



BANK OF TANZANIA

NATIONAL PAYMENT SYSTEMS

ANNUAL REPORT 2022

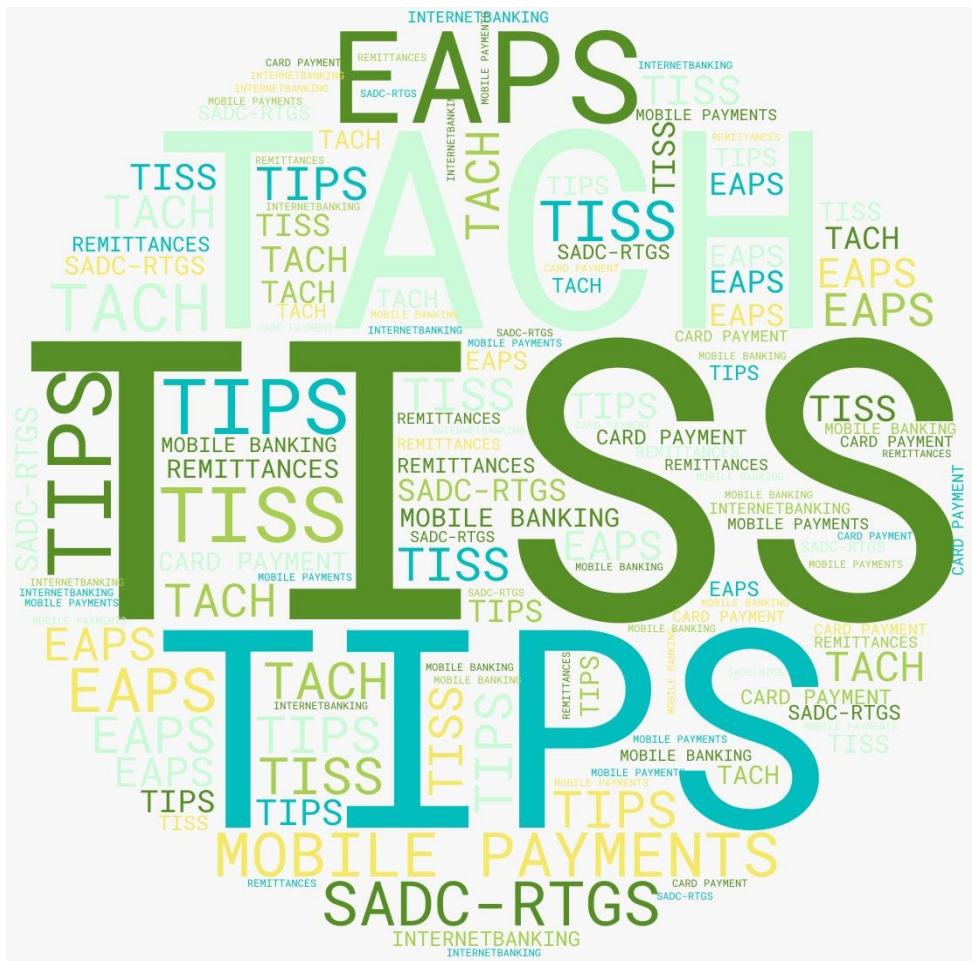


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List of Abbreviations

AML-CFTS	Anti-Money Laundering and Combating of Financing of Terrorist - Standards
CSPCS	Communication, Security and Payment Card Standards (CSPCS)
EFT	Electronic Fund Transfer
EMI	Electronic Money Issuer
FSP	Financial Service Providers
MMO	Mobile Money Operators
MNO	Mobile Network Operators
PFMI	Principles for Financial Market Infrastructures (PFMIs)
PSP	Payment System Providers
RBOF	Risk Based Oversight Framework
RTGS	Real Time Gross Settlement
TACH	Tanzania Clearing House
TANQR	Tanzania Quick Response Code
TIPS	Tanzania Instant Payment System
TISS	Tanzania Interbank Settlement System
SIPS	Systemically Important Payment Systems
USSD	Unstructured Supplementary Service Data

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Preamble

The Bank of Tanzania is mandated by the Bank of Tanzania Act 2006 to regulate, monitor and supervise the payment, clearing and settlement system including all products and services thereof. This regulatory power is further amplified by the National Payment Systems Act 2015 (NPS Act). The broad objective of the oversight role is to ensure that payment systems in Tanzania are safe, efficient, stable and reliable. Additionally, the Bank settles transactions for banks, government payments, card schemes and capital markets. The payments and settlement role involves domestic and international card payments, interbank transactions through the Tanzania Interbank Settlement System (TISS), Electronic Fund Transfers (EFT), Cheque transactions for domestic and foreign currency through Tanzania Clearing House System (TACH), and interoperable retail transactions for both banks and non-banks through the Tanzania Instant Payment System (TIPS). Large value transactions are dominated by banks, while retail value transactions are dominated by mobile network operators (MNOs) which is facilitated by mobile phones.

Tanzania's payment ecosystem comprised of both banks and non-bank payment system providers. For the year ended December 2022, there were thirty-seven banks and financial institutions; and 26 non-banks entities licensed to operate payments systems in the United Republic of Tanzania. The non-bank payment system providers were dominated by six electronic money issuers (EMIs) that facilitate issuance of payment system products and electronic money services.

Supervision and monitoring of payment systems is conducted both offsite and onsite. The Bank collects various reports from all payment systems providers which are analysed to establish trends, assess compliance and for policy formulation. Through its offsite function, the Bank issues licenses, reviews and approves products before they are launched, and conducts vetting of senior managers, directors, shareholders and trustees of payment system providers. The Bank conducts onsite examination of payment system providers to assess compliance with the National Payment System legal framework and Anti-Money Laundering, Combating the Financing of Terrorism and Combating Financing Proliferations (AML/CFT/CFP). In 2022, the Foreign Exchange Regulations 2022 was

issued. The regulation extended the territory where mobile money operators are authorized to make outward remittances to the EAC and SADC regions for retail transactions without the need of supporting documents.

In 2022, the Bank continued with implementation of TIPS, a national switch for retail payment. TIPS shall improve efficiency in processing retail transactions between participants. The system reduces the hurdles related to bilateral interoperability agreements and is expected to reduce transaction costs in the future. During the year, the on-boarding of payment system providers into the platform was in progress.

The Bank introduced the Tanzania Quick Responses Code (TANQR) that standardized payments to facilitate the interoperability of merchant payments. In addition, the Direct Debit (DD) project was initiated.

In a bid to enhance payment systems risk mitigation, the Bank, is developing Risk-Based Oversight Framework. The Framework will define minimum risks to be managed by payments system providers, most importantly the Systemically Important Payment System Providers (SIPs). The Bank is drafting a Trust Account Management Guidelines to provide guidance in managing customers' funds held in trust accounts.

In 2022, all payment systems performed smoothly without systemic disruption, as reflected by growth in volume and values. Most of the transactions category recorded a growth except local Cheque that recorded a significant decrease in terms of volume and value, while the value for mobile payments recorded a slight decrease. The use of local Cheque decreased due to adoption of digital payments by the government in making various payments. The year 2022, witnessed rapid adoption of mobile payments by merchants through 'LIPA Namba' and the use of digital financial services to save and access micro-credit. During the year 2022, cost of using mobile financial services was cited as one of the inhibitors for increase in its usage.

Throughout the year, all systemically important payment systems including TISS, TACH and TIPS operated safely with high availability and uptime. The increase in volume and value of TISS transactions processed was partly attributable to the modernization of TISS platform that enabled a 24/7 operations.

Regional payment systems such as EAPS and SADC - RTGS recorded growth in the volume and value of transactions. The East African Payment System (EAPS), a bank-to-bank funds transfer (payment) platform within the East African Community countries in local currencies, continued to perform satisfactorily. SADC - RTGS transactions recorded some decline. In addition, the Bank continued to monitor global developments in the payments systems including Central Bank Digital Currencies.

Governor's Statement



It is with great honour to present the first Annual Payment System Report. The Report highlights payment systems developments and performance during the financial year 2022.

To start with, technological advancement has enabled seamless integration and increased the efficiency of payment systems domestically, regionally as well as globally. The integration of domestic and global payment systems has not only enabled wider adoption of digital payments but also increased payment system risks.

In terms of access and usage of formal financial services, the mobile money technology was the key enabler for accelerating financial services access for the marginalized communities, particularly low-income individuals, small enterprises operators and small-hold farmers. The financial year 2022 witnessed significant adoption of merchant payments by businesses in collection and disbursements. The adoption of merchant payments has not only enhanced uptake of physical merchant business but also the online payment system transactions where people sale, buy and effect payment through digital platforms. These developments have contributed to the country digitization agenda towards the attainment of a cash-lite economy. The Bank of Tanzania acknowledges the contribution of our payment systems stakeholders, who have facilitated this high adoption of merchant payments.

Parallel with taking initiatives to harness digital technology to accelerate inclusive finance and development, the Bank continues to be vigilant in maintaining a robust supervisory framework to protect the payment system ecosystem in the country against potential risks with a view to attaining reliable, efficient, secure, and inclusive payment systems.

During the year 2022, Bank of Tanzania issued a Press Release warning the public against engaging in unregulated payment channels and Ponzi schemes that offer users with high returns, emphasizing the potential inherent risks. The release further prohibited licensed payment system providers from integration with unlicensed digital finance

providers while encouraging the public to report to the Bank any financial consumer complaints disputed transactions.

