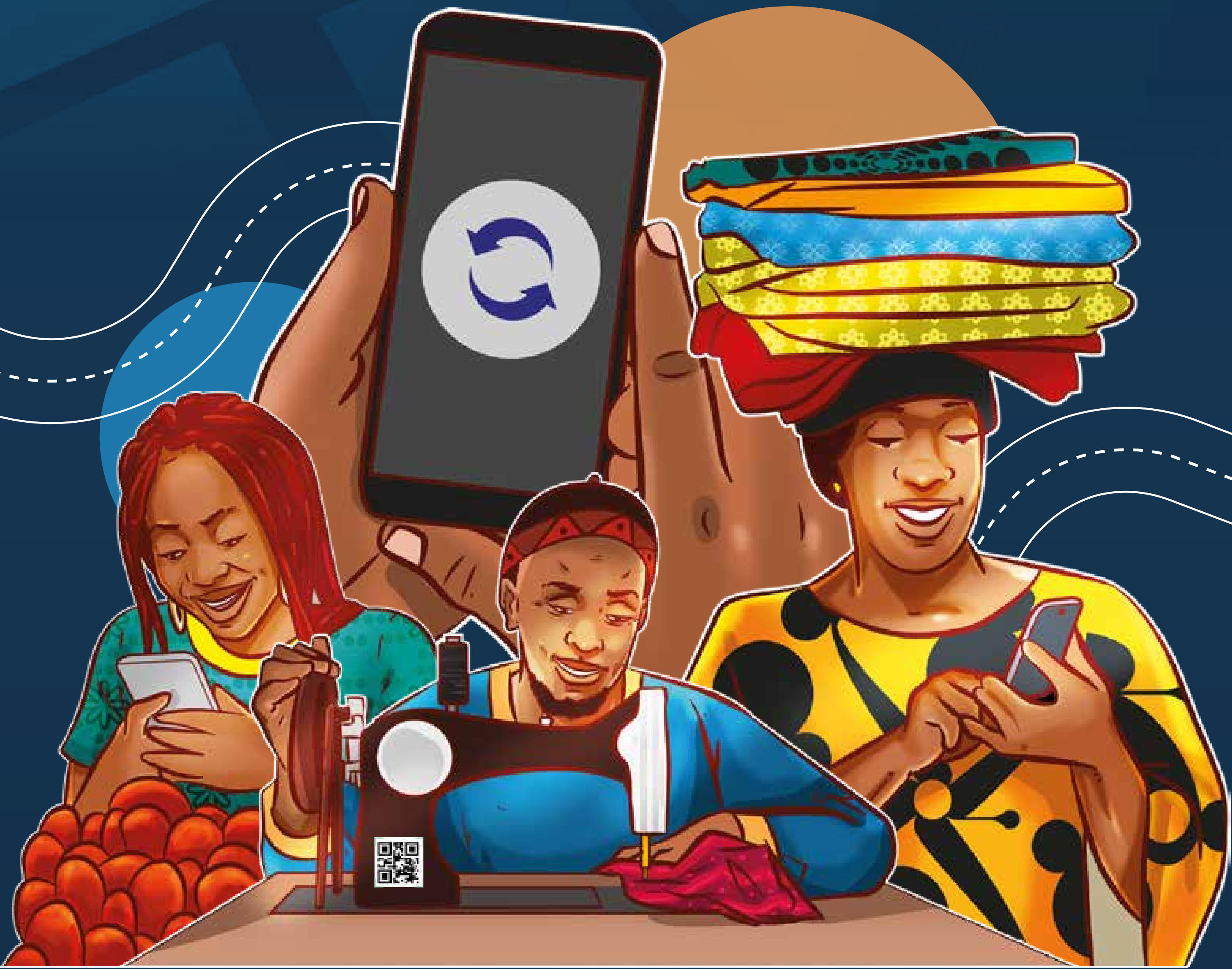
THE STATE OF INSTANT AND INCLUSIVE PAYMENT SYSTEMS IN AFRICA

SIIPS 2022 - CASE STUDY

PESALINK



AfricaNenda
ACCELERATING INCLUSIVE PAYMENT SYSTEMS

ECA

WORLD BANK GROUP

Origin story

Challenge

Lack of a real-time payment solution for small value payments in the banking sector. The Kenyan payments system is recognized for its role in developing mobile money as an increasingly critical payment system via MPesa. However, transactions within the retail banking system remained constrained. The process for making payments between mobile wallets and bank accounts was non-intuitive for users (World Bank, 2021h). Moreover, bank-to-bank EFTs were processed by the ACH, which were based on batched clearing and settling.

