described in Box 6.4 have advantages and disadvantages. For example, Nigeria's system still requires pre-enrollment, but once enrolled, provides a universal identifier with clear usage rules. In contrast, provisions in Mauritius, Tunisia, and Zimbabwe offer more flexibility, which can enable greater inclusivity, as well as adaptability in the event of market changes. Too much flexibility, however, can breed uncertainty among PSPs in how to comply with the law (Cenfri, 2018b). Regulators can combat such uncertainty by engaging frequently with PSPs to give clarity on their approaches.

Box 6.4 | How different countries allow electronic credentials

In the realm of digital identification and credentials, several countries employ diverse methods to authenticate individuals:

- **Egypt** has issued a directive which includes the specific attributes that comprise a digital identity, including biometrics (such as face recognition and fingerprints), geolocation identifiers, mobile phone numbers, and identity cards (which may be submitted via live photos and then compared to biometric characteristics). There is a baseline level of attributes needed to establish a basic digital identity, and as risk increases, this digital identity can be made more robust through, for example, holding an approved digital signature and a payments account.
- **Kenya** and **Malawi** allow biometric data for identification. South Africa also includes an explicit allowance for biometrics, within a broader risk- and outcomes-based approach that allows institutions to identify their customers however they see fit.
- **Nigeria** relies on the Bank Verification Number system, which links an individual's bank accounts to an 11-digit unique identifier that is also connected to that individual's biometric data and personal information. Once a citizen is enrolled in the system, they can be universally identified and verified across all banks and financial institutions.
- **Lesotho** and **Zimbabwe** states institutions must identify customers by means of an identity document, but a document is allowed to be in electronic form.
- **Mauritius** and **Tunisia** explicitly allow the use of secure, electronic means and processes of identification (although the exact process is not specified). In Tunisia this is only for Tier 1 and Tier 2 accounts.

79 In Nigeria, the regulation states "Customer attributes may be sent either electronically or submitted onsite in the bank's branches or agent's office" (Central Bank of Nigeria, 2023). In Tunisia, the tiered KYC regulation explicitly allows remote entry of personal data in identification forms, for Tier 1 and 2 accounts (Central Bank of Tunisia, 2018). The FRA in Egypt has issued a specific directive for digital identity, which gives extensive guidance on how customers may be identified and verified fully online. This includes digital documents, contracts and signatures. For example, documents may be sent in as pictures which then are verified with recognition technology and connected to databases using APIs (Financial Regulatory Authority, 2023). In Rwanda, forms can be filled out electronically, but this is only for e-money issuers (National Bank of Rwanda, 2022).

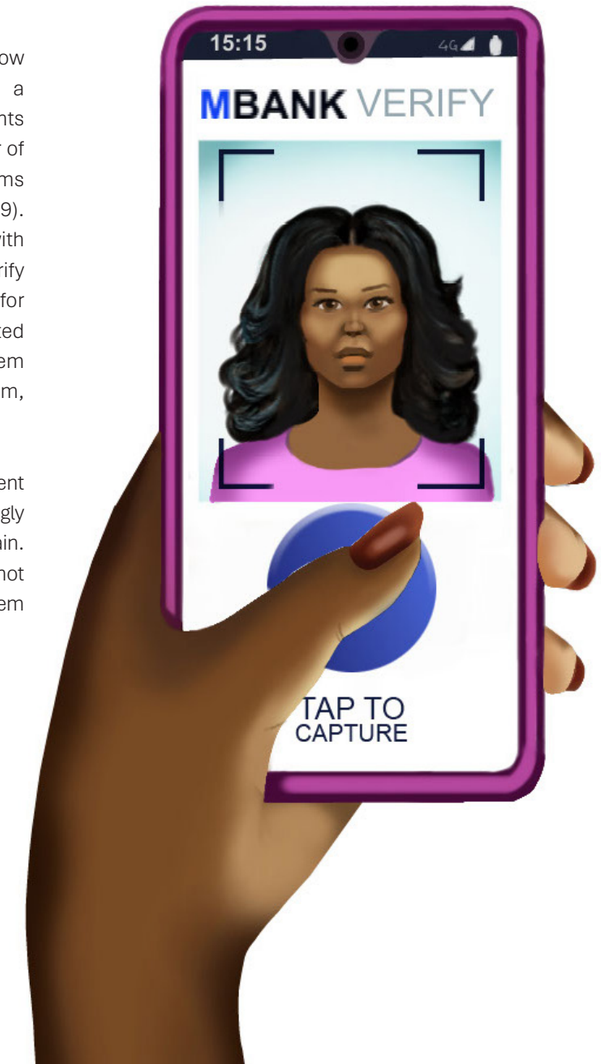
Enable electronic verification and build reliable and integrated digital ID infrastructure

The challenge

Manual processes persist in some countries. Among the assessed countries and regions, five countries (Ethiopia, the Gambia, Lesotho, Morocco, and Zimbabwe) and CEMAC have flexible means of verification, while nine countries (Egypt, Ghana, Kenya, Mauritius, Nigeria, Rwanda, South Africa, Tunisia, and Zambia) have explicit requirements or mandate electronic verification. The other six (Angola, Madagascar, Malawi, Mozambique, Tanzania, and Uganda) rely on physical verification of customer credentials. This involves the PSP agent assessing the documents in person, for example by looking at the picture and touching the document to judge its validity. This is both costly and has a high risk of human error (Cenfri, 2020).

Citizen databases and digital ID systems allow PSPs to use technology to verify identities in a database, replacing the need for physical documents (Demirguc-Kunt, et al., 2022). An increasing number of African countries have been putting digital ID systems in place as part of DPI development (CGAP, 2019). Even without a full-fledged digital ID, governments with digital population registers can allow PSPs to verify a physical ID card against a database. In Kenya, for example, verification of National ID cards is mandated through the Integrated Population Registration System (IPRS). There are plans to introduce a digital ID system, as further discussed in Box 6.5.

While electronic verification through government databases and digital ID infrastructure is increasingly common, barriers to access and effective usage remain. Government databases and digital ID systems are not always designed to be used as part of a wider ecosystem and are therefore not always accessible to PSPs. For example, many existing digital ID initiatives on the continent have focused primarily on access to public services but have not yet been extended to the financial sector. Where they have been, identity infrastructure may be limited to banks, excluding non-bank players such as fintechs. Finally, major issues regarding the reliability of these systems persist, including integrated PSPs experiencing frequent down-times (Stakeholder interviews, 2024).



Box 6.5 | The role of Kenya's Integrated Population Registration System (IPRS) in enabling streamlined identity verification

The IPRS is Kenya's centralized database managed by the National Registration Bureau, under the Ministry of Interior and Coordination of National Government. It stores demographic data of citizens and residents, aiding government agencies and private entities like banks, financial services, and telecom operators in authenticating customer identities.

Key information stored in the IPRS:

- Contains demographic data on Kenyan citizens and residents.
- Receives data from five identity systems, including civil registration, immigration services, and credit bureaus.
- Hosts biometric data for approximately 31 million individuals.

Role in customer verification: All PSPs in Kenya are mandated to verify customers against the IPRS to confirm their existence and number authenticity. This simplifies the identification process, with subsequent transactions requiring only the ID number, as other relevant information is automatically retrieved and completed.

Practicalities of the IPRS

- Integrates data from various databases, ensuring nearly real-time updates.
- Supports nearly 42 million individuals, each identified by a unique 14-digit PIN.
- Utilizes security measures like firewalls and user access restrictions.
- Processes approximately 1.5 million identity-related queries daily, primarily from the financial sector.

Kenya is also rolling out a digital ID system, the National Integrated Identity Management System (NIIMS), authorized by legislation. This system will further enhance identity management and verification processes.

Source: Cenfri, 2023c

Recommendation

Regulators can allow PSPs to use electronic verification processes, and permit flexibility in the choice of methods in line with the country's RBA. To provide regulatory clarity, issue guidance on what these methods could entail, particularly in the absence of accessible government databases or digital ID systems. Regulators can leverage FATF Guidance on Digital ID in this endeavor (see Box 6.6). The enabling regulator frameworks should be augmented by national identity infrastructure. Development partners can support the development of national identity infrastructure as part of broader DPI development. When developing or improving identity systems, consider the financial sector use cases and integration of banks and non-banks.