The Bank will continue to modernize the payment system in collaboration with stakeholders to foster digitization of the economy to support inclusive finance and inclusive growth. In addition, payment system providers are encouraged to issue user-friendly payment products that cater to all segments of the population and the economy at large.

I take this opportunity to encourage all businesses to embrace secure digital payment solutions and invest in training their employees and customers to adapt to the changing payment landscape. Furthermore, financial service providers are encouraged to continue innovating appropriate products to address gaps in the market, and observance of payment system laws, anti-money laundering laws and financial consumer protection regulations. The Bank of Tanzania believes that by working together, we can create a payment ecosystem that thrives on efficiency, transparency, and trust.

Thank you for your continued support and dedication to our shared vision.

Your sincerely,

Emmanuel Mpawe Tutuba
Governor

CHAPTER ONE

1.0 Overview of payment systems

1.1 Introduction

In 2022, the payment systems recorded a significant growth in terms of transaction volume and value processed on account of the increased use of digital channels, especially the use of mobile phones. Other digital channels and financial services contributed to the growth included: merchant and card payments, saving and lending products, group cash mobilization, and cross-border remittances.

To increase efficiency and improve interoperability amongst financial services providers' payment systems, the Bank developed an instant payment system switch named TIPS which started live operations in August 2021. The system is an interoperable digital payment platform for retail transactions which facilitates an efficient clearing and settlement of digital financial services transactions for all Payment Service Providers (PSPs). The operations of TIPS reduced the processing time for retail transactions and, to a large extent, the barriers to retail payment system services interoperability between banks and non-banks.

The use of card payments was extensively noted in the support of online marketplace platforms for merchant payments. The introduction of virtual cards which are electronic cards acquired and issued through smartphones and the internet web, such as MasterPass and M-Visa, have enabled users of digital financial services to use card payment without needing a bank account.

Throughout the year 2022, cross-border remittances services recorded significant growth both for inward and outward transactions. The rise in cross-border payments was primarily explained by increased diaspora remittances and the relaxation of outgoing remittance conditions for mobile money in the SADC and EAC regions following issuance of the Foreign Exchange Regulations 2022. Also, the role of payment hubs such as MFS Africa, Terra Payment Services Tanzania Limited and TransferTo, cannot be undermined as they simplified inward cross-border transactions from across

the globe by eliminating the need for banks to partner with every Money Transfer Operators (MTO).

The Bank has made a step further to commence review of the NPS Act, 2015 and its regulatory framework to enable the provision of services that meet the current and anticipated future needs of the financial system and the country. The key payment industry players such as Tanzania Mobile Money Operators (TAMNOA) and Tanzania Bankers Associations (TBA) were engaged in the reform initiatives of the regulatory framework. Other initiatives undertaken by the Bank include the issuance of various circulars, conducting onsite and offsite surveillance of the licensed payment system providers. The Bank also initiated a process to develop Trust Account Management Guidelines and Risk-Based Oversight Framework (RBOF¹) to improve risk management practices and corporate governance for non-bank payment system providers and the overall payment system ecosystem.

The Bank received and processed various applications for payment system licenses from local FinTechs and international companies. The new entrants in the payment industry, such as digital start-ups and FinTechs, have entered the payment landscape, building new payment ecosystems and business models to enhance their value proposition. Some of these applications posed challenges to the existing regulatory framework because they intended to hold customers' funds in personal accounts and issuance of electronic money contrary to the requirements of the existing payment systems laws and regulatory frameworks. Tanzania has advocated for a hybrid model where bank-led model and non-bank led model co-exist, however for non-bank model, the issuance of electronic money requires all cash equivalent amount to be held in a bank account managed by trustees.

At the end of the year 2022, the number of licensed payment system providers reached 63, out of which 37 were banks and 26 non-banks. Payment system providers licensed during the year were: Virtual Pay Tanzania Limited, Pesapal Tanzania Limited, Simba Money Limited, Digicash Tanzania Limited and Smartx Limited. First National Bank

¹ RBOF was approved by Bank of Tanzania Board of Director in 2022, will be implemented after completion of stakeholders' awareness sessions

Tanzania Limited (FNB) surrendered its payment system license after sale of its assets and liabilities to Exim Bank (T) Limited, hence the banking license was withdrawn by the Bank. Also, the number of electronic money issuers decreased to 6 from 7, following the acquisition of Zanzibar Telecommunication Company Limited by Millicom Tanzania Limited.

During the year 2022, access to financial services using mobile phones recorded a growth of 7.87 percent, an increase to 87.84 percent from 79.97 percent recorded in 2021, attributed to the increase in the subscription to mobile phones. Mobile subscriptions reached 60.19 million by December 2022, recording a growth rate of 11 percent, from 58.03 million in the preceding period. The mobile phones were the major alternative digital channel for enhancing formal financial access to the unbanked population compared to other formal financial services channels.

The use of financial services through mobile phones increased by 4 percent, a rise to 87.95 percent in December 2022 compared to 81.2 percent recorded in December 2021. This implies that all adult population with access to the mobile phones, at least 87.95 percent of them conducted a mobile payment transaction during the year. The increase in usage of mobile financial services was partly contributed by high adoption of merchant payments channels, and digital lending and saving channels², In addition, growth was contributed by the high adoption of cross-border remittances facilitated by Money Transfer Operators (MTO) and payment hubs.

1.2 Payment Systems Indicators

The payment system indicators contain the measures used to assess and analyze the efficiency, effectiveness, and overall performance of a payment system. The population indicator is a critical component in measuring payment system efficiency to meet payment system needs in the country. Also, the report highlights digital adoption of payment system through mobile banking, internet banking, card payments and mobile payments. Further, the report highlights the payment system access points and

² M-pawa, Songesha, Nivushe, M-Koba, Timiza, Halo Yako, Halal Pesa, Changisha

payment system providers. It also examines the trend in usage of Cheque instruments. Table 1 indicates selected payment system indicators.

Table 1 Payment System Indicators

Particulars	Dec-21	Dec-22	% changes	Comments
Population indicators				
Total population (NBS)	59,441,944	61,741,120	3.87	Increase
Adult Population Aged >14 years of age	33,789,028	35,341,132	4.59	Increase
% of adults to total population	56.84	57.24	0.40	Increase
Payment system indicators				
Mobile phone subscriptions (TCRA)	54,044,384	60,192,331	11.38	Increase
Mobile money active subscribers (BOT)	33,142,118	38,338,776	15.68	Increase
Mobile banking subscribers -All	4,822,448	7,923,053	64.30	Increase
Mobile banking subscribers -Active	1,241,357	1,623,386	30.78	Increase
Internet banking subscribers - All	185,617	245,438	32.23	Increase
Internet banking subscribers - Active	52,666	110,692	110.18	Increase
Payment system access points				
Number of automated teller machines (ATM)	1,441	1,885	30.81	Increase
Merchant Point of Sale Machines (POS)	74,839	78,764	5.24	Increase
Bank branches	989	981	(0.81)	Decrease
Bank agents	48,923	75,238	53.79	Increase
Mobile money agents	838,759	1,038,874	23.86	Increase
Payment system providers				
Banks	36	44	22.22	Increase
Non-banks	23	27	17.39	Increase
Electronic money issuers	7	6	(14.29)	Decrease
Payment card statistics				
Local brand cards -All	3,246,908	2,875,551	(11.44)	Decrease
Local brand cards -Active	200,768	347,616	73.14	Increase
International brand cards - All	6,524,298	9,012,891	38.14	Increase
International brand cards - Active	1,710,899	2,030,094	18.66	Increase
Total card issued local and international	9,771,206	11,888,442	21.67	Increase
Cheque instruments				
Local currency cheque processed	604,367	546,620	(9.55)	Decrease
Foreign currency cheque processed	92,568	107,497	16.13	Increase

Source: Bank of Tanzania

1.3 Payment System Journey

The payment system journey in Tanzania has undergone significant developments and transformations in recent years, supporting gradual shift from traditional cash-based transactions to a more digital and mobile-centric payment ecosystem. Before 2002, cash was the primary means of payment, whereby individuals and businesses relied on physical currency (cash) for transactions. Later, Cheque were cleared and settled at 5 clearing houses located in BOT branches of Zanzibar, Dar es Salaam, Mbeya, Arusha and Mwanza. Clearing of Cheque instruments was characterized by inefficiencies as clearing cycle took up to 14 days for upcountry and 7 days for transactions in the Dar es Salaam Clearing House. Following the introduction of cheque truncation and image based clearing through TACH system, the number of clearing days was reduced as well as increasing the speed of the provision of funds to customers from T+3 up and 7 days to T+1 Cheque clearing period countrywide. Cash-based transactions were dominant and exposed the national payment system to several risks and constraints, including the risk of theft, holding cost, loss of revenue (taxation) and limited access and usage to financial services, particularly in rural areas.

In 2007, E-Fulusi (T) Ltd introduced the Mobipawa mobile money services in Tanzania, followed by Vodacom M-Pesa in 2008. Mobile money has revolutionized retail payments in Tanzania by allowing users to store and transfer money using their mobile phones, which does not require users to open a bank account. After that, more providers joined the chain of mobile money provision, including Tigo Pesa, Airtel Money, EzyPesa, Halopesa and TTCL Pesa. The common services mobile money services include Person to Person transfer (P2P), bill payments, tax, and merchant payments.