Value proposition

An instant-payments banking system that reduces cost of transactions and fosters financial inclusion. Due to market pressure, banks had a desire to create their own payment solution that would provide instant real-time payments between bank accounts. The Kenyan Bankers' Association (KBA) therefore strategized a payment system that would integrate digital payments, reduce the cost of transactions, and thereby foster financial inclusion.

Timeline

Stakeholder buy-in was crucial for the development of the scheme. PesaLink was developed by the Integrated Payments Services Limited (IPSL), a company that was established in 2015. It was conceptualized between 2013 and 2015 by the governing council of the KBA. KBA opted to procure a new switch to share infrastructure among member banks, reduce costs, and improve efficiency. The scheme utilized the ISO 8583 messaging standard, already in use by banks for card processing (IPSL, 2022). Sharing infrastructure reduced the upfront cost of developing the system. Figure 29 provides an overview of the development timeline of PesaLink.

FIGURE 1. PesaLink timeline

Technical integration with all the banks challenged the scheme. With the procurement of the new switch, each bank had to ensure their legacy systems could support real-time transactions. Smaller banks raised concerns that larger banks with more modern infrastructure would have a competitive advantage and absorb their client base if the scheme was implemented (World Bank, 2021h). The KBA developed a financial model, with support from third-parties (particularly FSD Kenya), that measured the impact of the scheme on member banks' existing product revenues to obtain buy-in from Kenyan banks, as well as a business case for the new scheme (World Bank, 2021h; Genesis Analytics, 2017). After the business case was developed, member banks of the association approved the scheme, allowing for its launch in 2017. To further modernize the system, IPSL worked together with their technical partner, TietoEVRY, an IT software company, to transition the scheme to open-loop for banks and based on the ISO 20022 standard. PesaLink also worked with XMLdation, which provided a message mapper, also known as a converter, that would enable banks on the ISO 8583 standard to transact with banks on ISO 20022. The bridge enabled banks that were not on the new switch to do so with ease as soon as they were ready to transition (Stakeholder Interviews, 2022). The new system enables banks directly, and fintechs, payment initiation service providers (PISPs), PSPs, and MNOs indirectly through their trust account held at banks, to initiate real-time payments across the banking industry on a common standard. It will also enable the launch of new use cases (e.g., request to pay and direct debit), help improve the efficiency of the system through, for example, increased transaction success rates, and ensure that KYC and AML best practices are implemented as a result of the richer data obtained through the new messaging standard (Khusoko, 2022). The new reporting standard will also include gender-disaggregated data and will enable service providers to attach location-based data to transactions. These additions have the potential to produce insights that could be leveraged by IPSL and individual service providers to identify gaps in usage and to design more suitable products (Stakeholder interviews, 2022).

Governance and operations

Payment system overview

An intuitive instant payments process for bank customers. The IPSL is the operator of the PesaLink's central processing hub, which connects participants. Transactions are settled twice a day on a net basis via the RTGS system at the central bank. Banks are direct members of the scheme and members of the KBA. Microfinance banks and payment service aggregators, including fintechs, and MNOs are indirect members and thus require sponsorship from participant banks to settle transactions on their behalf (World Bank, 2021h). Given the relatively high transaction size, it is likely that the system is not yet in use by lower-income individuals on a large scale. The proceeding figure provides a visual representation of PesaLink.

FIGURE 2. PesaLink model overview

Governance and ownership

Owned by	Ownership model	Decisions made by
Kenya Bankers' Association (KBA)	Independent corporation	Executive management

Scheme rules and governance processes

Working groups and committees	Stakeholder comms and feedback	Messaging standard
Appeal committee	Ad hoc forums and meetings	ISO 20022

Roles

Scheme manager	Scheme operator	Technical system and network operator
IPSL	IPSL	IPSL

Payment system

Settlement Agent	Settlement modality	Foreign exchange hub	Correspondent banks	Interoperability
Central Bank of Kenya	Deferred net (2x daily)	None	None	Third party

Instruments

Card	E-money	Debit transfer (EFT)	Credit transfer (EFT)	CBDC

Channels

Branch	ATM/kiosk	USSD	Apps	POS
Agents	QR code	NFC	Browser	

Biographic data and functionality

ID proxy	Biometrics	APIs
Yes - Mobile number	None	Yes - limited-purpose APIs

Participants

Direct	Indirect
Central bank, 31 KBA member banks	Undisclosed number of microfinance banks (MFBs), payment service providers (PSPs), mobile money operators (MMOs), fintechs, savings and credit cooperative societies (SACCOs)

Use cases and target market

Channels

Transfers and remittances (P2P)	Merchant payments (P2B)	Taxes and fees (P2G)	Social disbursements (G2P)
Inventory and business services (B2B)	Salaries and wages (B2P)	Cross-border	

Governance structure

Bank-led and owned scheme with potential to include a greater number of players. The scheme is an independent corporation, due to its ownership by KBA (IPSL, 2022). The decision-making body of the scheme is the executive management of IPSL, which consists of representatives from the member banks and independent participants. Banks are direct members of the scheme and members of the KBA, while microfinance banks, MNOs, and payment service aggregators, including fintechs, are indirect members and require sponsorship from participant banks to settle transactions on their behalf at the RTGS (World Bank, 2021h).