Box 6.6 | FATF Guidance on Digital ID

FATF published guidance on Digital ID in 2020, to help government agencies develop a clearer understanding of how digital ID systems work and clarify how they can be used under the global AML/CFT standards. The guidance is relevant for policymakers, regulators and supervisors, as well as private sector stakeholders, international organizations, and NGOs.

It focuses on the application of FATF Recommendation 10 on Customer Due Diligence, to the use of digital ID systems for identification/verification at account opening and occasional transfers (10a), and examines the potential for digital ID to support ongoing due diligence (10d). Furthermore, it also addresses the application of Recommendation 17 (Third Party Reliance) to situations in which regulated entities provide digital ID systems for conducting customer identification/verification to other regulated entities.

What is a Digital ID system?
Digital ID systems use electronic means to assert and prove a person's official identity online (digital) and/or in-person environments at various assurance levels. Digital ID systems may use digital technology in various ways, for example: electronic databases, digital credentials, biometrics, and digital APIs.

What are the key components of a digital ID system?
Digital ID systems involve two essential components, and an optional third component, set out below. Different entities can be responsible for different subcomponents, including both government entities and private sector entities.

- **Identity proofing** and **enrollment** (with initial binding/credentialing) (essential)
- **Authentication** and **identity** lifecycle management (essential)
- **Portability** and **interoperability** mechanisms (optional)

Identity proofing and enrollment may be either digital or documentary, and face-to-face (in-person) or non-face-to-face (remote). However, the binding/credentialing authentication and portability/federation are always digital.

Digital ID in relation to CDD requirements
The first component relates directly to FATF Recommendation 10 on identification/verification, answering the question "Who are you?" In essence, it involves the collection, validation, and verification of identity evidence to establish an identity account and binds the unique identity to authenticators possessed and controlled by the customer.

Recommendation 10 is technology neutral and does not impose restrictions on the form (physical/digital) of evidence used for identification. However, FATF provides guidance on how it could be done with a digital ID system.

The flow of identity proofing in the first component to fulfill CDD, contain three key actions:

- **Collection:** collecting attributes and evidence, either in person or online (e.g. filling out an online form, sending a selfie photo, uploading photos of documents).
- **Validation:** digital or physical inspection to ensure the attributes are genuine (not counterfeit or forged).
- **Verification:** confirming the validated identity relates to the individual in question (e.g. through biometric solutions like facial recognition or liveness detection).

Remote interactions
The guidance notes that reliable, independent, digital ID systems can contribute to financial inclusion, through enabling unserved and underserved people to prove identity in a wider range of circumstances, including remotely. It further states that remote customer-identification and transactions "that rely on reliable, independent digital ID systems with appropriate risk mitigation measures in place, may present a standard level of risk, and may even be lower-risk."

For more detailed guidelines and information on digital ID systems, see FATF Guidance on Digital ID.

Move away from classifying remote interactions as high risk

The problem

Remote interactions are allowed everywhere except Malawi, but most countries classify them as high risk, and therefore require enhanced due diligence for them.[80] For example, end users may be asked to physically post certified copies of identity documents. These practices are in conflict with the FATF guidance note on digital ID. This note states that the inherent risks of non-face-to-face interactions may be standard, or even low, when digital ID systems are used. In fact, technology used to determine the authenticity of identification documents may be more accurate than human assessments.

Recommendation

Regulators should clarify that remote interactions are not always high risk and can be standard or low risk with appropriate identification measures, in line with FATF guidance. Uganda, for example, includes this specification in its risk assessment guidelines (see Box 6.7). Clarifying risk levels and contexts will enable PSPs to serve a broader range of individuals, particularly those in remote areas.

80 In Lesotho, no provision relating to non-face-to-face interactions were identified. Identity must be verified using reliable, independent source documents, data or information. As such, the identification process is interpreted to be flexible and up to the discretion of each institution, including regarding use of eKYC (Central Bank of Lesotho, 2019).

Box 6.7 | Assessing the risk of remote interactions: the case of Uganda

The Bank of Uganda provides risk-assessment guidelines for financial institutions that consider various factors, such as delivery channel and distribution risks.

Non-face-to-face situations are noted to have inherent risks, given the anonymity involved. However, Uganda does not automatically classify remote interactions as higher risk. Instead, the guidelines note that remote interactions could have a medium or even low level of risk if conducted with the use of "reliable, independent digital identity and other responsible innovative solutions." In addition, the guidelines note lower-risk factors as "financial products or services that provide appropriately defined and limited services to certain types of customers, so as to increase access to financial inclusion purposes."

These guidelines provide regulatory clarity, which create the conditions for financial institutions to serve financially excluded populations remotely. The guidelines do not prescribe which methodology to use, giving institutions the flexibility to implement the appropriate remote identification methods for the local context and technological developments.

Promote efficient data-sharing practices

The challenge

Use of technology and digital solutions in the CDD process can contribute to more effectiveness when information sharing and data pooling is permitted and practiced (FATF, 2021). Data sharing also enables more efficient cross-border payments. The duplication inherent in current cross-border payment approaches—as discussed earlier in this chapter—not only adds to compliance costs but also contributes to prolonged payment processing timelines (BIS, 2022b). Effective data sharing, either through third-party reliance agreements or an open finance regime, could overcome these redundancies and enable eKYC. A data sharing approach could also open the door for new participants in the payment ecosystem, such as service providers who fulfill CDD processes for institutions (e.g. fraud detection or facial recognition software) (FATF, 2020).

Thus information-sharing is the cornerstone of a well-functioning AML/CFT/CPF framework and is included in 30 out of the 40 FATF recommendations. Many of these recommendations relate to cross-border payments either indirectly or directly. For instance, recommendation 16 on wire transfers sets out the information which should be included in payments messages, also known as "the travel rule."

While countries are increasingly incorporating FATF recommendations in their regulatory frameworks, challenges remain (see Box 6.8). For example, data sharing may not always be consistent with national data protection laws,[81] and can face infrastructure limitations. In cross-border scenarios, PSPs may have to conduct extensive due diligence at an institutional level before sharing client data. This can limit their ability to benefit from the CDD processes of their partners, even when that "partner" is in the same financial group: Intra-group policies do not trump conflicts of national laws, and as such it can be very difficult to share client data cross-border even with a branch of the same company in another jurisdiction. Differing CDD requirements between countries can also create challenges to cross-border partnerships (Stakeholder interviews, 2024).

81 This can occur due to conflict of national laws or regulations, and a conflict of laws and regulations between jurisdictions. For instance, data localization laws may require personal data and identity of citizens to remain within their jurisdiction, but those laws do not contemplate the requirements of FATF to identify and verify. As such, PSPs may not be able to use a copy of a remittance recipient's ID or personal data cross-border without prior consent. At the same time, the receiving institution cannot contact or notify the recipient without their data. Equally, the receiving PSP would need to identify the sender into official records or data from an official source but would not be able to do so if the sending PSP is prohibited from sending that information between jurisdictions. Data-sharing restrictions can also pose issues for tracking and tracing of transactions between institutions, where there is no informed consent or legal exception to provide personal detail (Stakeholder interviews, 2024).

In addition, inadequate adherence to FATF standards brings its own risks, including grey-listing, which impacts an institution's ability to forge the necessary partnerships to enable cross-border payments, since partner institutions may be hesitant or not allowed to partner with counterparties based in grey-listed countries (Stakeholder interviews, 2024). International banks have also been known to withdraw from high-risk regions that are not considered profitable enough to justify the expense of compliance. This practice is known as de-risking, and an unintended consequence can be the financial exclusion of people living in these regions. The trade-off between maintaining the integrity of the banking system and ensuring financial inclusion is an ongoing challenge for policymakers (CGAP, 2024).

Box 6.8 | FATF recommendations on information sharing

The FATF information-sharing requirements were consolidated in the guidance note (FATF, 2017). They contain requirements on:

1. The types of information that should be shared.
2. The types of information that competent authorities are required to make publicly available and the circumstances in which such information should be shared.
3. The protections and safeguards that should apply to information sharing and exchanges.

