



# THE STATE OF INCLUSIVE INSTANT PAYMENT SYSTEMS IN AFRICA

**SIIPS 2024** • Case study

TIPS Tanzania

## 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.<sup>1</sup> 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.<sup>2</sup> 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.<sup>3</sup> 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.

<sup>1</sup> For details, see [The Global Findex 2021](#) databank.

<sup>2</sup> [The Impact of Mobile Money Interoperability in Tanzania, 2016.](#)

<sup>3</sup> [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.

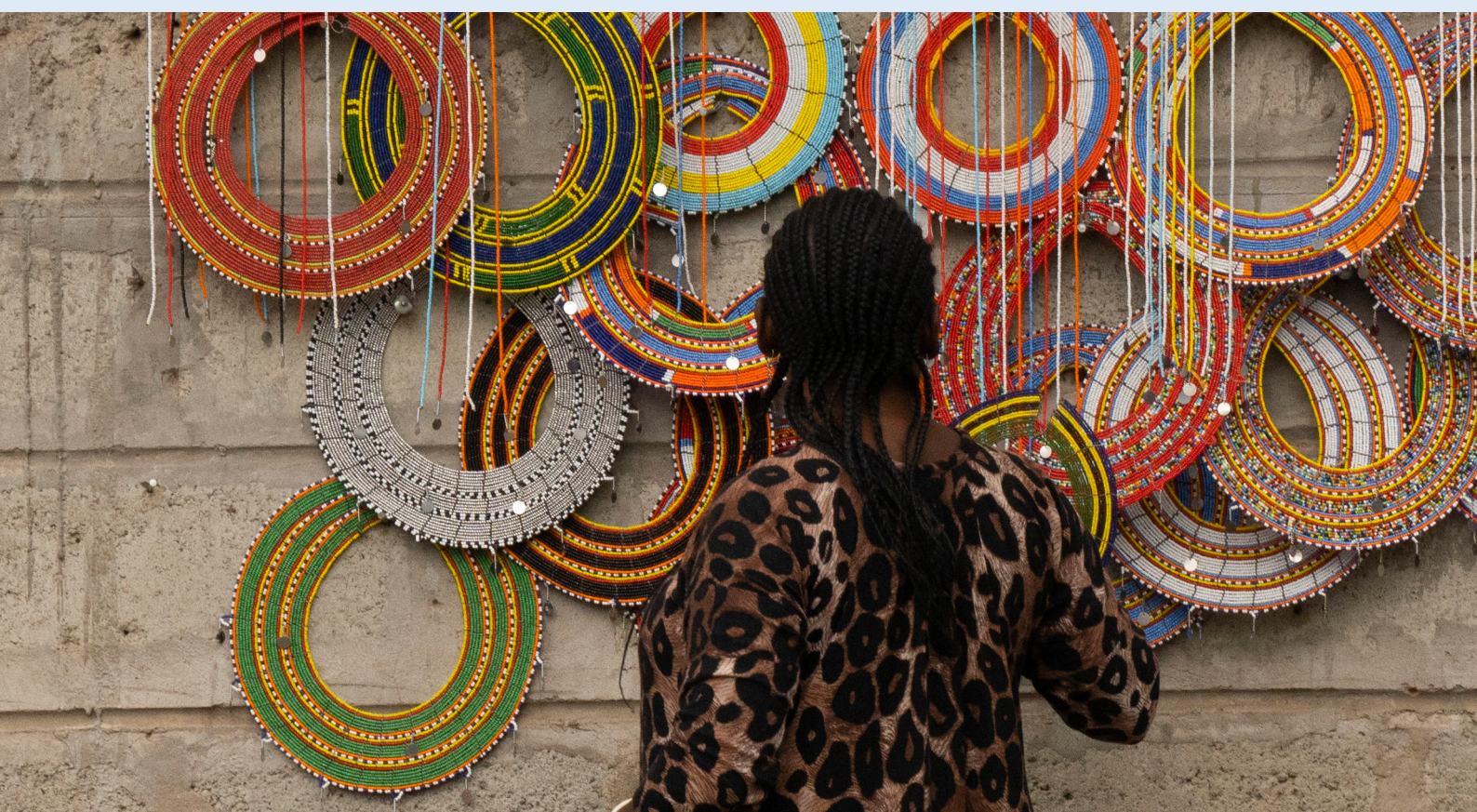


## Timeline

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.