Functionality

The scheme's accessibility: geared toward bank and, ultimately, mobile money wallet holders. PesaLink is an online real-time payment scheme that has 24-hour availability, 365 days a year. The payment system supports mobile applications as well as traditional channels (i.e., physical branches, agents, and ATMs). It can also be used via USSD. Airtel and T-Kash are connected indirectly to the switch, technically creating interoperability between their mobile wallets and bank accounts connected to PesaLink (Stakeholder interviews, 2022). PesaLink currently only processes bank transactions. Mobile money transactions to and from Airtel and T-Kash wallets rely on PesaLink's settlement functionality via the MNOs' respective trust accounts, given that direct participation is barred for non-banks, the scheme is categorized as bank IPS and not cross-domain IPS.

Technical standards and use cases

Further development and modification indicating the drive for greater inclusion and innovation in the payments sphere. PesaLink currently facilitates P2P. Facilitation of bill payments, and merchant payments is under development. The scheme is developing support for a subset of G2P payments through the M-Akiba solution, which aims to enable individuals to invest in and receive returns from government securities via their mobile phones. P2G payments will also be facilitated through the eCitizen platform for Kenyans to pay for government services such as driving license renewals, passport applications, and business registration services. The scheme also plans to process the payments of salaries and wages by businesses who can also pay out salaries via bulk payments (IPSL, 2022). PesaLink currently supports limited purpose APIs, which are used by non-banks to connect to the PesaLink switch. The switch was upgraded to the ISO 20022 standard in 2021 (World Bank, 2021h).

Business model

Pricing set up to facilitate competition among banks. PesaLink is fully owned by the banks through the KBA. All member banks contributed investment funds to establishing the scheme and pay a joining fee to PesaLink (Stakeholder interviews, 2022). Banks determine end-user charges subject to the approval of CBK. They also pay a quarterly fee to PesaLink, and they pay USD 1 (KES 11.6) per transaction processed.[1]

Scheme rules

Scheme rules follow internal and local regulations and standards. IPSL launched its scheme rules in 2022. The rules provide guidance on member obligations as well as roles and responsibilities within the scheme. The rules also provide the governance framework, operating model, transaction flows, and penalties for non-compliance. Participants must adhere to standards set by IPSL and must undergo a "rigorous testing process."[2] Participants are required to undergo an external audit before their full integration into the system. All participants are required to adhere to the Data Protection Act of 2019. Banks, who are the custodians of customer data, are required to ensure that safety measures be put in place to protect customer data from potential risks. Moreover, banks need to adhere to the country's cybersecurity guidelines under the National Payments Act of 2011 and follow the associated cybersecurity requirements to participate in the scheme (World Bank, 2021h). Furthermore, there are minimum requirements for technology infrastructure and security by IPSL from 2019, which include strict standards in relation to the network, core banking systems, and technology infrastructure.

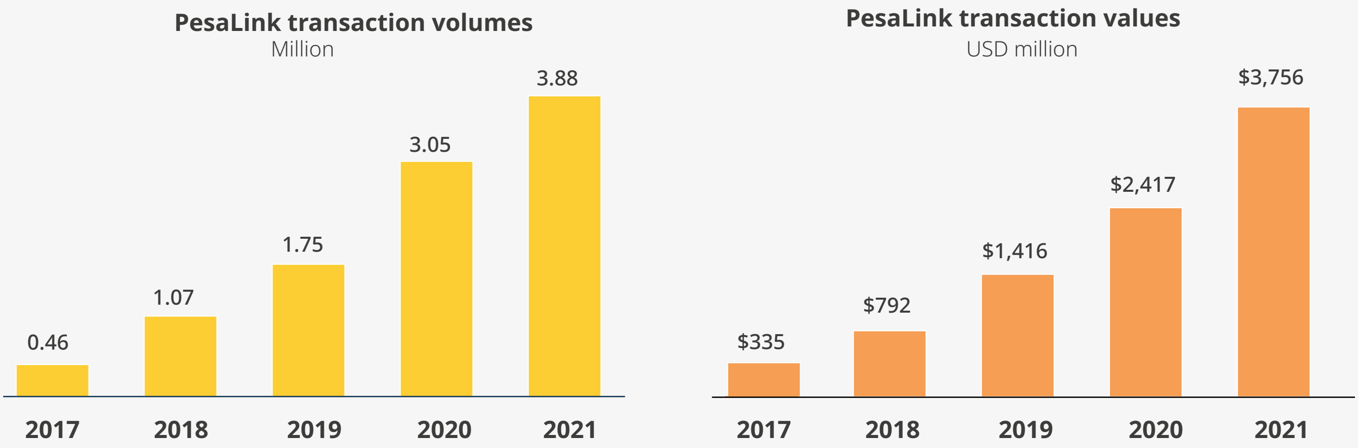
1 Kenyan Shilling converted to USD using an exchange rate of USD 1= KES 116.45 as of 22 May 2022