Apart from the revolution of retail payments brought by mobile phones, several payment systems were already introduced, including The Electronic Clearing House (2002), Tanzania Interbank Settlement System (2004), and Electronic Fund Transfer (2004). The role of TISS in government revenue collections was amplified by the joining of Tanzania Revenue Authority (TRA) in 2008. In the card payments schemes, VISA settlement for domestic transactions started in 2005, Umoja Switch transactions in 2007, and MasterCard in 2013. The launch of the Tanzania Instant Payments (TIPS) in

August 2021 and TANQR in 2022 are among the initiatives to address the payment infrastructure gaps to attain a full interoperability. In 2022, the Bank upgraded the TISS platform to facilitate 24 hours' settlement of interbank transactions for 365 days per year, also improved efficiency, integrity, resilience and availability.

Before the year 2021, interoperability of payment systems was conducted through bilateral arrangements that existed not only between banks and non-banks but also among non-banks themselves. These bilateral arrangements enabled users to link their mobile money accounts to their bank accounts, enabling seamless transfers between the two platforms.

Oversight of payment systems was guided by the Banking and Financial Institutions Act 2006, until 2015 when the National Payment Systems Act 2015 was enacted. During this time, regulating and monitoring of payment system providers focused on licensed banks only. The development of the National Payment Systems Act 2015 and its regulations thereof paved the way for oversight of both banks and non-banks. Therefore, in 2015, the Bank of Tanzania started effective oversight of payment systems providers, including licensing non-banks, approving digital products, and conducting onsite and offsite surveillance.

In promoting the safety and integrity of the payment systems, the Bank of Tanzania has been enforcing the implementation and compliance of the *Financial Consumer Protection Regulations 2019* in the provision of financial services. In a bid to accelerate the cash-lite economy, the Bank has taken several measures to regulate digital payments by issuing relevant regulations, guidelines and directives. In 2015, the National Payment Systems Act 2015, Electronic Money Regulations 2015, and the Payment System Licensing Approval Regulations 2015, were issued. Thereafter, various circulars and directives aimed at ensuring the payment system's security, integrity, and stability were issued. All these regulations, guidelines and directives have assisted in protecting users by fostering a transparent and efficient payment ecosystem in Tanzania.

Retail payments in Tanzania is dominated by mobile payments. Despite this dominance of mobile payments, other alternative digital channels have gained significant importance in the payment systems. These include the use of mobile banking application provided by traditional banks, Quick Response Code-based payments, and integration of payment systems into e-commerce platforms. All these digital channels have enhanced the development of the payment landscape and increased user convenience.

The payment system in Tanzania continues to evolve with ongoing innovations and technological advancements. This includes introducing new payment solutions, such as mobile wallets and contactless payments, and integrating payment services with emerging technologies. The payment system has shifted from traditional cash-based transactions to a more digital and mobile-centric ecosystem. Mobile money operators, in collaboration with banks, have played an essential role in driving financial inclusion, improving access to financial services, and transforming how people transact in the country. The national payment systems journey is as summarise in Figure 1 below.

Figure 1 National payment system Journey



Source Bank of Tanzania

CHAPTER TWO

2.0 Developments in and Performance of payment systems

This chapter covers development of payment systems in Tanzania and payment system performance during the year ended December 2022.

2.1 Developments in payment systems in Tanzania

The section provides an overview of payment systems developments in the areas of payment system vision, regulatory frameworks, adoption of international standards in payments, identification of systematically important payment systems, introduction of Tanzania Quick Responses Code, development of Tanzania Instant Payments, adoption of International Standards Messaging, Direct Debit initiatives and progress in improvements in Regulatory Instruments.

2.1.1 Payment System Vision

Bank of Tanzania as mandated by the Bank of Tanzania Act 2006 and the National Payment Systems (NPS) Act 2015, plays a crucial role in ensuring the safety, reliable and efficiency of payment systems in Tanzania. The Bank regulates payment system providers (PSPs) through policy development and supervision activities aiming to create a secure and reliable payment system environment. For the next five years, the Bank will continue with implementation of payment system interoperability initiatives, expanding the adoption of digital payment systems, enhancing data collection for informed policy decisions, and collaborating with financial service providers to develop affordable and demand-driven products. Also, the Bank will continue to explore new payment solutions, improve risk management practices, and potentially explore a payment solution suitable for implementation of a Central Bank Digital Currency (CBDC).

Furthermore, the Bank shall continue to implement initiatives to minimize payment, clearing, and settlement risks, facilitate faster fund and securities exchange, and establish an efficient legal and institutional framework for regulating new payment systems. The Bank shall coordinate harmonization efforts at national and international

levels. In addition, the Bank shall continue to maintain and enforce adherence to existing payment systems, vetting new products, and conducting awareness campaigns for their introduction are also emphasized as integral components of the Bank's strategic objectives

2.1.2 Regulatory frameworks

In 2022, the Bank in collaboration with stakeholders, initiated a review of the National Payment Systems Act and its regulations. The proposed amendments to the NPS Act, 2015, considers the emerging market demands in the payment ecosystems, including addressing the rapid innovation in financial technologies (Fintech). The review also intends to address the payment systems' regulatory gaps observed in implementing the existing laws; and in accommodating payment system developments.

Throughout the year 2022, the Bank received recommendations and proposals from internal and external payment stakeholders. Stakeholders' comments aimed to ensure the regulatory framework is aligned to the public policy objectives of attaining a cash-lite economy through financial inclusion facilitated by digital channels, effective consumer protection, and enabling a competitive, safe and efficient payment system.

2.1.3 International Standards in Payment Systems

The Bank of Tanzania adopted international accepted standards in regulating and supervising payment systems as an appropriate measure to ensure proper risk management and governance practices are deployed and implemented by all payment system providers in financial services. Among the standards adopted include Principles for Financial Market Infrastructures (PFMIs); Anti-Money Laundering and Combating of Financing of Terrorism Standards (AMLCFTS); Communication, Security and Payment Cards Standards (CSPCS); Payment Card Industry Data Security Standards (PCI-DSS); International Standards for Messaging (ISO200022); and Europay MasterCard Visa Cooperation (EMVCo) Standards.

The Bank of Tanzania has directed its efforts to align its payment system regulatory instruments to PFMIs in regulating, supervising, and monitoring payment systems. The adoption and implementation of PFMIs intends to ensure customer funds are

safeguarded against risks including money laundering, payment systems participants are licensed and regulated, consumers of payment systems are protected against unacceptable practices, promotion of interoperability and cooperation, and fostering innovation and technological advancement.

2.1.4 Systemically Important Payment Systems

In line with international developments in payment systems oversight the Bank has developed a framework for identifying Systemically Important Payment Systems (SIPS) to guide risk-based prioritization of oversight efforts and reduce regulatory burden for startups and the Bank at large. The framework aims to ensure that payment system providers are sound, have high integrity and comply with applicable laws and regulations. Consequently, the Bank has designated Tanzania Interbank Settlement System (TISS), Tanzania Automated Clearing House (TACH) and Tanzania Instant Payment Systems (TIPS) as SIPS due to their financial impact and importance in the payment ecosystem.

2.1.5 Tanzania Quick Response Code



TANQR solution provides an alternative channel for initiating and accepting payments between customers and merchants. The broad objectives of the TANQR Code standard are to promote customer convenience, security, and support interoperability amongst different payment service providers. The TANQR code follows the EMV QRCPS specification published by EMVCo as a basis to offer an effective solution for interoperability. The notational conventions used in this specification are those referenced from the EMV QRCPS.

TANQR is expected to boost the use of e-payments under the Retail Payment ecosystem by enabling more Tanzanians to make electronic payments, thus deepening financial inclusion. Further, TANQR is expected to bring connection and communication among multiple independent and potentially heterogeneous systems to process QR Payments. This development will help the Bank to regulate the risks arising from the QR Code payments and enhance payment security. During the year, Bank of Tanzania

continued to support financial service providers in their development and adoption of Tanzania Quick Response Code.

2.1.6 Tanzania Instant Payments System



The Bank developed an instant payment system named Tanzania Instant Payment System (TIPS). The system is an interoperable digital payment platform that allows payment transfer between different Digital Financial Service Providers (DFSPs), both banks and non-banks, such as e-money issuers. Interoperability of digital payment platform was first introduced and operated under bilateral agreement in year 2014³ involving mobile payment services providers. TIPS will handle real-time payments among participating Digital Financial Service Providers (DFSPs). Implementing TIPS would increase financial inclusion by improving access and usage of financial services in Tanzania by promoting the interoperability of digital financial services amongst all Payment Service Providers in the country. The TIPS platform facilitates an efficient clearing and settlement platform of digital financial services transactions for all Payment Service Providers (PSPs). It will also increase efficiency by moving from bilateral to multilateral interoperability.

A use case of the Tanzania Instant Payment System (TIPS) indicates that an average of 400,000 transactions valued at TZS 20 billion are processed per day. About 50% of all licensed banks and non-bank payment system providers were on board. TIPS has become a reliable system solution that caters for the need of the retail payments in Tanzania. TIPS, being one of the payment platforms, has shown a remarkable performance in transaction processing speed, security, and reliability. The on-boarding of more FSPs to TIPS is expected to improve the efficiency of the payment system, providing customers with a more convenient and reliable means of conducting financial transactions.

³ Tanzania was the first country in the world to successful implement interoperability of Mobile Financial Services whereby customers were able to send and receive funds directly to their mobile wallets from different mobile money operators.