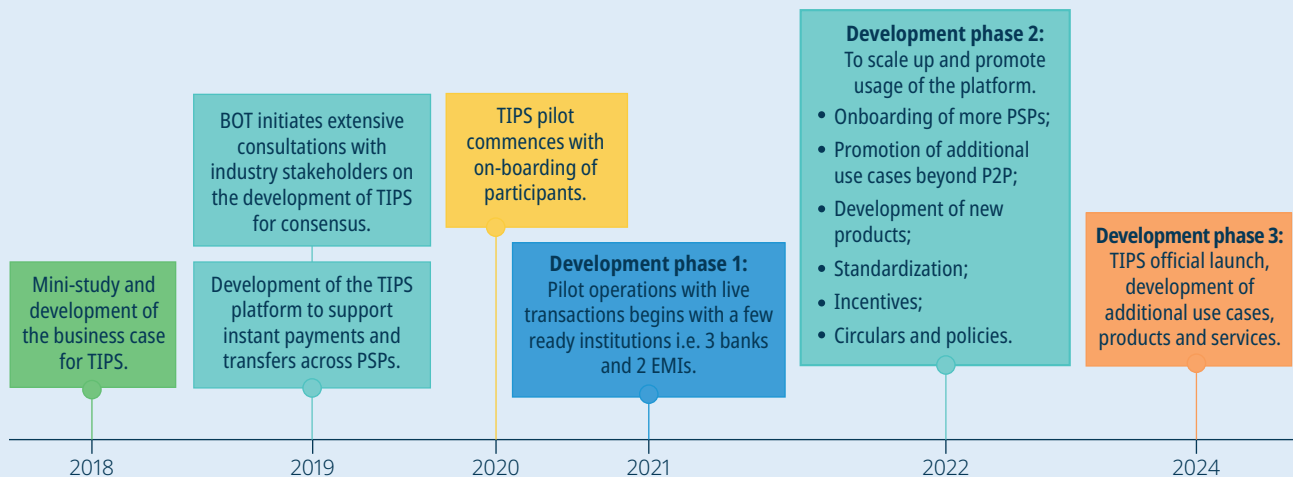
## Case study: TIPS Tanzania

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

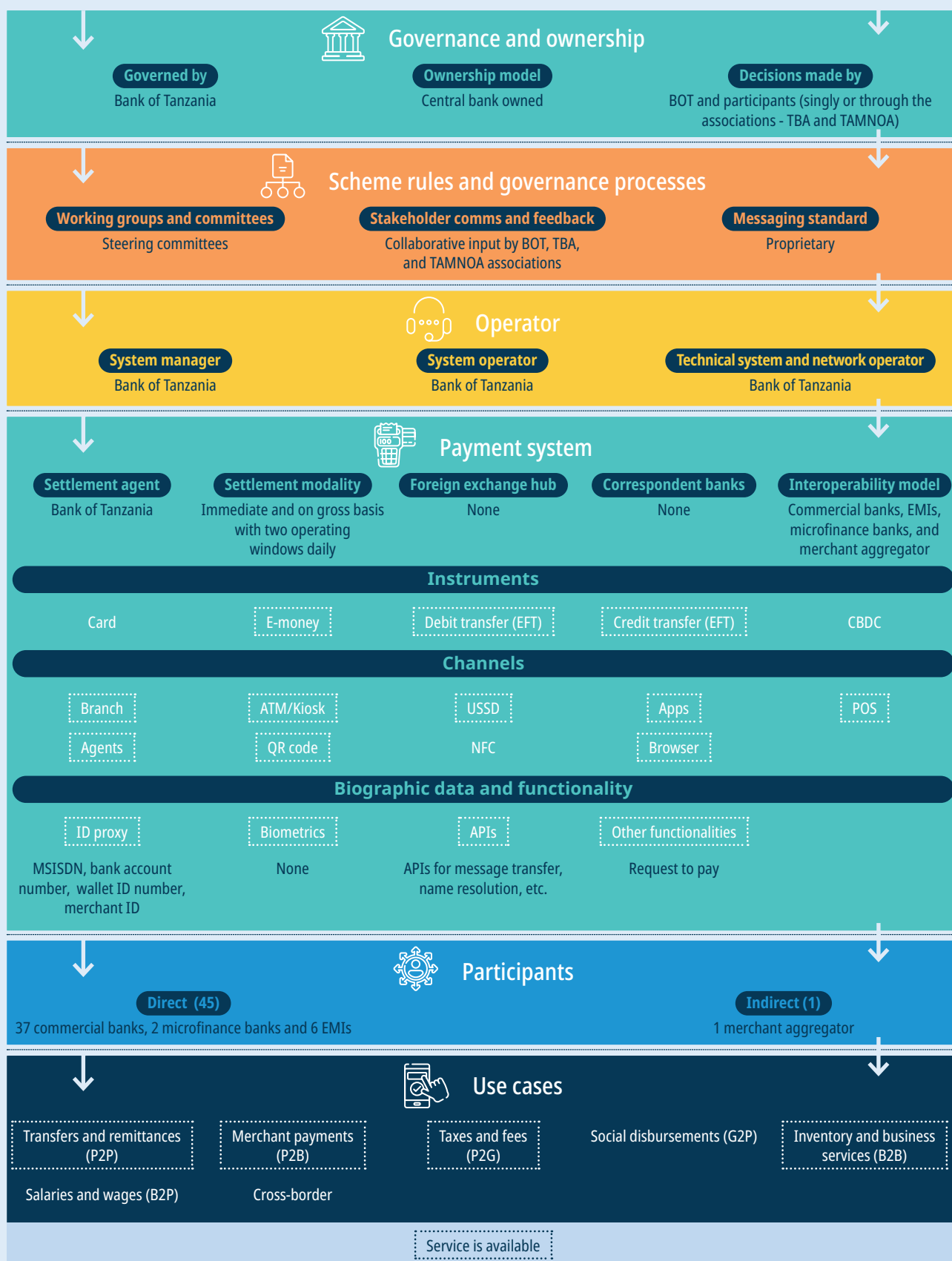




# Governance and operations

## Payment system overview

### TIPS model overview



## Case study: TIPS Tanzania

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.