Table 6.2 presents a few situations of information-sharing that are relevant in an eKYC context, the overall regulatory status of the assessed jurisdictions, and the implications for eKYC.

Table 6.2 | Overview of compliance with core FATF information-sharing recommendations

FATF Recommendation	Aspect of information-sharing	Overall regulatory status	Implications for eKYC implementation
18. **Internal controls and foreign branches and subsidiaries**	Within the same financial group, when implementing group-wide AML/CFT/CPF programs.	**Compliance varies:** Some jurisdictions lack mandates for group-wide AML/CFT/CPF programs in all branches/subsidiaries and ensuring foreign branches/subsidiaries adhere to AML/CFT/CPF measures consistent with home country standards.	Lack of harmonized processes across jurisdictions may lead to inconsistent customer identification and verification standards and risk assessments within groups. This can hinder the reliance on eKYC that has been conducted by a foreign branch or subsidiary, resulting in duplication of efforts.
14. **Money or value transfer services (MVTS)**	Between MVTS providers and authorities (particularly when using **agents**), and between provider and agent.	**Largely been met:** Some jurisdictions still lack necessary provisions on including agents in AML/CFT/CPF programs and maintaining a list available for authorities.	A well-functioning agent network can expand the reach of services and reduce the costs of KYC processes. Lack of agent compliance with AML frameworks can cause inconsistent application of KYC processes. The lack of a registry of agents can complicate the integration of agents into eKYC systems such as government ID databases.

FATF Recommendation	Aspect of information-sharing	Overall regulatory status	Implications for eKYC implementation
17. Reliance on third parties	Between institutions, when relying on third parties (other PSPs) for CDD on a customer.	**Compliance varies:** Gaps in when PSPs can rely on third parties (e.g. third parties in the same group), timely access to identification data, and risk levels of third-party countries.	Regulatory uncertainty regarding the ability to rely on other PSPs can lead to unnecessary duplication of KYC processes and costly CDD on the institutional level. Lack of timely data-sharing can affect speed and efficiency in a payment context.
16. Wire transfers[82]	Between institutions, when processing wire transfers.	**Compliance varies**: Basic information-sharing for wire transfers is a pre-requisite of SWIFT, but deficiencies exist in some countries regarding the roles and obligations of intermediaries and MVTS providers to comply with information-sharing requirements in R16.	Regulatory gaps in roles and obligations to share information during wire transfers, such as when using intermediaries or MVTS providers, can result in duplication of efforts. Where roles are unclear, PSPs may duplicate KYC rather than relying on other institutions' KYC for remote identification.

Recommendation

Regulators can push to fulfill information-sharing requirements as per FATF recommendations and provide regulatory guidance that considers existing data protection laws and ensures inclusive financial integrity. They can also promote a collaborative approach to CDD that enables PSPs to rely on other regulated PSPs or service providers for eKYC, for instance, through user consent mechanisms for both private sector and public-to-private sector data sharing arrangements, or through accreditation of service providers as in the case of the Arab Republic of Egypt (see Box 6.9). Such accreditation reduces the institutional due diligence burden on PSPs to partner with providers.

82 The FATF is considering revisions to Recommendation 16 and is now assessing these proposed revisions in light of the feedback received during the public consultation process. These revisions would affect the standards related to data sharing between institutions across borders (FATF, 2024). Concerns have been raised by stakeholders that the proposed revisions might have unintended consequences for the financial inclusion of low-income customers (CGAP, 2024).

Box 6.9 | Accreditation of eKYC service providers in the Arab Republic of Egypt

In 2022, the Financial Regulatory Authority in the Arab Republic of Egypt issued a fintech law and in 2023 followed with decisions relating to use of technological service providers, and digital identity.

The regulation established an 'outsourcing registry' of technological providers that may be used for outsourcing services. Service providers may apply to be accredited if they adhere to certain requirements relating to aspects such as data security. If accredited, they become part of the outsourcing registry and are thus eligible to perform services such as identification and verification on behalf of non-banking institutions. Currently, three institutions have been accredited in the outsourcing register, two of which offer identification services.

Alongside this, an instruction was released outlining digital identity, contracts, and records. These regulations provide regulatory clarity on the use of biometrics and other digital identifiers, as well as digital signature of documents.

Sources: Al Tamimi & Co (2024), Financial Regulatory Authority (2024)

Harmonize regional guidance on eKYC for consistency of scheme requirements across jurisdictions

The challenge

PSPs need to account for differences in KYC regulations between countries. As shown in Table 6.1, KYC requirements differ between countries. When customers want to transact across the borders of two countries with different requirements, PSPs must comply with the regulations of both the originating and receiving countries. FATF recommendation 16 allows countries to adopt a de-minimis threshold for wire transfers below which verification of beneficiary and customer is not required. Some countries also allow reduced KYC for transfers through their tiered KYC framework. For example, Tanzania permits low-value cross-border transfers with reduced KYC.[83] Nigeria, in contrast, requires full KYC for cross-border transfers regardless of size.[84] Furthermore, some countries have reliable national identification schemes, while others may rely on a variety of identification documents for low-value transactions (AFI, 2014). Disparate regulations cause delays and raise the cost of compliance.

83 In Tanzania, the tiered KYC approach does not differ between domestic and international transactions, meaning the same flexibility in identification for lower tiers extends to cross-border transfers (Bank of Tanzania, 2015a).

84 In Nigeria, Tier 1 and 2 accounts are only valid for transfers within Nigeria, whereas international transfers require full CDD as per Tier 3 (Central Bank of Nigeria, 2013).

Recommendation

Regional bodies should provide regional guidance on how local KYC regulations can be interpreted in the context of eKYC. They can also work on harmonizing regulatory and supervisory approaches and practices. Doing so would reduce regulatory arbitrage and make it easier and less costly for PSPs to fulfill eKYC in a cross-border payment context, and thereby increase the speed of cross-border transactions. Harmonization also creates the potential for cross-border participants to integrate with national systems, such as ID databases. For example, SADC has begun the process of harmonizing AML-CFT regulation within the region, as further outlined in Box 6.10.

Box 6.10 | South African Development Community (SADC) harmonization

The SADC region sees significant migration and cross-border trade, creating high demand for efficient cross-border payments and remittances. Differences in regional regulations and risk assessments impact transaction efficiency and costs, however. Acknowledging this, SADC aims to standardize AML and CFT rules, create regional CDD regulations, and initiate a shared information protocol to integrate National ID systems. Ultimately, member states strive to establish a central eKYC registry accessible to financial institutions across the region.

The SADC initiative is an example of a collaborative, multi-country effort to achieve a shared goal. This endeavor requires extensive cooperation, notably at the central bank level, facilitated by the SADC Committee of Central Bank Governors (CCBG). Subcommittees like The Payment System Subcommittee, comprising payments heads from the different central banks, play a crucial role in addressing payment system issues and initiatives, including harmonizing AML and KYC practices. Furthermore, subcommittees related to banking supervision, ICT, and financial markets ensure input from all relevant stakeholders. A core part of their work on harmonizing AML and KYC practices is the development of a SADC-wide KYC and identity- and information-sharing framework. This will set the baseline for the development of an integrated eKYC registry for the SADC member states.

This effort holds significant promise for enhancing financial inclusion and integrity within the region. When implemented, a foreign national could visit a PSP branch in the host country, where their identity could be verified against the national population registry in their home country. Implementing this poses several challenges, however. For instance, many SADC member states still employ manual citizen registration processes. Even where digital systems exist, connecting them would require technological investments in VPNs and APIs. To address these challenges and assess feasibility, SADC and FinMark Trust have piloted a connection between South Africa and Lesotho, yielding promising results. The pilot, which aims to support the SADC FI and Access to Finance 2023 – 2028 strategy, is now set to expand to other member countries. First, those with digitized registries will be prioritized, but they are also exploring possibilities for those with manual processes. SADC concurrently urges member states to transition from manual to digital processes.

Source: Stakeholder interviews (2024)

6.4 | Conclusion

Stringent CDD processes and approaches to KYC affect the inclusivity of payment systems, both through the institutions that can afford to participate, and the customers that they serve. Enabling the use of electronic means in the identification process can lower the cost of compliance, improve robustness, and increase the accessibility of financial services.