TIPS platform interoperable real-time national retail payments that facilitate funds transfer between banks and Mobile Money Operators eliminating the existing bilateral agreements for extranet customers. Additionally, TIPS offers a level playing field that fosters competition amongst payment system providers. Moreover, TIPS optimizes liquidity to payment service providers and reduces operational costs and integration costs amongst payment service providers by offering direct connection to the national retail switch; lastly, it reduces the barrier to entry for new payment service providers that may offer innovative and cost-effective products.

2.1.7 Financial Service Registry



The Bank established a Financial Services Registry (FSR) in February 2020 that maps financial services access points and categories of services offered across the country. FSR maps all bank branches, agents, ATMs, Mobile Money agents, Bank Merchants, POS, Mobile Money Agents, insurance providers, SACCOS, Payment Aggregators, Bureau De change, Securities Dealers and Brokers, Medical facilities accepting insurance, mortgage and finance companies. FSR provides a sustainable mechanism for capturing the GPS location and coordinates of all publicly accessible financial services outlets and their services. FSR has been designed to support regulators in developing policies and monitor improvements in national financial inclusion goals. Furthermore, it helps Financial Service Providers to identify and target potentially underserved markets with financial services.

2.1.8 International Organization for Standardization (ISO)

ISO 20022 is a global standard for electronic data interchange between financial institutions. It provides a common language for financial messaging with greater efficiency and automation in financial transactions. In Tanzania, the ISO 20022 standard is used for Swift messaging. SWIFT infrastructure is a secure and reliable messaging system banks and financial institutions use to exchange information and instructions related to financial transactions. The platform allows banks to communicate securely

with each other in a standardized format, which helps reduce errors and improve efficiency in processing transactions.

By using the ISO 20022 standard for Swift messaging, banks in Tanzania can benefit from increased interoperability and standardization, which allows for the seamless integration of different systems and processes. This can help to reduce costs, improve speed and accuracy, and enhance the overall customer experience. In Tanzania, the adoption of ISO 20022 Swift messaging is part of a broader effort to modernize the country's financial infrastructure and support the growth of the financial sector.

The Bank of Tanzania has been working to promote the use of electronic payments and other digital financial services, and the adoption of ISO 20022 Swift messaging is seen as a key step in this process. The use of ISO 20022 Swift messaging is expected to bring significant benefits to the country's financial sector including increased efficiency, improved accuracy, and enhanced customer experience.

2.1.9 Direct Debit initiatives

In 2022, the Bank started the development of a Direct Debit Management System to address the infrastructure gap related to payment of recurring transactions such as airtime post-paid bills, utility bills, insurance premiums, credit card payments, Television subscriptions, and other merchant payments. The Direct Debit initiatives bring new innovations in the payment systems, which are also widely used in America, Europe, Kenya, South Africa, and other countries. The Direct Debit Model will be issued through Automated Clearing House (ACH) and conveniently provide an alternative and efficient payment instrument for variable as well as fixed recurring payments, as outlined above.

2.1.10 Regulatory instruments

Throughout the year 2022, the National Payment Systems Act 2015, the Payment Systems Licensing Approval Regulations 2015 and the Electronic Money Regulations 2015 were under review. The *Foreign Exchange Regulations 2022* was issued which permitted outward remittance using mobile phone in the Southern African Development Countries (SADC). Prior to the issue of the Foreign Exchange Regulations 2022,

outward remittance was permitted only in the East African Countries (EAC). Apart from extending the outward remittance territory, the regulation relaxed the remittance condition by waiving supporting documents when sending money in the EAC and SADC regions using mobile phone for transactions that are within permitted limits. Also, the Bank started development of Trust Account Management Guidelines to further issue guidance on managing trust funds. In addition, the Anti-Money Regulations 2022, was issued by the Financial Intelligence Unit (FIU), and the Targeted Financial Sanctions (TFS) Guidelines 2022 was issued to guide reporting persons and the general public on compliance with the United Nations Security Council Resolutions (UNSCRs) on sanctioned individuals and entities. Also, the Bank issued directives requiring payment system providers to notify and obtain approval before terminating any product or payment system instrument approved at least sixty days before. The measure was taken to protect the public on the negative impact that would follow after abrupt termination of the payment system products.

2.2 Performance of Systemically Important Payment Systems

Payment system performance assesses the statistical usage of the Systematically Important Payment Systems (SIPS) in Tanzania including the Tanzania Interbank Settlement System (TISS), Tanzania Instant Payment System (TIPS) and the Tanzania Clearing House (TACH).

2.2.1 Tanzania Interbank Settlement System



TISS was introduced in 2004 to facilitate settlements for high value or time sensitive payments for local transactions. The system currently supports five currencies, including Tanzania Shillings (TZS), United States Dollar (USD), Kenya Shillings (KES), Uganda Shillings(UGX) and Rwanda Francs (RWF).

During the year 2022, TISS operated smoothly and remained a safe, secure, and efficient settlement means of interbank transactions. It operated with high availability 24/7. In 2022, VPN channels for TISS MT messages was introduced to enhance business continuity of TISS.

In 2022, the number of TISS participants was 52, which included 42 commercial banks, 4 East Africa central banks (Bank of Tanzania, Central Bank of Kenya, Bank of Uganda and National Bank of Rwanda) and six non-banks participants (i.e., Dar es Salaam Stock Exchange, MasterCard Worldwide, UMOJA SWITCH, VISA International, Tanzania Automated Clearing House and the Tanzania Revenue Authority). Cross border transactions were processed through the East African Payment System (EAPS), SADC RTGS and SWIFT, which enabled the settlement of international payments between domestic and foreign banks.

The volume of Tanzanian Shillings denominated transactions processed by TISS during the year ended December 2022, increased by 17.67 percent to 3,833,790 transactions from 3,258,090 transactions recorded in 2021. The value of transactions denominated in Tanzanian Shillings processed by TISS increased by 19.04 percent to TZS 207,503 billion in 2022 from TZS 174,309 billion recorded in 2021 (Table 2).

Table 2 TISS Transactions (TZS)

Particulars	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22
Volume of transaction (Million)	1.952	2.119	2.480	3.258	3.834
Value of transaction (TZS billion)	183,318	193,728	186,369	174,309	207,503
%Increase/Decrease in Volume	15.31	8.58	17.03	31.39	17.67
% Increase/Decrease in Value	4.95	5.68	(3.80)	(6.47)	19.04

Source: Bank of Tanzania

The volume of United States Dollar (USD) denominated transactions processed was 415,752, indicating an increase of 25 per cent compared to 289,979 transactions conducted in 2021. The value of transactions increased by 43.37 per cent to USD 25 billion from USD 21 billion recorded in 2021 (Table 3).

Table 3 TISS transactions (USD)

Particulars	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22
Volume of transaction	240,653	275,936	227,894	289,979	415,752
Value of transaction (TZS billion)	18	18	16	21	25
Percentage Increase/Decrease in Volume	6.71	14.66	(17.41)	27.24	43.37
Percentage Increase/Decrease in Value	(2.92)	0.67	(9.12)	29.43	18.48

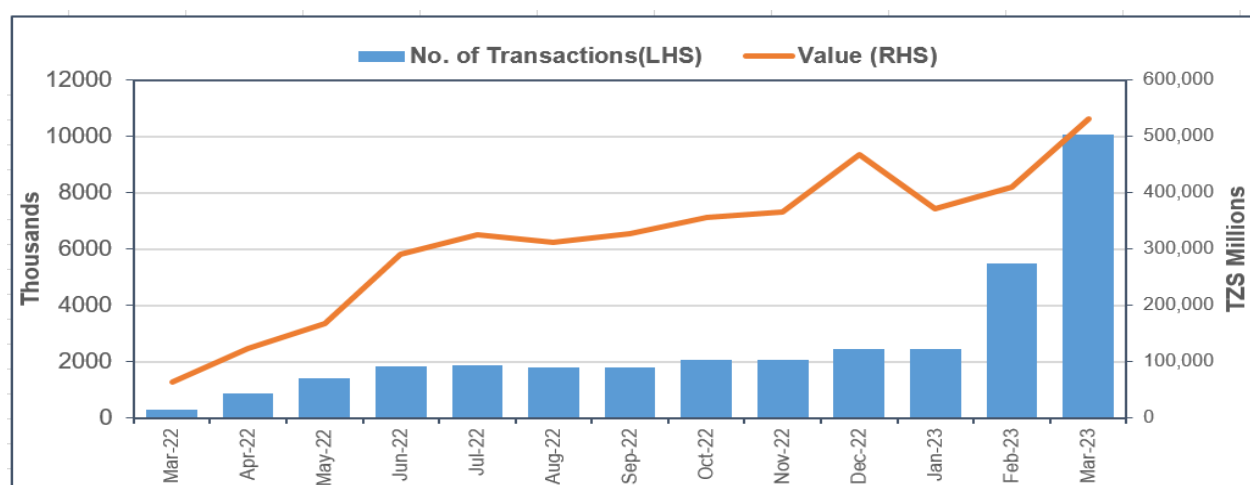
Source: Bank of Tanzania

2.2.2 Tanzania Instant Payment System

In August 2021, the Bank started on-boarding financial service providers, where three banks and two non-bank financial service providers were on-boarded onto the TIPS platform for a live pilot. Until December 2022, the number of financial service providers (FSPs) on-boarded in TIPS was thirty-four. There was a significant increase in the volume of transactions in the year 2022 as new FSPs were on-boarded. The aggregate volume of transactions processed since its inception reached 16.60 million transactions with a corresponding value amounting to TZS 2,894.26 billion by December 2022, indicating a significant uptake. Payment services supported by TIPS included: personal-to-personal transfers (P2P), government bill payments (P2G), the use case of GePG, Business to Business Payments (B2B), and Business to Government (B2G).