2 Testing process assesses technology and network infrastructure.

Volumes and values processed by the payments system

The following figures show that, since 2019, PesaLink has had growing uptake by end-users. Values grew by 165% between 2019 and 2021, while volumes grew by 122% over the same period. Average annual transaction size slightly declined from USD 807 (KES 93,975) in 2019 to USD 792 (KES 92,228) in 2020. However, the average annual transaction size in 2021 increased to USD 969$ (KES 112,840). The reasons for the increase in the average transaction size are unknown.

FIGURE 3. PesaLink volumes and values



Source: World Bank, 2021h

Regulation

Existing regulations provided a solid legal framework for the payment scheme. Prior to launch, the Kenyan Government already had several updated laws and regulations for the payment system. The payment system's legal framework is based on the 2011 National Payment Systems Act, the 1966 Central Bank of Kenya Act, the 1995 Banking Act, the 2014 National Payment Service Regulations, and the 2009 Proceeds of Crime and Anti-Money Laundering Act. Moreover, the CBK launched the National Payment Strategy in 2022. The scheme is aligned with the strategy's objectives and vision, which include the promotion of "a secure, fast, efficient and collaborative payments system" that will promote financial inclusion and innovation. The relatively advanced state of the regulatory environment, due to more than 10 years of mobile money usage, reduced the uncertainty in developing the new IPS. Recently, in 2022, The Central of Kenya also launched a five-year payment system strategy, and PesaLink is a key driver for banks and other players to deliver on the strategy.

Inclusivity learnings

Not ranked in terms of inclusivity. Measured by the inclusivity criteria in Chapter 2.6, PesaLink is not yet ranked in terms of inclusivity as it does not support P2B payments currently and does not provide direct access to the most widely-used channel in Kenya (mobile money). Participants do have equal input opportunity in decision making. It does, however, process the bank portion of transactions between trust accounts, and also between MNO trust accounts and banking channel. There is no clear governance role for the Central Bank of Kenya beyond oversight of the scheme, and it lacks a pro-poor mandate.

The following drivers of inclusion were identified for PesaLink:

- **Regular consultations and strong stakeholder engagement plans vital to obtain buy-in for the success of the payment scheme.** PesaLink is bank initiated, and regulator input was minimal in promoting the creation and adoption of the scheme. The IPSL Board of Directors as well as FSD Kenya held workshops with all member banks of the association to bring clarity behind the intentions of the scheme. They addressed concerns from member banks that felt threatened by larger banks in relation to the IPSL launch. Although industry buy-in is always important, it is especially vital if there is no mandated participation and in cases where the regulator is minimally involved.
- **Development partners able to play a key role in successful initiation and development of systems.** FSD Kenya played an important role that contributed to the successful establishment of the scheme. It conducted the initial feasibility study prior to 2015 to establish whether PesaLink would be viable. Thereafter, FSD Kenya prepared the business case and held workshops with all 43 banks to finalize the design (World Bank, 2021h). Its role in developing the system highlights the impact of market facilitators, especially where regulators are less involved.
- **Leveraging and sharing existing infrastructure crucial to reduce cost.** The success of PesaLink was made possible by utilizing existing infrastructure in use by banks. Although banks were still required to upgrade their legacy systems to facilitate real-time clearing of bank-to-bank retail transactions, the design choices allowed IPSL to minimize costs and speed up buy-in from member banks.
- **Participant-led payment able to incentivize participation by providing a competitive advantage.** Since the launch of PesaLink, the system has upgraded to a new messaging standard that will facilitate new use cases and allow indirect participants to connect to the scheme. As discussed above, this is supportive of interoperability between different schemes but does not offer the same benefits to non-bank providers that a cross-domain scheme with direct access for all licensed PSPs would. It seeks to eventually achieve interoperability with non-banks PesaLink and is also developing open APIs that support new features such as request-to-pay. Improved features allow participating institutions to provide additional value-adding services to their customers to incentivize participation.
- **An established regulatory framework provides clear direction and certainty on what can be implemented.** Most of the laws and regulations relevant for PesaLink were in place prior to the launch of the payment scheme. Through this, the banking industry had greater clarity regarding what would be permitted for the scheme. Regulators must provide stability and create new guidelines through a multitenant process to facilitate the growth of innovative solutions to deepen financial inclusion.

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