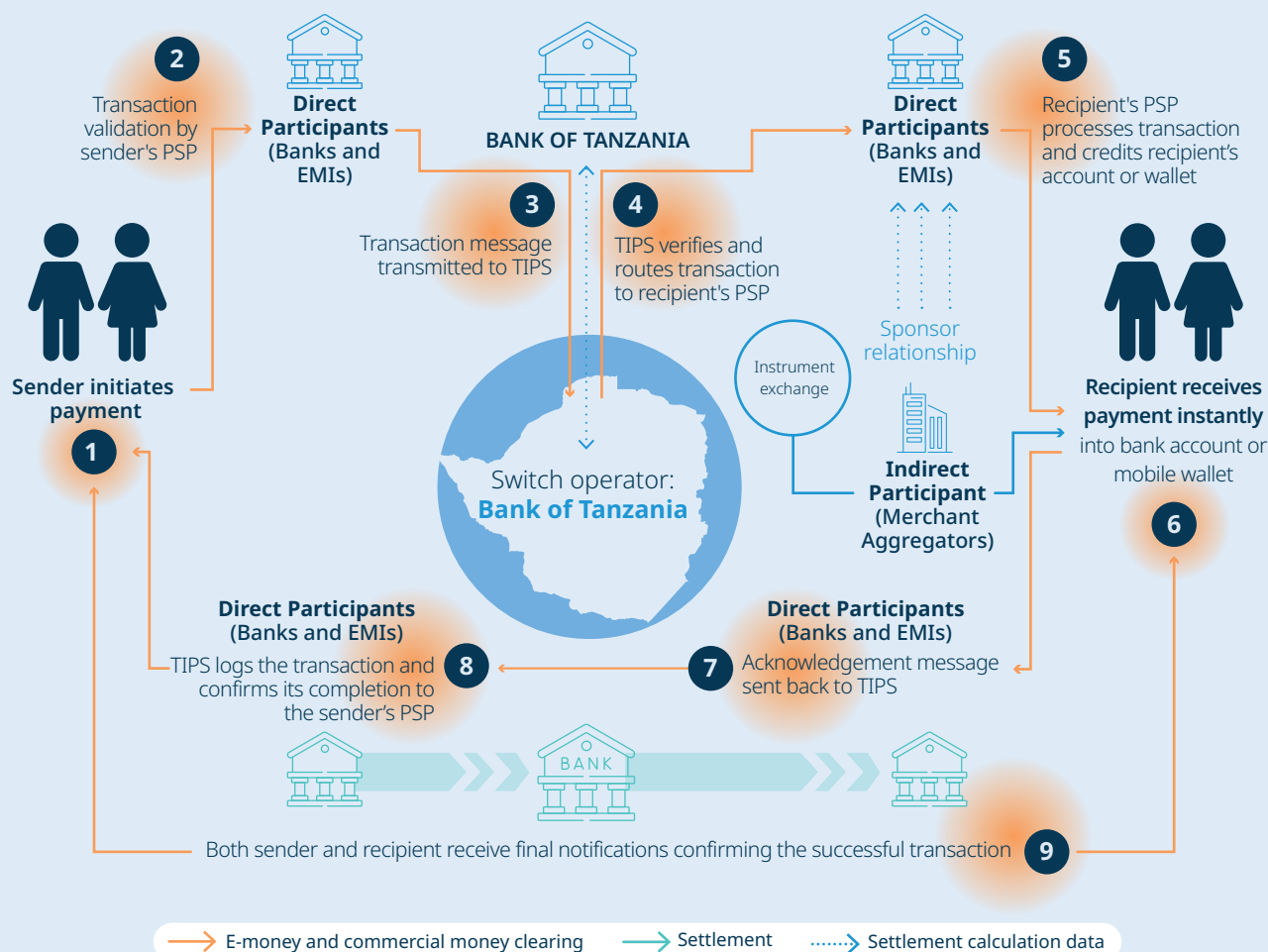
Throughout this process, TIPS employs robust security measures such as encryption and authentication protocols, ensuring the integrity, confidentiality, and swift execution of transactions, while also maintaining detailed logs for transparency and compliance purposes.