The trend of volume and value of transactions are indicated in Figure 2 and Table 4.

Figure 2 Tanzania Instant Payment Systems (TIPS) Transactions



Source: Bank of Tanzania

Table 4 Trends of TIPS transactions

Particulars	Dec-21	Dec-22	Cumulative Figure)
Number of participants	5	34	34
Volume of transactions	74,348	16,528,789	16,603,137
Value in (TZS Millions)	51,052	2,843,204	2,894,256
%Increase in Transaction Volume	N/A	221	221
%Increase in Transaction Value	N/A	55	55

Source: Bank of Tanzania

2.2.3 Tanzania Clearing House

Tanzania Clearing House (TACH) offers the mechanism for clearing Cheque and electronic funds transfer (EFT). It truncates and uses Cheque images for clearing, and also operates in multi-currencies, TZS and USD for Cheque and TZS for electronic funds transfer (EFT). The system was implemented in April 2015. TACH Uses SWIFT ISO 20022 messaging standards for Cheque clearing using imaging technology and electronic fund transfer (low value) messages between banks.

TACH is used for clearing of interbank transactions denominated in TZS and USD, and Interbank Electronic Funds Transfer (EFTs) with high volume low-value interbank payments such as customer payments, salaries and recurrent expenses thus enables the exchange of low-value instruments among participating banks safely and efficiently.

TACH improved efficiency in the processing of Cheque by reducing the clearing period from the previous T+3 up to 14 days to T+1 Cheque clearing period countrywide., The Bank provides for operator and administrator role, technical and user support, Settlement mechanism in TISS, and oversight function.

2.2.4 Electronic Fund Transfer



The Tanzania Electronic Fund Transfer (EFT) system is designed to transfer funds between banks and other financial institutions in Tanzania. EFT provides a convenient and secure method for individuals, businesses, and organizations to make electronic payments and transfers by enabling the transfer of funds between accounts held at different banks. Generally, EFT supports interbank transfer by enabling people to transfer funds between their accounts held at different financial institutions and make payments for business across several banks.

EFT enables intra-bank transfers by enabling customers to make fund transfers between their own accounts within the same financial institution. The system has been common for Business to Customer (B2C) payments such as salary disbursement by permitting direct bulk deposit of salaries to employee's accounts. In addition, EFT facilitates customer to Business (C2B) transactions, thus enabling electronic payments

for merchants, bill settlement, and taxes. EFT transactions are cleared through the Tanzania Clearing House (TACH). During the year 2022, the system operated safely, and the uptime was above 99%. Transaction processing was efficient at T+0.

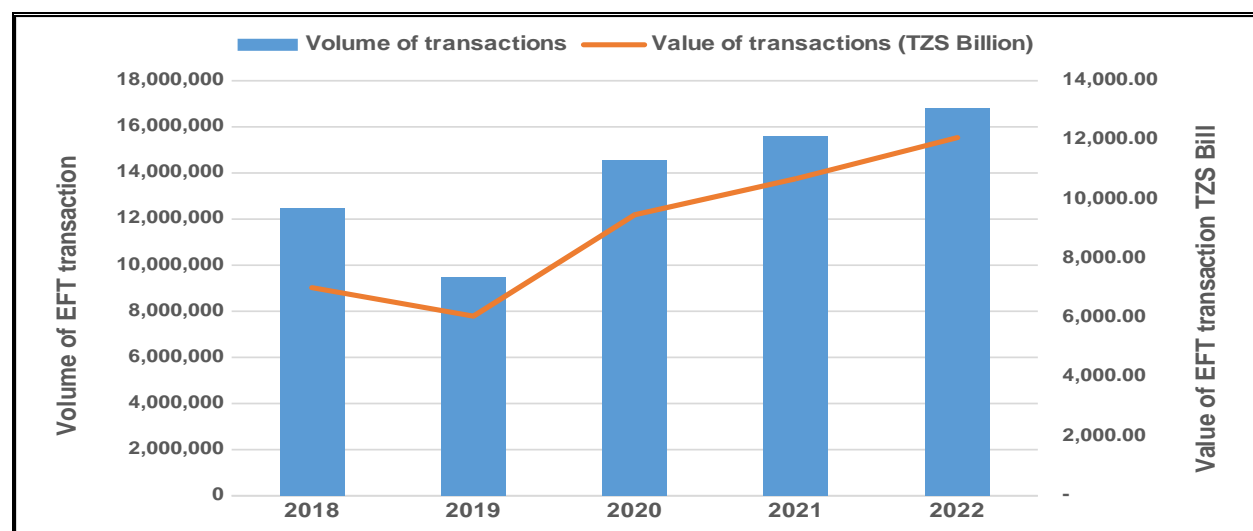
During the year 2022, both the volume and value of EFT transactions increased by 8 per cent and 13 percent, respectively. EFT transactions were 16,810,872 in 2022 compared to 15,579,905 in 2021. The value of EFT transactions was TZS 12,079.17 billion in 2022 compared to TZS 10,694.45 billion in 2021. The trend of volume and values are summarised in Table 5 and Figure 3.

Table 5 Electronic Fund Transfer (EFT)

Particulars	2018	2019	2020	2021	2022
Volume of transactions	12,473,014	9,485,638	14,569,721	15,579,905	16,810,872
Value of transactions (TZS Billion)	7,016.91	6,055.59	9,479.10	10,694.45	12,079.17
% Increase/decrease of Volume		(24)	54	7	8
% Increase/decrease of Value		(14)	57	13	13

Source: Bank of Tanzania

Figure 3 Trend of EFT transactions



Source: Bank of Tanzania

2.2.5 Cheque transactions

According to the Bills of Exchange Act, 2002, a Cheque is defined as "a bill of exchange drawn on a banker payable on demand." This means that a Cheque is an instrument issued by an account holder, directing the bank to pay a specific amount of money to the bearer or named payee.

In Tanzania, Cheque payment was adopted in 2000 when the paper instrument standard was introduced. Cheque payment in Tanzania has been a key payment system instrument for government payments and corporates. The cited advantages of a Cheque are its capability to be transferred or negotiated and its protection of the holder. However, the role of Cheque in the Tanzania's payment ecosystem has recently diminished due to emerging digital payment channels, especially TISS, Mobile Payment, and Electronic Funds Transfer. The statistics indicate that, Cheques are commonly used by Government institutions and some private entities.

During the year 2022, the volume of local Cheque transactions was 546,620 which slightly decreased by 10 percent, from 604,367 reported in 2021. Further, the value of local Cheque transactions decreased by 2 percent to TZS 1,977.71 billion, from TZS 2,025.61 billion, recorded during the year 2021. Generally, there is a decrease in the usage of local Cheque instruments for the past five years. This is explained by alternative payment channels that are more reliable and efficient.

Similarly, the volume and value of USD denominated Cheque increased by 10 percent and 9 percent, respectively. The volume of transaction was 107,497 in 2022 compared to 97,545 in 2021. Also, the corresponding value of the transaction was USD 238.96 million in 2022 compared to USD 219.24 million of 2021. The trend of volume and values for cheque transactions are summarised in Table 6 ,7 and figure 4 below.

Table 6 Trend of TZS Cheque transactions

Local Cheque transactions	2018	2019	2020	2021	2022
Volume of TZS Cheque processed	1,099,617	554,684	651,829	604,367	546,620
Value of TZS Cheque (TZS Billion)	3,228.27	1,676.90	2,118.08	2,025.61	1,977.71
% Increase/decrease of Volume		(50)	18	(7)	(10)
% Increase/decrease of Value		(48)	26	(4)	(2)

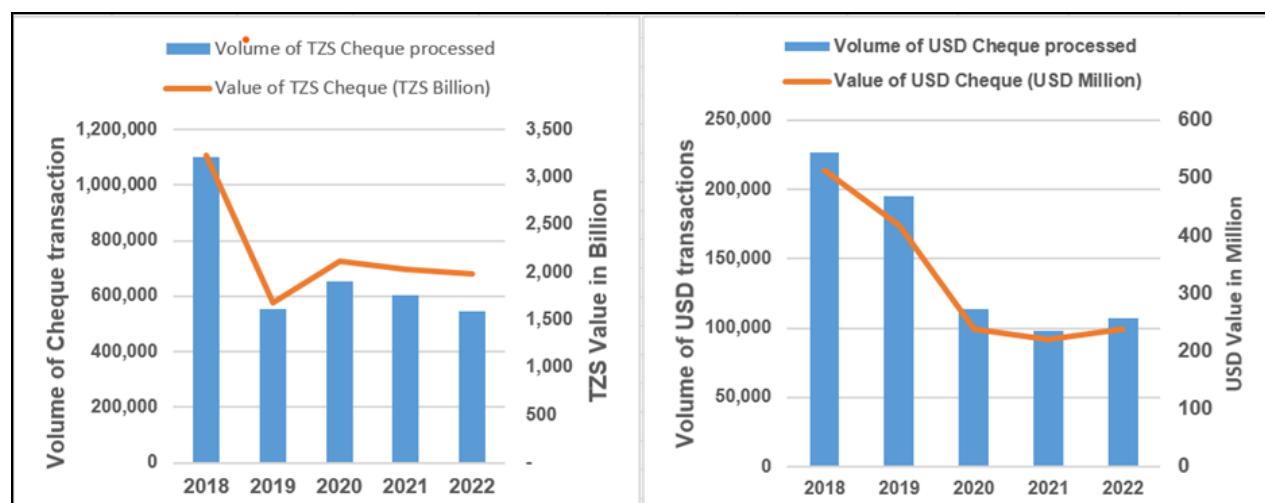
Source: Bank of Tanzania

Table 7 Trend of USD Cheque transactions

Foreign cheque transactions	2018	2019	2020	2021	2022
Volume of USD Cheque processed	226,693	195,285	113,643	97,545	107,497
Value of USD Cheque (USD Million)	512.96	416.47	238.22	219.24	238.96
% Increase/decrease of Volume		(14)	(42)	(14)	10
% Increase/decrease of Value		(19)	(43)	(8)	9