As the assessment of existing rules in IPS-enabled countries shows, however, the regulatory landscape for eKYC varies. All countries enable some elements of eKYC in their AML-CFT framework, but several gaps persist. There is a lack of clarity on the permissible use of electronic means. In addition, some provisions—such as the tendency to classify remote interactions as high risk without empirical support—disincentivize PSPs to implement eKYC processes. The six recommendations outlined in the chapter aim to narrow the main gaps in eKYC capabilities to drive adoption for the benefit of inclusivity.

To optimize buy-in and uptake, regulators should develop regulatory guidance and amend existing regulatory frameworks in close consultation with all relevant payment and national identity system stakeholders, including banks, non-bank PSPs, and system operators. As the FATF recommendations evolve over time to ensure they remain relevant in a changing payment systems environment, development partners, alongside policymakers, regulators, and IPS system operators, should take part in shaping these adjustments to avoid unintended consequences from reversing inclusivity efforts.

7

Recommendations and next steps

The data and insights shared in previous chapters make clear the promising advances in payment inclusivity seen in the past year. These include new systems, growth in volume and values, participant adoption, and availability of high demand use cases. These factors and others are helping systems move up in the inclusivity ranking, with maturity status within reach.

Despite these advances, significant end-user barriers related to trust, affordability, and accessibility continue to dampen adoption. These barriers include IPS launching without support for USSD, a popular channel; the increase in mobile fraud, which negatively impacts consumer trust, especially in the absence of accessible and fast end-user recourse mechanisms; end-user concerns about privacy and about government monitoring; and end-user perceptions of high transaction fees.

Slow end-user adoption threatens the sustainability of both domestic and cross-border IPS, as they work to develop more transaction scale, sometimes inadvertently competing with each other, with existing private payment solution providers, and with the cash economy. For incumbents, the commercial value of participating in an IPS may not always be clear. Nor is it easy for new PSPs to bring innovation and expand inclusion if the regulatory approaches to PSP licensing across the continent are overly restrictive.

As more countries align their digital modernization efforts to the digital public infrastructure (DPI) movement, there is also potential for the financial sector to promote innovation-friendly regulatory frameworks and mandate interoperability at different levels (accounts, instruments, systems, participants, among others) with the argument that they bring benefits to society.

These dynamics reflect the myriad opportunities that the different stakeholder groups could embrace to make inclusive instant payments more widely available across the continent. The following recommendations represent some of the ones we view as having the greatest potential for significant short-to-medium term impact.

7.1 | Recommendations for IPS operators

IPS operators hold the keys to IPS design features, scheme rules, and participant engagement. Actions by this stakeholder group could propel Africa's IPS towards more mature inclusivity. Three high value opportunities include promoting inclusive functionality, more sustainable business models and participant engagement strategies, and end-user recourse.

Implement inclusive use cases, channels, and instruments

Inclusive use cases, channels, and instruments give end users a compelling reason to adopt digital payments. Extensive coverage of use cases, channels, and instruments help make instant payments the go-to solution across a variety of payment needs, and therefore help build user behavior. When an IPS caters to the needs of the many rather than the few there is greater potential not only for inclusivity but also to reach sustainable scale in the system. IPS can take several specific actions related to this recommendation.

The SIIPS 2024 end-user research underscored how enabling wage/salary payments as well as government-to-person (G2P) transactions can act as a digital payments' adoption catalyst for those who are typically paid in cash.

IPS must also support the channels end users can and want to use. That includes basic/feature phone-friendly channels, such as USSD and offline transactions. While smartphone adoption is on the rise, there is still a high number of Africans that have not yet upgraded. A growing digital divide may exclude those without a smartphone from making digital payments. IPS operators also have a centralized view of usage patterns that gives them a perspective on how mobile network and mobile banking/money agent roll-out plans could be designed to expand payments infrastructure access.

At the macro level, as more countries invest in a central bank digital currency (CBDC), including feasibility assessments, IPS operators can review the strategic goal of the project to determine whether the same ends can be achieved via IPS functionality upgrades and/or design the appropriate interplay between potentially competing systems to avoid fragmentation.

To ensure their roadmaps around use cases, channels, and instruments align with demand, IPS operators should collect data and share their learnings with the wider stakeholder network on and beyond the continent.

Design a sustainable business model and participant engagement strategy

To keep costs low for both participant PSPs and end users, the IPS business model needs to be either not-for-loss, or the proceeds should be reinvested into the system in a for-profit model, so that the IPS operator can provide a compelling value proposition without compromising on the DPI principle of a public good.

Collecting volumes and values data (both on-us and not-on-us), and publishing IPS performance data highlighting the benefits of all-to-all interoperability, will help showcase the power of DPI. Countries should also evaluate whether a regional cross-border IPS could provide domestic capabilities to prevent functional overlaps and increase the potential for an IPS to achieve scale and thereby lower per-transaction costs.

A lean pricing structure could attract prospective IPS participants. So too could additional operational features that save them money. For example, given the wide-ranging requirement to execute robust customer due diligence, IPS operators can consider establishing an eKYC facility underpinned by appropriate user consent mechanism for identity verification at the IPS level.

For cross-border IPS, they could solve challenges related to foreign exchange, data sharing, and cooperation mechanisms between the different IPS stakeholder groups. Where regulatory reforms are underway, especially around PSP licensing, data and consumer protection, and clearing/settlement, IPS operators are uniquely situated to share perspectives with the regulators, especially if a DPI approach has been adopted country- or region-wide.

Expand end-user recourse

End users cite inadequate recourse as one of the contributing factors that prevent them from habitually using digital payments. IPS operators can help overcome this trust barrier by making appropriate and accessible end-user recourse channels a prerequisite for IPS participation. Scheme rules can outline the minimum requirements—such as resolving customer complaints within one business day—and define the escalation mechanisms. Beyond scheme rules, IPS operators can put greater emphasis on monitoring recourse cases and potentially introduce additional recourse channels at the operator level to improve trust and customer centricity. Given the prominence and popularity of mobile phone payment services, recourse needs to be especially swift in cases involving mobile money transactions. Furthermore, given the rise in fraud with instant transactions, IPS operators can put shared cybersecurity infrastructure and additional fraud detection mechanisms in place.

7.2 Recommendations for IPS regulators, policymakers, and supervisors

Public sector actors such as regulators, policymakers, and supervisors determine the regulatory and policy environment for IPS and their participants. As a key stakeholder group, these actors have a strong influence over the sustainability and inclusivity of an IPS. Three core recommendations emerge, related to the adoption of DPI, innovation-friendly regulation, and underlying infrastructure.

Champion a national/regional DPI strategy

Digital identity systems have emerged as the primary focus of African DPI projects to date. Holistic digital transformation is more likely with a DPI vision that contains all of the elements, however, including payments and data sharing. To achieve that holistic end, public sector entities overseeing the financial sector can put forth a vision and convene the ecosystem actors in a structured way to ensure that DPI initiatives consider the enablers of financial inclusion from the outset. They can help develop a roadmap that includes the necessary financial regulatory and policy reforms, in line with the risk-based approach discussed in the fintech regulation deep dive.

The public sector should include IPS stakeholders in key discussions and design decisions, while ensuring that the proposals adhere to principles of full inclusivity and all-to-all interoperability at low cost. Sharing learnings and best practices with international parties can contribute to more effective DPI development.

Data should also inform DPI development. Transparent sharing of IPS data such as volumes and values (disaggregated by on-us and not-on-us streams) can provide more clarity on supply, demand, and scale, and increase trust by IPS participants.

Implement innovation-friendly regulation

Establishing an innovation office at the central bank can be a powerful signal to the market that the regulator is committed to innovation. The office can coordinate efforts by different central bank departments.

One important area the office can oversee is revisions to PSP licensing requirements and processes. Activity, rather than entity-based regulation and guidance, holds the most promise for future-proofing regulatory regimes. Regulatory reform processes can include input from IPS operators and PSPs to ensure that payment risks are adequately mitigated without stifling innovative approaches.