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.



## Case study: TIPS Tanzania

## 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.

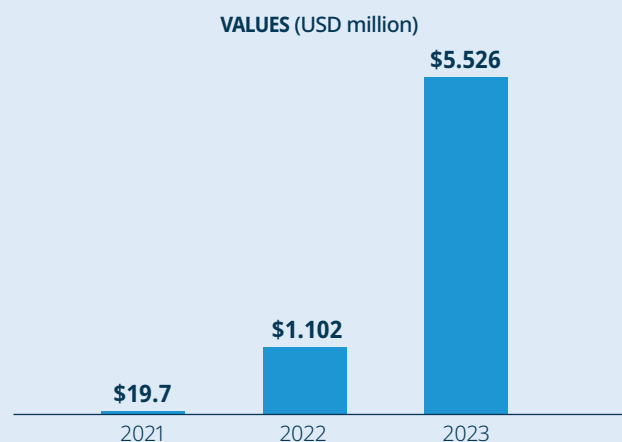
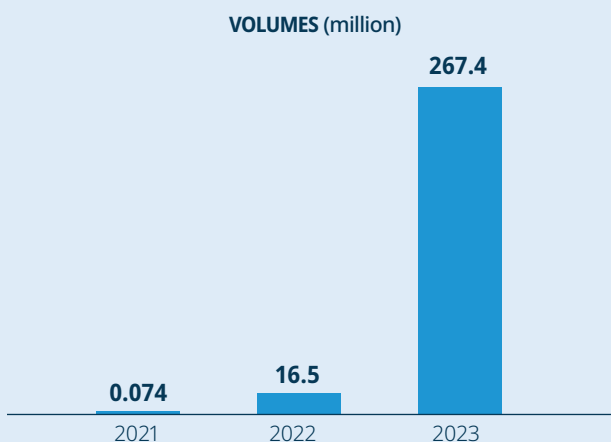
TIPS has mechanisms to monitor consumer recourse processes and provide avenues for redress, ensuring that end-users can effectively resolve issues. The system's scheme rules outline the responsibilities and procedures for handling disputes among PSPs. Participants are required to adhere to KYC requirements 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.

### TIPS transaction volumes and values





## Case study: TIPS Tanzania



## 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.<sup>4</sup> 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.

<sup>4</sup> Bank of Tanzania website: Laws and Regulations.



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