Source: Bank of Tanzania

Figure 4 Trend of TZS and USD Cheque transactions

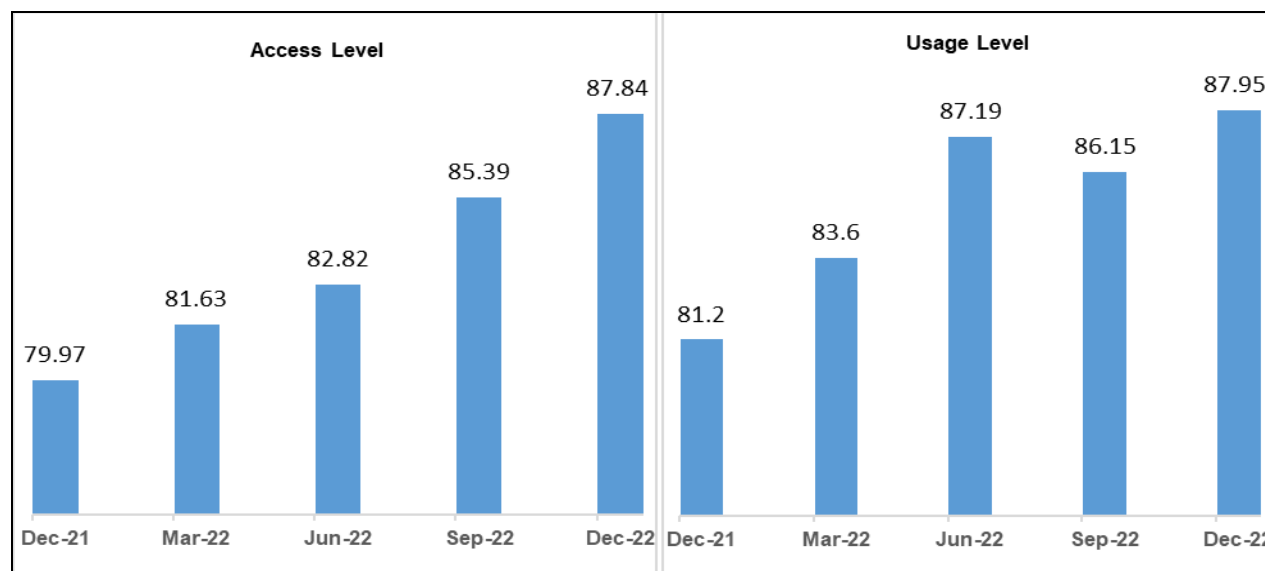


Source: Bank of Tanzania

2.2.6 Mobile Payments

During the year 2022, access to financial services using mobile phones recorded a growth of 7.87 per cent to 87.84 percent from 79.97percent recorded in 2021 attributed to an increase in subscription to mobile phones. Mobile subscription reached 60.19 million by December 2022, recording a growth rate of 11 percent, from 58.03 million in the preceding period. The trend of access to financial services for the past five years is indicated in Figure 5.

Figure 5 Access and usage of mobile financial services



Source: Bank of Tanzania

Usage of financial services through mobile phone increased by 4 percent to 87.95 percent in December 2022, compared to usage level of 81.2 percent recorded in December 2021. This implies that all adult population with access to mobile phone, at least 87.95 percent conduct mobile financial service transactions (Chart 4).

The increase in usage of mobile financial services was accelerated by several factors, including the adoption of merchant payments, digital lending and saving channels, as well as joint digital wallet.⁴ Usage was also driven by cross-border transactions facilitated by Money Transfer Operators (MTO) and payment hubs such as Terra Payment Services Limited, MFS Africa Limited, HomeSend, TransferTo, Western Union, and Money Gram that facilitated both domestic and cross-border money transfer services. Other digital channels such as virtual cards (MasterPass and MVisa) and Quick Response (QR) Code continued to attract users to mobile financial services. Further, enhancing mobile money daily transactions and account balance limits drew usage. Most importantly, the decision by the government to use mobile payment in tax collection and bill payment has boosted the usage of mobile payment. Also, consumer protection initiatives and sound policy on financial inclusion were other factors for adoption and usage.

2.2.7 Regional Payment systems

Tanzania operates two regional payment systems which are the East African Payment System (EAPS) and SADC Real-Time Growth Settlement System (SADC-RTGS).

EAPS Transactions (TZS)

The East African Payment System (EAPS), a bank-to-bank funds transfer (payment) platform within the East African Community countries in their local currencies, continued to perform satisfactorily. The volume of Tanzanian Shilling (TZS) denominated transactions processed by EAPS was 13,730, indicating an increase of 38.91 percent, from 9,884 transactions recorded in 2021. The value of transactions increased by 51.92

⁴ Digital lending and saving channels include M-Pawa, Songesha, Nivushe, Halal Pesa, M-Koba, Changisha, Timiza, and Halo Yako.

percent to TZS 191.78 billion from TZS 126.24 billion recorded in 2021. The trend of EAPS transactions (TZS) for the past five years is indicated in table 8 below.

Table 8 EAPS transactions (TZS)

Particulars	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22
Volume of transaction	2,405	3,059	3,607	9,884	13,730
Value of transaction (TZS Million)	114,321	112,097	167,108	126,238	191,778
%Increase/Decrease in Volume	24.94	27.19	17.91	174.02	38.91
% Increase/Decrease in Value	84.02	(1.95)	49.07	(24.46)	51.92

Source: Bank of Tanzania

EAPS Transactions (KES)

The volume of Kenyan Shilling (KES) denominated transactions processed by EAPS was 3,745, being a decrease of 17.76 percent from 4,554 transactions, processed in 2021. The value of transactions increased by 20.84 per cent to KES 8,982 million in 2022, from KES126.24 billion recorded in 2021. The trend of EAPS transactions (KES) for the past five years is indicated in table 9 below.

Table 9 EAPS transactions (KES)

Particulars	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22
Volume of transaction	2,933	2,831	3,149	4,554	3,745
Value of transaction (TZS Million)	4,584	4,820	5,084	7,433	8,982
% Increase/Decrease in Volume	12.12	(3.48)	11.23	44.62	(17.76)
% Increase/Decrease in Value	2.77	5.16	5.47	46.21	20.84

Source: Bank of Tanzania

EAPS Transactions (UGX)

The volume of Ugandan Shilling (UGX) denominated transactions processed by EAPS was 434 for the year ended December 2022, indicating a decrease of 10.14 percent from 484 transactions processed in a similar period in 2021. The value of UGX transactions processed by EAPS increased by 11.53 percent to UGX 32.44 billion in 2022 from UGX 29.087 billion recorded in 2021. The trend is indicated in Table 10.

Table 10 EAPS Transactions UGX

Particulars	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22
Volume of transaction	307	399	395	483	434
Value of transaction (UGX Million)	21,220	13,819	17,539	29,087	32,441
% Increase/Decrease in Volume	68.68	29.97	(1.00)	22.28	(10.14)
% Increase/Decrease in Value	52.31	(34.88)	26.93	65.84	11.53

Source: Bank of Tanzania

SADC – Real Time Gross Settlement (SADC – RTGS)

SADC - RTGS performed efficiently in facilitating funds transfer for cross-border payments in the SADC regions. The number of local banks participating in SADC-RTGS were 6 at the end of December, 2022 being less than 7 registered in the year 2021. During the year, First National Bank Tanzania Limited who was one of the participants was acquired by Exim Bank Tanzania Limited. Other participating banks were Equity Bank Tanzania Limited, ABSA Bank Tanzania Limited, Stanbic Bank Tanzania Limited, NBC Bank Limited, Ecobank Tanzania Limited, and Standard Chartered Bank Tanzania Limited.

During 2022, SADC-RTGS processed a total of 435,569 compared to 370,341 transactions, recorded for the year ending December 2021. Transaction volume increased by 17.61 percent. In terms of values, the value of SADC RTGS transactions was ZAR 1,702 billion in 2022, being higher than ZAR 1,321 billion recorded during the year ended December 2021. The value of the transaction increased by 28.84 per cent.

SADC-RTGS transactions processed by Tanzania were 3,818 for the year ended December 2022, accounting for 0.88 of the regional transactions. This level of volume of transaction decreased by 2.97 percent compared to 3,935 transactions, conducted during the year ended December 2021. The value of transactions processed by Tanzania through SADC-RTGS remained low during the year. A total of ZAR 0.79 billion was processed in 2022, compared by ZAR 0.85 billion, processed in 2021, reflecting a decrease of 7.38 percent.