Another priority regulatory consideration is whether to mandate interoperability between PSPs, both domestically and regionally (cross-border), or require certain payment types to run through the IPS, such as G2P or P2G. As cross-border payments also continue to be expensive and cumbersome, regulators can explore risk-based approaches, such as license passporting, to facilitate PSPs expanding into new markets. Regulators in the same region or in high-volume payment corridors can identify other opportunities together.

Additional projects like open APIs, QR code standards, and open finance regimes can be a basis for a DPI-compliant economy. Supervisors can explore and adopt SupTech solutions to streamline supervision.

Improve connectivity and infrastructure provision

Mobile networks play a key ecosystem role. Given persistent challenges around network quality and uptime, public sector actors can prioritize modernizing its mobile networks and supporting infrastructure. This includes the responsible transition from 2G and 3G to 4G and 5G networks, and to close the gap between urban and rural performance, as well as between low and peak traffic times.

Where access to electricity is a prerequisite to rolling out further digital payment services (for example, merchant payment through a POS device), public sector stakeholders can explore alternative energy sources at a larger scale. In line with the DPI principles, the ministries would be responsible for putting roll-out and upgrade plans in place to ensure public infrastructure is accessible to all.

7.3 Recommendations for IPS participants

IPS participants design products and services that make use of the instant capability of the IPS; they serve as the bridge between the IPS and the end users of digital instant payments. The success of any IPS project depends on how well both participants and end users embrace it. Three key recommendations focus on driving adoption of user-friendly payments products and services, fraud mitigation, and actively shaping DPI and IPS projects.

Offer user-friendly payment, products, and services

IPS participants decide which instruments to offer, making it essential to understand end-user motivators and behaviors. Collecting data on consumer and small business payment preferences is key for informing which use cases, instruments, and channels to offer—either independently or through partnerships with indirect participants focusing on other services or audiences.

Some examples of user-friendly offerings include offering offline payment solutions using basic/feature phones, adding appropriate security safeguards to address USSD's lack of encryption. Mobile money/agent banking partnership strategies can also focus on underserved areas of a country/region to drive consumer/small business awareness and adoption of digital financial services. Data-light and electricity-light solutions furthermore can deliver services in a way that is more affordable and takes network quality constraints into account.

Every participant must also keep in mind that individual and small business end users are extremely price sensitive. Revisit pricing structures and explore operational efficiencies to reduce end-user prices. Doing so can motivate digital payment adoption, especially for smaller transactions. Keep in mind that digital payments can be an on-ramp for broader use of digital financial services. They also offer PSPs opportunities to cross-sell other products.

Mitigate against mobile payments fraud

PSPs need to adapt their processes to counteract the increasing prevalence of fraud via mobile phones. Staying current on the latest fraud techniques and sharing insights with the broader IPS network can help other PSPs mitigate fraud risks. Risk-based frameworks for KYC processes and payments can lead to more robust fraud detection.

Participants must also offer end users rapid assistance in the case of fraud. Improved turn-around times for resolving customer queries can strengthen client retention.

Shape IPS and DPI projects through active engagement

Stakeholder consultation is key to ensuring that a country or region's IPS and DPI initiatives meet the needs of the market and its participating PSPs. The consultation process provides an opportunity for PSPs to make their voices heard and contribute to the co-creation of suitable public goods and services. The same applies to regulatory reform processes related to payments, such as fintech licensing requirements or licensing passports for cross-border payments. PSPs should actively participate in these consultative processes, including through their industry associations.

There is strong precedent for the positive impact of embracing collaboration in the creation and operation of payments infrastructure. All-to-all interoperability has led to increased digital payments uptake in many countries, including Brazil, India, and Tanzania. PSPs concerned about what interoperability will do to their competitive position can look to these positive examples of how it created more demand, not less. Furthermore, PSPs do better to compete by serving their market segment with quality products and services, not by limiting network access to other providers. In other words, PSPs should join the IPS with the widest reach and highest scale potential, to help catalyze the broader market for inclusive products and services, while serving their core audience.

PSP data is also an important resource for collaboration. Sharing insights into end-user behavior around instant payments (disaggregated by gender and geography where possible) can help quantify IPS benefits and identify functional gaps. The data can also inform IPS pricing structures, limits, and governance rules.

7.4 Recommendations for development partners

Economic development entities, multilaterals, and philanthropic organizations such as the AfricaNenda Foundation, the World Bank, the International Monetary Fund, the United Nations Economic Commission for Africa, the Bill & Melinda Gates Foundation, among others, are playing a key role in supporting stakeholder groups with aspirations for enabling financial inclusion through digital payments. Their global or regional views, assessment frameworks, and technical tools add value to the actors in the IPS ecosystem. Rigorous research and needs assessments, knowledge dissemination (for example, like the World Bank's Project FASTT on good practices), capacity building, convenings (such as Payments Week, the annual SIIPS report launch events, etc.), participation in standard setting bodies, funding of critical IPS ecosystem projects, and brokerage between IPS stakeholders are core roles for the development community in driving IPS inclusivity. They can particularly contribute through the following activities:

Conduct assessments

Development partners can assist countries/regions with needs and feasibility assessments around the different elements of DPI, including regulation and infrastructure. Needs assessments specifically can do more to help countries configure fit-for-purpose business models for their IPS, including developing an attractive participant engagement strategy that considers market dynamics. Furthermore, regulatory impact assessments can contribute to calls for reforms in payments licensing.

With assessment insights, development entities can also help coordinate between the public and private actors in an economy as they pursue various ongoing and planned efforts in DPI. This includes coordinating with each other to avoid duplication of efforts or confusing messages. Alignment on the goals and activities surrounding digital payment modernization projects (especially in the national payment system space), DPI discussions, and CBDC exploration is particularly urgent to ensure resource availability and prevent fragmentation. Better alignment between funders and support entities can only benefit IPS stakeholders.

Fund and support critical ecosystem projects

Based on the needs assessments and expressed support requests, development partners can fund critical ecosystem projects that support IPS inclusivity. For example, robust mobile network roll-out and electrification, including research on geographic priorities, can mitigate the risk of a growing digital divide. Research on data-light and electricity-light payment solutions, mobile phone solutions, and related risk mitigation mechanisms can advance knowledge in the sector. Adequate distribution of access points, such as agents, require research that development partners are well-placed to conduct. The data analysis can translate into technical assistance and capacity building for IPS stakeholders, leading to evidence-based policy making centered on underserved groups.

Brokerage between IPS ecosystem actors

IPS and DPI platforms are emerging in markets with existing payment solutions, partnerships, and closed-loop systems. As independent actors, development partners can potentially broker domestic or regional discussions involving different stakeholders with conflicting goals. It is particularly important in the short term to strike a balance between the need for scale in modern public payments infrastructure and the commercial interests of PSPs that already have sunk investments in closed-loop payments infrastructure and partnerships. Development partners can ensure that these discussions are grounded in evidence, including usage data, expert insights, and relevant case studies.

All-to-all interoperability has the potential to increase digital payment adoption. Raising awareness and continuously challenging the assumptions about the impact of open-loop interoperability on competition can change mindsets over time. Development partners can also advocate with public sector actors. For example, taxing mobile money transactions has proven to be detrimental to uptake. Development partners can surface realities like that, while advocating for joint national/regional strategies to enable coherent DPI/IPS plans.

The continued maturation of the digital payments infrastructure in Africa is promising, yet there is still more to be done to create the foundations for an efficient, affordable, and inclusive market for all. Each stakeholder group has a key role to play in creating the ecosystem and delivering the services that will improve financial wellbeing for every African on the continent.

AfricaNenda and its SIIPS 2024 partners at the World Bank and the United Nations ECA are committed to helping IPS stakeholders build the payments layer of DPI to serve all Africans.