During the year ended December 2022, the system was operational in all SADC member states except Madagascar and the Comoros. The number of participants was 83, comprising of commercial banks and central banks. Table 11 indicates a summary of SADC-RTGS transactions.

Table 11 SADC RTGS Transactions

Particulars	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22
Regional Volume	348,720	347,850	345,503	370,341	435,569
Tanzania Volume	4,229	3,861	3,917	3,935	3,818
Regional Value (ZAR Billion)	1,273	1,229	1,260	1,321	1,702
Tanzania Value (ZAR Billion)	1.15	1.18	3.01	0.85	0.79
Percentage Volume Contributed by Tanzania	1.21	1.11	1.13	1.06	0.88
Percentage Value Contributed by Tanzania	0.09	0.10	0.24	0.06	0.05
Percentage growth of Tanzania RTGS volume		(8.70)	1.45	0.46	(2.97)
Percentage growth of Tanzania RTGS Value		2.04	156.05	(71.83)	(7.38)

Source: Bank of Tanzania

2.2.8 Financial Service Registry



Financial service providers continued with registration of financial services access points in the registry (FSR). The number of registered outlets were 117,294 which contains 301,890 access services points across the country. Of the registered access services points, 221,652 equivalents to 73 per cent were already verified and the remaining 27 per cent were still in progress for verification. The Bank, in collaboration with Financial Sector Deepening Trust (FSDT), will embark in the next phase of developing a modules for business intelligence reports to help users generate interlinkage reports for decision-making.

2.3 Performance of Alternative Delivery Channels (ADCs)

These include retail digital payment system channels that expands the reach of payment system services beyond the traditional bank branch channel. ADCs bridges supply side for financial services access demand gaps.

2.3.1 Automated Tellers Machines



An Automated Tellers Machine (ATM) is an electronic device that enables customers of a financial service provider to perform financial transactions without the need for a human cashier, clerk, or bank teller. ATM devices identify customers using magnetic or chip-based cards, with authentication occurring after the customer inputs a PIN number. In Tanzania, there are some banks

with closed-loop ATMs that serve their own customers only. Similarly, ATMs are connected to interbank networks, such as Umoja Switch, enabling customers to access machines that do not directly belong to their bank. Most of the ATMs in Tanzania support domestic and international cards such as VISA, MasterCard, China Union Pay, American Express, Cirrus, and Maestro.

In 2022, the number of ATMs increased to 1,885, which is a growth rate of 30.81 percent, from 1,441 ATMs reported in December 2021. The increase in ATMs was contributed by increased new branches by large banks, mainly CRDB Bank Plc and NMB Bank Plc. In terms of geographical distribution, 15.15 percent or 596 ATMs were in Dar es Salaam, 3.31 percent or 130 ATMs in Arusha, 2.29 percent or 90 ATMs in Mwanza, 2.24 percent or 88 ATMs in Morogoro, and 2.16 percent or 85 ATMs in Dodoma. Other regions had less than 1 percent of the industry ATMs. ATM distribution is as indicated under **Annexure 1**.

The volume of transactions grew 9.38 percent to TZS 57.11 million in December 2022, compared to TZS 52.21 million, recorded for the year ended 2021. Also, the value of transactions increased by 14.07 percent to TZS 9,797 billion, in December 2022, from TZS 8,589 billion, recorded in 2021. The high adoption of digital payment in Tanzania explains the increase.

Table 12 Automated Tellers Machines (ATM)

Particulars	2018	2019	2020	2021	2022
Number of ATMs	1,412	1,423	1,462	1,441	1,885
Number of transactions	45,521,988	47,561,363	45,647,737	53,248,780	57,770,101
Value of transactions (TZS Billion)	6,933.52	7,409.37	7,255.26	8,838.50	9,810.70
% changes of number of ATMs		0.78	2.74	(1.44)	30.81
% changes in number of transactions		4.48	(4.02)	16.65	8.49
% Changes in values of transactions		6.86	(2.08)	21.82	11.00

Source: Bank of Tanzania

2.3.2 Payment cards

Card payments provide convenient and secure payment alternatives to traditional cash-based payments. In Tanzania, three key categories of cards are issued by banks and financial institutions. These card categories include debit cards, credit cards and prepaid cards. The most common card in Tanzania is the debit card which accounts for 99.72 percent of the total domestic cards and 98.74 percent of the international brand cards issued in Tanzania. Debit cards are linked directly to user bank account. In order to use a debit card, the holder must have a balance in his bank account. Debit cards can be used to make payments by swapping or tapping the card at a payment terminal. The card can also be used to withdraw funds from the ATMs.

The key benefits of card payments in Tanzania have been cited to include the easy of making payments, enhanced security through the use of chip, pin and contactless payments that have significantly reduced fraud risk. Moreover, card users benefit from transaction monitoring and observance of transaction limits. Recently, the payment ecosystem has witnessed a growing number of merchants accepting card payments in Tanzania, which has contributed mainly to higher adoption. Along with increased adoption of card payments, Tanzanians are subscribing to the international brand to enjoy the benefits of international and cross-border payments. Also, the emerging technology in e-commerce for the online marketplace has partly influenced the adoption of card payments due to the limitations of mobile payments in cross-border payments.

In Tanzania, mobile wallets are integrating with card issuers to issue virtual cards to enable mobile phone users to make card payments using their smartphones. Virtual cards such as the M-Visa and MasterPass are digital forms of payment that can be used for online transactions. They are generated electronically and consist of a card number, expiry date, and card verification value (CVV) code that can be used for online purchases. Further, some banks have adopted contactless payments. Contactless card payments allow cardholders to make quick and secure transactions by tapping their cards or mobile phones on the payment terminals. Contactless payments have been adopted with some transaction limits to minimize the risk of loss to cardholders in case the card is lost.

Co-branded cards have been introduced in Tanzania as well. These cards are issued in collaboration between banks and non-banks, mostly large retailers, hotel chains and others. They bear the branding of both the bank and the non-bank company; they target particular customers and usually intended to increase institutional image. Example: Simba Cards and Equity Bank Tanzania Limited, NMB Bank Plc and Young Sports Club, Young Sports Club and CRDB Bank Plc. Apart from the co-branding, these cards carry various features such as rewards programs, loyalty programs and promotions.

During the year 2022, card issuers increasingly used Application Programming Interfaces (APIs) technology to provide enhanced services by integrating with third-party applications such as payment hubs, aggregators, money transfer operators (MTOs) and merchants. This integration has allowed seamless account aggregation, transaction categorization, and personalized financial management tools.

Card payment statistics indicated that large banks have been foregoing local brand cards in favour of international branded cards during the last five years. Therefore, the number of local branded cards issued to customers decreased by 40 per cent from 4.81 million to the level of 2.88 million cards. Similarly, international branded cards issued by domestic banks increased by more than 237 percent for the past five years from 2.67 million cards to 9.01 million in 2022. In 2022, these cards recorded a growth rate of 38 percent from 6.52 million cards recorded in 2021. The trend of high adoption of international branded cards is due to the limitation of local cards in the payment arena. Has been shown in table 13 below.

Table 13 Domestic transactions by locally issued cards

Particulars	2018	2019	2020	2021	2022
No of local brand live cards (Million)	4.81	5.15	3.58	3.25	2.88
No of local brand active cards (Million)	0.78	0.41	0.27	0.20	0.35
No of international brand live cards (Million)	2.67	3.65	5.57	6.52	9.01
No of international brand active cards (Million)	1.17	1.25	1.58	1.71	2.03
Volume of transactions (Million)	74.38	69.20	67.05	68.73	82.90
Value of transactions (TZS Billion)	10,683	10,309	10,337	11,129	10,263

Source: Bank of Tanzania

In terms of -border and-border payments, most of the larger payments are made by way of SWIFT transfer. Therefore, most local transactions conducted by foreigners relate to tourism and hotel economic activities (Table 14). In contrast, most of the card payments are retail in nature, mainly used for purchasing small items from a marketplace such as music, books, clothes, electronics and other; and payment by Tanzanian travellers abroad (Table 15).

Table 14 Local transactions by internationally-issued cards

Particulars	2018	2019	2020	2021	2022
Volume of transactions (Million)	4,93	4.45	5.08	2.58	3.52
Value of Transactions (TZS billions)	1,292.62	1,019.16	1,082.37	687.08	1,005.02
Changes in Volume of transactions (%)		(9.89)	14.31	(49.33)	36.83
Changes in Value of transactions (%)		(21.16)	6.20	(36.52)	46.28

Source: Bank of Tanzania

Table 15 Cross border transactions by locally issued cards

Particulars	2018	2019	2020	2021	2022
Volume of transactions	1,005,258	1,423,152	1,423,152	1,736,380	2,582,572
Value of Transactions (TZS billions)	253.48	290.23	250.64	245.13	377.50
Changes in Volume of transactions (%)		41.57	0.00	22.01	48.73
Changes in Value of transactions (%)		14.50	(13.64)	(2.20)	54.00

Source: Bank of Tanzania

2.3.3 Point of Sale



A Point of Sale (POS) Machine is an electronic device used to process card payments at the point at which a customer makes a payment to the merchant in exchange for goods and services. POS machines run software to facilitate electronic card transactions. In Tanzania, POS machines are used for different purposes, including the facilitation of banking services at agent points, the facilitation of

government bill payments and private sector operations.