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Annexes

A. Methodology

This report was developed using a mixed-method research approach. The research methods include:

Landscaping of IPS in Africa

To map the landscape, we leveraged various resources, including data from government and private-sector sources and literature from development partners. As reliable and consistent data is often not readily available, we also sent out a survey to each system's associated operator or central bank, to reflect the systems as accurately as possible and capture any relevant changes from previous years. The survey is available in Annex C. **We particularly thank the central banks and IPS operators of Angola, Egypt, Ethiopia, The Gambia, Ghana, Kenya, Lesotho, Madagascar, Malawi, Mauritius, Nigeria, Rwanda, South Africa, Tanzania, Tunisia, Uganda, Zambia, and Zimbabwe, the Economic and Monetary Community of Central Africa (CEMAC) and Southern African Development Community (SADC), for providing data to help close information gaps.** Information was provided on the following systems: eKash (Rwanda), EthSwitch (Ethiopia), GIMACPAY (CEMAC), GIP and Ghana MMI (Ghana), Gamswitch (The Gambia), IPN and Meeza Digital (Egypt), Kenya mobile money and PesaLink (Kenya), KWiK (Angola), LeSwitch (Lesotho), Madagascar mobile money (Madagascar), MauCAS (Mauritius), NIP (Nigeria), NFS (Zambia), Natswitch (Malawi), Payshap (South Africa), RTC (South Africa), Taifa Moja and TIPS (Tanzania), TCIB (SADC), Tunisia mobile money (Tunisia), Uganda mobile money (Uganda), and ZIPIT (Zimbabwe). For other data, we relied on a mix of publicly available information. Scheme rules are often not available publicly, and information online is scarce.

Using this approach, we developed a comprehensive database, which provided a typological analysis of the continent's IPS, considering various factors such as functionality, technology, governance models, and inclusivity. The data is up-to-date as of June 1, 2024.

Consumer research

Extensive qualitative and quantitative research helped further our understanding of the end-user experience. This research was conducted in five countries: Algeria, Ethiopia, Guinea, Mauritius, and Uganda. It covered both low-income adults and micro, small, and medium enterprises (MSMEs). The qualitative research included 100 respondents for individual interviews. The quantitative surveys included 530 respondents across the sampled countries. All figures are cumulative. The sample is not nationally representative, but rather focuses on the experience of emerging end users to identify constraints and drivers of access, initial usage, and habitual usage of digital payments in Africa and related implications to the design of IIPS.

The primary consumer research was conducted alongside the supply-side research to analyze the evolving instant and inclusive payment behavior among low-income and no-income individuals and MSEs in Africa.

The primary consumer research explored the use cases, desired features, unmet needs, and perceptions of end users regarding (instant) digital payments and sketched a profile of included versus excluded target market segments to provide an overview of the drivers and barriers relating to instant digital payment adoption in Africa.

- **Geographic scope.** To sketch a continent-wide picture, the primary consumer research was conducted in a sample of countries that are in different regions of Africa.
- **Methods used.** Researchers used a mixed-method approach that leveraged both quantitative and qualitative research methods (see Figure A.1).
- **Sampling approach.** To gain insight into the nuances of digital payment adoption across different consumer groups, researchers used the sampling approach illustrated in Figure A.2.
- **Detailed sample breakdown.** The breakdown of the quantitative component and exact sampling of each method for the qualitative component across the five markets are provided in Table A. In total, the sample included 530 respondents across the five countries. The collection of the quantitative data took place between February 11, 2024, and March 7, 2024. For the qualitative component, the sample included 100 respondents across the IDI method. The collection of the qualitative data took place within these five countries between February 7, 2024, and February 28, 2024.

Figure A.1 | Breakdown of quantitative and qualitative methods

Research methodology and corresponding objectives

	Survey	In-depth interviews
Objectives of the tool	• Understand consumer's depth of usage • Measure the frequency of digital payment usage and transaction profiles • Ranking of the most used payment instruments • Identify core barriers	• Map use-case characteristics and payment behavior • Determine consumer perceptions on inclusive instant payment systems using access, adoption, and usage frameworks • Frame consumer journey
Sample size target per country	• Number of individuals = 60 • Number of MSMEs = 40	• Number of individuals = 10 • Number of MSMEs = 10 (out of them one should be an agent as well)

Fieldwork itinerary

- **Fieldwork was carried out in** Algeria, Ethiopia, Guinea, Mauritius, and Uganda
- **Quantitative data collection:** 11 Feb – 7 March 2024
- **Qualitative data collection:** 7 Feb – 28 February 2024

Figure A.2 | Sampling approach across group segments

	Infrequent income earners	Frequent income earners	Micro entrepreneurs*	Small businesses*
Definition	Lower and infrequent income earners include the urban poor, who survive on a "hand to mouth" basis due to the absence of regular employment and stable earnings, intermittent piece job/gig workers, and people dependent on family/ community or social grants.	Lower and frequent income earners are the slightly more affluent part of the lower-income mass market that earn a steady income (wages) or a salary, in the formal or informal sector.	Individual traders/ merchants such as hawkers, fruit and vegetable sellers, cobblers, and other crafts traders.	Traders who have small, fixed premises or (mostly informal) shops/service providers, as well as smallholder farmers and small agribusinesses.
Sample proportion (survey)	**28%**	**32%**	**20%**	**20%**

74% of the total sample for **the quantitative survey** are **digital payment users** (individuals and businesses) and **68%** of the total sample for the **qualitative research components** are **digital payment users** (individuals and businesses).

Within each of the four groups, **adequate coverage of women and youth** was ensured.
The businesses sampled represent a mixture of different business activities.

** Country specific monthly turnover cut-off has been applied*

Table A | Detailed sampling breakdown

Country	Respondent profile	Quantitative	IDI
Algeria 	No/ infrequent income earner	26	5
	Low frequent income earner	34	5
	Micro business	17	5
	Small business	23	5
	TOTAL	**100**	**20**
	Percentage of sample that are digital payment users	**69%**	**70%**
Ethiopia 	No/ infrequent income earner	33	5
	Low frequent income earner	32	5
	Micro business	29	5
	Small business	23	5
	TOTAL	**117**	**20**
	Percentage of sample that are digital payment users	**74%**	**70%**
Guinea 	No/ infrequent income earner	28	5
	Low frequent income earner	35	5
	Micro business	22	5
	Small business	20	5
	TOTAL	**105**	**20**
	Percentage of sample that are digital payment users	**72%**	**80%**

Country	Respondent profile	Quantitative	IDI
Mauritius 	No/infrequent income earners	30	5
	Low frequent income earner	33	5
	Micro business	20	5
	Small business	20	5
	TOTAL	**103**	**20**
	Percentage of sample that are digital payment users	**77%**	**70%**
Uganda 	No/ infrequent income earners	30	5
	Low frequent income earner	34	5
	Micro business	18	5
	Small business	22	5
	TOTAL	**104**	**20**
	Percentage of sample that are digital payment users	**72%**	**75%**

B. Consulted stakeholders

Organization	Name
50-in-5 Campaign	Jonathan Lloyd
Alliance for Financial Inclusion	Adeyemi Omotso
Bank of Ghana	Clarence Blay Daniel Kwabena Adjei-Nyarko Kwame Agyapong Oppong
Bank of Mauritius	Arnaud Bazerque Bacha Khemraj Hurry Tilotma Gobin Jhurry
BankservAfrica	Anton Van Der Merwe Riaan Visagie Sarel Myburgh Shergaran Naidoo Sindiswa Tshabalala Solly Bellingan Wendy Du Preez
Cambridge Centre for Alternative Finance	Dana Salman Jill Lagos Shemin Stanley Mutinda
Central Bank of Egypt	Ehab Nasr Hussein Habib Menna Elnaggar Mohamed Abd El Rahman Salma Khaled

Organization	Name
Egypt Fintech Association	Noha Shaker
The Eastern and Southern Africa Anti-Money Laundering Group	Bhushan Jomadar Tirivafi Nhundu Vanevola Otiento
FinMark Trust	Damola Owolade Nicola Schoeman
Financial Sector Conduct Authority	Keith Sabilika Nolwazi Hlophe
Financial Sector Deepening Somalia	Fatah Mohamed Jibril Adan Mohamed Khadra Yusuf Mohamud Abdulkadir
Gozem Money/Moneex	Florent Ogoutchoro
Independent Consultant	Vivienne Lawack
Independent Consultant	Mercy Buku
Nigeria Fintech Association	Dr. Babatunde Oghenobruche Obrimah
Committee of Central Bank Governors in SADC	Keamogetswe Rankhumise Mavis Matlhwana Musa Baloye
SmileID	Mark Straub
United Nations Capital Development Fund	Albert Mkenda Eliamringi Mandari Mukankunga (Angel) Bisamaza
Valify	Ibrahim Eid
Wave	Sainabou Sarr
Yoco	Kim Dancey Marcello Schermer
Zimswitch	Charlom Tsiga Itai Tsoro Michael Chauruka Pardon Magaya Sharon Marira Tapiwa Chirombo Yolanda Saungweme Zabron Chilakalaka

C. IPS survey

SIIPS 2024 questionnaire

Please fill in the information requested in yellow below. We would appreciate it if you could also share your scheme rules with us *and additional reports that help us understand the system better. If your country has more than one system, please add the second system in the next sheet.*

Name of payment system:	

1. Annual instant payment system **values** in local currency				
2019	2020	2021	2022	2023

2. Annual instant payment system **volumes**				
2019	2020	2021	2022	2023

3. Split between on-us and not-on-us transaction values that go through the system per year									
2019		2020		2021		2022		2023	
On-us	Not-on-us	On-us	Not-on-us	On-us	Not-on-us	On-us	Not-on-us	On-us	Not-on-us

4. Number of direct participants in the system (for clearing)				
Commercial banks	E-money issuers	Microfinance organizations	Other (payment service providers, fintechs etc.)	Post Office

5. If applicable: number of indirect participants (for clearing)	
Type of payment provider	Number of entities

6. Use cases enabled by the system that are fully rolled out (tick for yes)							
P2P	P2B (merchant payments)	P2B/ P2G (bill payments)	P2G (taxes)	B2B	G2P (social assistance)	B2P (salaries)	Cross-border (P2P/P2B/B2B)

7. Enabled instruments by the system (tick for yes)				
Credit EFT	Debit EFT	E-money	Card	CBDC

8. Enabled channels by the system (tick for yes)								
USSD	Agent (e-money)	Agent (banking)	App	Browser	NFC	QR code	POS	ATM

9. Messaging standard used by the system (tick for yes)		
ISO 8583	ISO 20022	Proprietary

10. Enabled identity aliases/identity proxies by the system (tick for yes)					
Bank account number	Mobile phone number	QR code	Email address	System released their own ID	Other *(please provide details)*

11. Is the business model of the system not-for-profit/not-for-loss?		
Yes	No	What is your pricing structure for participants?

12. Do the scheme rules specify additional consumer recourse requirements for system participants on top of payment license requirements?		
Yes	No	If yes, *please specify:*

13. Does the system make use of any application programming interface (API)?		
Yes	No	If yes, *please specify for which functions:*

14. Where did the start-up funding for the system come from and what did it cost to set the system up?

15. Can you clarify the governance structure of the system? Who is the system…?				
Owner	Overseer	Operator	Settlement agent	Who is in charge of the system governance?

16. Do all participants in the system have an opportunity to participate in the decision-making process?		
Yes	**No**	**If yes,** *please specify the mechanism through which this is made possible (working groups, voting procedures etc.):*

17. Do all licensed payment service providers have the right to become direct participants in the system (for clearing)?		
Yes	**No**	**If no,** *please specify which entities cannot participate:*

18. Is there a minimum value for transactions that can be processed through the system?		
Yes	**No**	**If yes,** *please specify the amount in local currency*

19. What is the corporate structure of the system? (tick for yes)				
Private limited company	**Public listed company**	**Joint stock company**	**Public interest group**	**Other** *(please specify)*

D. Mobile money IPS

A mobile money IPS is a system that only provides access to mobile money providers and that supports instruments associated with mobile money accounts. This type of system has common scheme rules and standards that form the basis for clearing and settlement of transactions between customers of the participating MMOs. However, they may be based either on a centralized infrastructure or based on some form of bilateral and multilateral arrangements between participating MMOs.

Indeed, some countries achieved mobile money interoperability without establishing a central platform, but by enforcing a set of multilateral rules and technical integrations that all market players must follow under the oversight of the central bank (e.g., Kenya, Madagascar, Tanzania, Uganda). For each e-money institution, this principle is generally based on the opening of accounts in the name of other e-money institution(s) to facilitate settlement.

For the purpose of this report, such common scheme rules and standards are considered a mobile money IPS if they meet the following criteria:

- Regulatory provisions establish the basis for the interoperability between MMOs (generally achieved through the opening of nostro and vostro accounts).
- A common scheme exists, under which the MMOs operate.
- The scheme covers the basic aspects pertinent to interoperability between participating MMOs – for example, rules on interoperability, settlement of transactions and operational requirement.

Table E summarizes the specificities of the four existing mobile money IPS based on common scheme rules and standards, and how they incorporate the features mentioned above.

Table E | Mobile money IPS details

Features
Kenya: In contrast to other countries, there are no multilateral rules for P2P applicable to all MMOs for interoperability purposes. Instead, e-money institutions negotiate individual contracts between each other, meaning that the commercial and pricing agreements can be different between the Safaricom-to-Airtel connection and the Telkom-to-Airtel integration. Merchant payments (P2B) have the same rules, endorsed by the central bank. As a result, while interoperability is mandated by the Central Bank of Kenya, interoperability does not apply with the same conditions between each pair of MMOs (e.g., there can be pricing differences for P2P cross-transfers).
Madagascar: The regulation mandates interoperability and there is an obligation for the three MMOs (MVola, Orange Money, and Airtel Money) to have bilateral agreements to enable cross-transfers. These agreements are based on multilateral common rules for all participants. The principle is based on the opening, at each e-money institution, of accounts in the name of the other two. In the absence of a centralized infrastructure, the arrival of a new player in the e-money sector will require the conclusion of three new bilateral agreements with incumbents.
Tanzania: In Tanzania, three MMOs (Tigo, Airtel, and Zantel) enabled interoperable P2P transactions in 2014 after approval from the Bank of Tanzania. Vodacom later joined the agreement. The system consists of a combination of general rules that apply to all participants, as well as bilateral agreements for specifics such as pricing. The rules specify a receiver pays model with complete cost transparency for the end user, where price discrimination between on-us and not-on-us transactions are prohibited. Settlement is handled through prefunded accounts. However, as the regulator is now championing the new IPS: TIPS, which facilitates cross-domain transactions and has onboarded all MMOs, the bilateral connections will in theory become obsolete (GSMA, 2020; BFA Global, 2022). It is too early to say anything about the success of TIPS in replacing existing bilateral agreements.
Uganda: In 2017, the Bank of Uganda issued a directive stating mobile money providers should become interoperable within a few months. However, the central bank did not provide or mandate the technical means to interconnect. Instead, the two market leaders MTN and Airtel established interoperability through an aggregator (Pegasus). The solution also leveraged existing connections between MMOs and Pegasus for other use-cases, such as bill payments. In 2019, the two larger MMOs transitioned to a direct bilateral connection via APIs while remaining connected to the smaller MMOs through Pegasus. The business model for cross-net transactions is decided by participants based on a bilateral agreement and validated by the regulator. The main players have agreed on a 0.6% receiver pays interchange (GSMA, 2020).

E. Data table[85]

IPS name	IPS description			Number of participants	Transaction data		IPS name	Main actors					
	Geography	Launch year	IPS type		2023 volumes	2023 values (US$)		Owner	Overseer	Scheme governance	Operator	Settlement agent	Vendor
Kwanza Instantâneo (KWiK)	Angola	2023	Cross-domain	11	5,983	301,007	Kwanza Instantâneo (KWiK)	National Bank of Angola	National Bank of Angola	National Bank of Angola	Empresa Interbancária de Serviços (EMIS)	National Bank of Angola	N/A
GIMACPAY	CEMAC	2020	Cross-domain	105	12,035,288	983,219,448	GIMACPAY	BEAC and commercial banks	BEAC	BEAC	GIMAC	BEAC	N/A
Pan African Payment & Settlement System*	Continent-wide	2022	Bank	54	N/A	N/A	Pan African Payment & Settlement System*	PAPSS Governing Council	PAPSS Governing Council	PAPSS Governing Council	PAPSS Management Board	African Export–Import Bank	N/A
Instant Payment Network (IPN)	Egypt	2022	Cross-domain	36	423,500,000	17,895,003,422	Instant Payment Network (IPN)	Central Bank of Egypt	Central Bank of Egypt	Central Bank of Egypt	Egyptian Banks Company	Central Bank of Egypt	N/A
Meeza Digital	Egypt	2017	Mobile money	112	1,023,600,000	26,739,948,973	Meeza Digital	Central Bank of Egypt	Central Bank of Egypt	Central Bank of Egypt	Egyptian Banks Company	Central Bank of Egypt	N/A
EthSwitch	Ethiopia	2023	Cross-domain	35	28,792,887	3,402,804,612	EthSwitch	National Bank of Ethiopia and industry	National Bank of Ethiopia	EthSwitch	EthSwitch	National Bank of Ethiopia	N/A
Ghana Mobile Money Interoperability (MMI)	Ghana	2015	Mobile money	6	171,299,882	2,387,719,079	Ghana Mobile Money Interoperability (MMI)	GhIPSS (owned by Bank of Ghana)	Bank of Ghana	GhIPSS	GhIPSS	Bank of Ghana	N/A
GhIPSS Instant Pay (GIP)	Ghana	2015	Bank	50	115,368,700	8,847,821,923	GhIPSS Instant Pay (GIP)	GhIPSS (owned by Bank of Ghana)	Bank of Ghana	GhIPSS	GhIPSS	Bank of Ghana	N/A
Kenya mobile money	Kenya	2018	Mobile money	3	24,205,305,824	285,396,247,314	Kenya mobile money	None (bilateral agreements)	Central Bank of Kenya and Communications Authority Kenya	None (bilateral agreements)	None (bilateral agreements)	Central Bank of Kenya	N/A
PesaLink	Kenya	2017	Bank	37	6,034,787	6,259,222,223	PesaLink	Kenya Bankers Association	Central Bank of Kenya	IPSL	IPSL	Central Bank of Kenya	N/A
LeSwitch	Lesotho	2024	Mobile money	5	0	0	LeSwitch	Central Bank of Lesotho	Central Bank of Lesotho	Central Bank of Lesotho	Central Bank of Lesotho	Central Bank of Lesotho	N/A
Madagascar mobile money	Madagascar	2016	Mobile money	3	946,443,373	12,598,079,557	Madagascar mobile money	None (bilateral agreements)	Central Bank of Madagascar	None (bilateral agreements)	None (bilateral agreements)	Central Bank of Madagascar	N/A
Natswitch	Malawi	2022	Cross-domain	54	11,652,498	931,490,669	Natswitch	Natswitch	Reserve Bank of Malawi	Natswitch	Natswitch	Reserve Bank of Malawi	BPC (Smartvista)
Mauritius Central Automated Switch (MauCAS)	Mauritius	2019	Cross-domain	14	6,630,914	532,280,041	Mauritius Central Automated Switch (MauCAS)	Bank of Mauritius	Bank of Mauritius	Bank of Mauritius	Bank of Mauritius	Bank of Mauritius	CMA Small Payments Systems AB
MarocPay*	Morocco	2018	Cross-domain	23	0	N/A	MarocPay*	Bank Al-Maghrib	Bank Al-Maghrib	The Moroccan Mobile Payment Group (GP2M)	HPS Switch	Bank Al-Maghrib	N/A
Virement Instantané*	Morocco	2023	Bank	19	N/A	N/A	Virement Instantané*	Bank Al-Maghrib	Bank Al-Maghrib	GSIMT	GSIMT	Bank Al-Maghrib	N/A
Sociedade Interbancaria De Mocambique (SIMO)*	Mozambique	2021	Cross-domain	19	N/A	NA	Sociedade Interbancaria De Mocambique (SIMO)*	Bank of Mozambique and industry	Bank of Mozambique	SIMO	SIMO	Central Bank of Mozambique	N/A

85 The data tables rely on survey inputs from respective system operators or central banks. Systems marked with * did not provide a survey response. Information on these systems thus relied on information from previous years and public sources. Sources for systems that did not provide a survey response: Central Bank of Nigeria, 2021; Cartamz, 2023; PAPSS, 2024; Marocpay, 2024; NDIC, 2024.

IPS name	IPS description			Number of participants	Transaction data		IPS name	Main actors					
	Geography	Launch year	IPS type		2023 volumes	2023 values (US$)		Owner	Overseer	Scheme governance	Operator	Settlement agent	Vendor
eNaira*	Nigeria	2021	Sovereign currency	41	N/A	N/A	eNaira*	Central Bank of Nigeria	Central Bank of Nigeria	Central Bank of Nigeria	Cental Bank of Nigeria	Cental Bank of Nigeria	N/A
NIBSS Instant Payment (NIP)	Nigeria	2011	Cross-domain	315	9,669,335,889	449,072,284,461	NIBSS Instant Payment (NIP)	NIBSS	Central Bank of Nigeria	NIBSS	NIBSS	Central Bank of Nigeria	N/A
Nigeria mobile money*	Nigeria	2013	Mobile money	31	N/A	N/A	Nigeria mobile money*	NIBSS	Central Bank of Nigeria and Nigerian Communications Commission	NIBSS	NIBSS	Central Bank of Nigeria	N/A
eKash	Rwanda	2022	Cross-domain	13	6,005,553	16,868,590	eKash	RSwitch	National Bank of Rwanda	RSwitch	RSwitch	National Bank of Rwanda	N/A
Transactions Cleared on an Immediate Basis (TCIB)	SADC	2021	Cross-domain	2	N/A	N/A	Transactions Cleared on an Immediate Basis (TCIB)	CCBG	SADC Payment System Oversight Committee	Payment Systems Management Body (PSMB)	BankservAfrica	SADC - RTGS (South African Reserve Bank)	N/A
PayShap	South Africa	2023	Bank	10	18,000,000	588,096,918	PayShap	BankservAfrica	South African Reserve Bank	BankservAfrica and PASA	BankservAfrica	South African Reserve Bank	Tata Consultancy Services
Real Time Clearing (RTC)	South Africa	2006	Bank	17	309,304,447	91,008,465,929	Real Time Clearing (RTC)	BankservAfrica	South African Reserve Bank	PASA	BankservAfrica	South African Reserve Bank	N/A
Taifa Moja	Tanzania	2016	Mobile money	6	5,061,198,600	59,980,446,882	Taifa Moja	None (bilateral agreements)	Bank of Tanzania	None (bilateral agreements)	None (bilateral agreements)	Bank of Tanzania	N/A
Tanzania Instant Payment System (TIPS)	Tanzania	2021	Cross-domain	46	267,474,830	5,526,147,640	Tanzania Instant Payment System (TIPS)	Bank of Tanzania	Bank of Tanzania	Bank of Tanzania	Bank of Tanzania	Bank of Tanzania	Mojaloop
Gamswitch	The Gambia	2020	Bank	12	1,471,000	65,611,730	Gamswitch	Central Bank of Gambia and industry	Central Bank of Gambia	Gamswitch	Gamswitch	Central Bank of Gambia	N/A
Tunisia mobile money	Tunisia	2018	Mobile money	15	191,000	15,397,242	Tunisia mobile money	SMT	Central Bank of Tunisia	Société Monetique Tunisie (SMT)	SMT	Central Bank of Tunisia	N/A
Uganda mobile money	Uganda	2017	Mobile money	14	6,360,000,000	60,396,953,004	Uganda mobile money	None (bilateral agreements)	Bank of Uganda	None (bilateral agreements)	Pegasus/bilateral agreements	Central Bank of Uganda	N/A
National Financial Switch (NFS)	Zambia	2019	Cross-domain	30	99,102,490	2,830,236,060	National Financial Switch (NFS)	ZECHL (member banks and Bank of Zambia)	Bank of Zambia	ZECHL	ZECHL	Bank of Zambia	N/A
Zimswitch Instant Payment Interchange Technology (ZIPIT)	Zimbabwe	2011	Cross-domain	29	13,314,298	304,999,657	Zimswitch Instant Payment Interchange Technology (ZIPIT)	Zimswitch	Reserve Bank of Zimbabwe	Zimswitch	Zimswitch	Reserve Bank of Zimbabwe	N/A

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