POS machines are a vital component of the payment ecosystem, facilitating secure, efficient and convenient transactions for businesses and customers. They ensure a smooth payment experience, reduce cash handling, and provide businesses with the tools to manage and track their payment activities effectively.

During 2022, the role of merchant POS was emphasized as one of the strategies to digitize business and attain a cash-lite economy. Several factors have contributed to an increased usage of merchant POS, but the important one is its efficiency in payment collection. The increased merchant adoption has also increased the demand for and adoption of POS Machines.

For the period ended December 2022, the number of POS increased by 5.24 per cent to 78,764 from 67,329 reported in 2021. Both local and foreign currency volumes increased by 21.17 and 28.40 per cent, respectively. The value of local transactions grew 27.56 percent to TZS 1,343.89 billion in 2022 from TZS 1,053.52 billion processed in 2021.

Further, foreign currency denominated transactions processed by POS recorded a growth rate of 39.03 percent to reach TZS 537.50 billion in 2022, rising from TZS 386.59 billion recorded in 2021. Table 16 records transactions conducted at merchant POS.

Table 16 Point of Sale Transactions

Particulars	2018	2019	2020	2021	2022
No. of POS	25,879	35,105	49,648	74,839	78,764
Local transaction volume	912,955	1,768,521	2,968,661	5,567,979	6,746,967
Foreign transaction volume	558,548	581,997	495,808	585,807	752,153
Local Value (TZS Billion)	145.40	286.09	490.96	1,053.52	1,343.89
Foreign value (TZS Billion)	356.72	437.68	244.61	386.59	537.50
% changes in POS		35.65	41.43	50.74	5.24
% local volume		93.71	67.86	87.56	21.17
% foreign volume		4.20	(14.81)	18.15	28.40
% local value		96.76	71.61	114.58	27.56
% foreign value		22.69	(44.11)	58.04	39.03

Source: Bank of Tanzania

2.3.4 Mobile payments

For the year ending December 2022, active mobile money wallets increased by 15.68 per cent to 38.34 million in 2022 from 33.14 million wallets in December 2021. Despite an increase in the transaction volume of 13.82 percent, the overall transaction value slightly decreased by 0.79 per cent to TZS 114.34 billion in 2022, from TZS 115.23 billion. The observed slight changes in usage were partly influenced by transaction

costs that caused a shift to alternative channels. However, the changes were partly compensated for by significant adoption of merchant payments in the form of LIPA Numbers.

In addition, the government has primarily facilitated the uptake of mobile payments by digitizing its government payments such as salaries, social benefits, tax payments and integrating the Government Electronic Payment Gateway (GePG). GePG billing system has enabled the payments of government bills to be made quickly. Despite the merchant and government adoption, the expanding role of mobile payments to other sectors such as payment of cashew nut farmers in Mtwara and Lindi but also Tobacco growers in Tabora regions, all increases the uptake. Furthermore, the mobile payment channel works well with a good number of agent networks. The year 2022 recorded an overall increase in number of agents by 23.86 per cent to the level of 1,083,874 agents, compared to 838,759 agents in 2021.

The Bank continued with its efforts to modernize retail payments by establishing a National Switch known as Tanzania Instant Payment Systems that partly aimed at facilitating interoperability of retail payment platforms. In 2022, MIC Tanzania PLC completed and acquired Zanzibar Telecommunication Limited (Zantel), which led to the full transfer of customers of Easy Pesa to Tigo Pesa. The consolidation reduced the number of mobile payment providers from seven to six. Most importantly, Foreign Exchange Regulations 2022, ease regulatory compliance on funds transfer across the EAC and SADC Regions through mobile channels.

During the year 2022, the issuance of mobile money was limited to Mobile Network Operators (MNOs) and banks. However, several applicants for payment systems license broadly intended to issue electronic money through their mobile apps and hold customer funds in their personal accounts. Table 17 below shows the trend of mobile money statistics.

Table 17 Mobile payment statistics

Particulars	2018	2019	2020	2021	2022
Mobile money users (Active)	23,302,040	24,379,804	30,325,019	33,142,118	38,338,776
Volume of transaction (TZS Million)	2,684.70	2,844.74	2,917.35	3,158.48	3,595.04
Value of transaction (TZS Million)	81,379,017	94,597,639	109,214,299	115,228,415	114,315,985
Number of agents	483,283	569,187	702,284	838,759	1,038,874
% change in active users	20.22	4.63	24.39	9.29	15.68
% changes in volume of transaction	30.26	5.96	2.55	8.27	13.82
% changes in value of transaction	20.05	16.24	15.45	5.51	(0.79)

2.3.5 Mobile banking



Mobile banking involves using mobile devices such as smartphones to perform various banking transactions. Banks have employed USSD and Mobile Apps channels to facilitate mobile banking. The common services in Tanzania include fund transfers from bank to wallet (B2W) and wallet to bank (W2B). Other services provided by mobile banking were bill payment, account notification and mini statements. In 2022, mobile banking indicated a significant recovery in terms of the number of transactions and value, following a depressed trend in 2021. The number of subscribers increased by 64.30 percent to 7.92 million in 2022, rising from 4.82 million, in 2021. The value of transactions increased by 28.93 percent to TZS 30,651,581 million in 2022 from TZS 24,973,344 million in 2021. The trend has been indicated in table 18 below.

Table 18 Mobile banking transactions

Particulars	2018	2019	2020	2021	2022
Number of subscribers	4,090,005	5,043,023	5,864,708	4,822,448	7,923,053
Active users	948,581	1,270,364	1,482,544	1,241,357	1,623,386
Volume of transactions	45,680,623	55,745,503	59,234,494	71,454,334	92,129,365
Value of transactions (TZS Million)	2,997,566	9,475,389	15,227,413	24,973,344	30,651,581
% number of subscribers		23.30	16.29	(17.77)	64.30
% change in active users		33.92	16.70	(16.27)	30.78
% changes in volume of transaction		22.03	6.26	20.63	28.93
% changes in value of transaction		216.10	60.70	64.00	22.74

Source: Bank of Tanzania

2.3.6 Internet banking

Internet Banking refers to the process of making transactions through the Internet. Internet banking allows customers to access their bank accounts and conduct transactions without visiting the nearest branch. Usually, internet banking can be conducted through computers, smartphones and tablets using a web application.

The number of banks offering Internet banking was 27 at the end of December 2022, having increased from 24 reported in 2021. The number of registered internet users reached 245,438, indicating an increase of 32.23 percent in 2022 from 185,617 customers recorded in 2021. The volume and value increased by 36.13 per cent and 35.50 per cent, to 6,102,682 transactions and TZS 76,269,726 million, respectively. The trend has been shown in table 19 below.

Table 19 Internet banking transactions

Particulars	2018	2019	2020	2021	2022
Number of banks	25	20	21	24	27
Number of registered customers	192,933	217,425	262,795	185,617	245,438
Number of active customers	33,325	31,706	46,347	52,666	110,692
Volume of local transactions	5,458,106	5,296,748	6,220,700	5,827,000	7,999,034
Volume of international transaction	39,543	20,021	21,068	275,682	308,602
Value of local transactions (TZS Millions)	47,501,549	43,225,769	51,583,396	46,276,685	66,470,330
Value of international transactions (TZS Millions)	6,375,657	2,927,673	2,750,255	10,012,494	9,799,396
Total Volume of transaction	5,497,649	5,316,769	6,241,768	6,102,682	8,307,636
Total value of transactions (TZS Millions)	53,877,206	46,153,442	54,333,651	56,289,179	76,269,726
% Changes in number of registered customers		12.69	20.87	(29.37)	32.23
% Changed is active customers		(4.86)	46.18	13.63	110.18
% Changes in transaction volume		(3.29)	17.40	(2.23)	36.13
% Changes in transaction value		(14.34)	17.72	3.60	35.50

Source: Bank of Tanzania

2.3.7 Cross-border Payment and Remittance

Cross-border payments refer to financial transactions involving the transfer of money between individuals and businesses located in different countries. In Tanzania, most of cross-border payments are affected through SWIFT and card payments. Money Transfer Operators (MTOs) largely facilitate the remittance component. The common MTO in Tanzania includes Money Gram, Western Union, and World Remit.

In 2022 the volume and value of inflows increased by 20.41 per cent and 60.52 per cent to reach 500,849 transactions worth TZS 1,344.12 billion, from 415,960 transactions and TZS 837.33 billion recorded in 2021, respectively. The volume of outflows

remittances recorded a slight growth rate of 2.28 per cent to 132,740 transactions in 2022, rising from 129,651 transactions. The corresponding value grew by 33.12 per cent to TZS 640.14 billion. Table 20 below shows the trend of money remittances.

Table 20 Money remittances⁵

Particulars	2018	2019	2020	2021	2022
Inflow Volume	569,339	559,688	629,606	415,960	500,849
Inflow Value (TZS Billion)	1,296.40	917.67	894.08	837.33	1,344.12
Outflow Volume	142,590	146,893	168,061	129,651	132,740
Outflow Value (TZS Billion)	789.10	529.57	439.88	480.86	640.14
% in inflow volume		(1.70)	12.49	(33.93)	20.41
% in Inflow Value		(29.21)	(2.57)	(6.35)	60.52
% in outflow volume		3.02	14.41	(22.85)	2.38
% in outflow value		(32.89)	(16.94)	9.32	33.12

Source: Bank of Tanzania

⁵ Remittance terminating in bank accounts

CHAPTER THREE

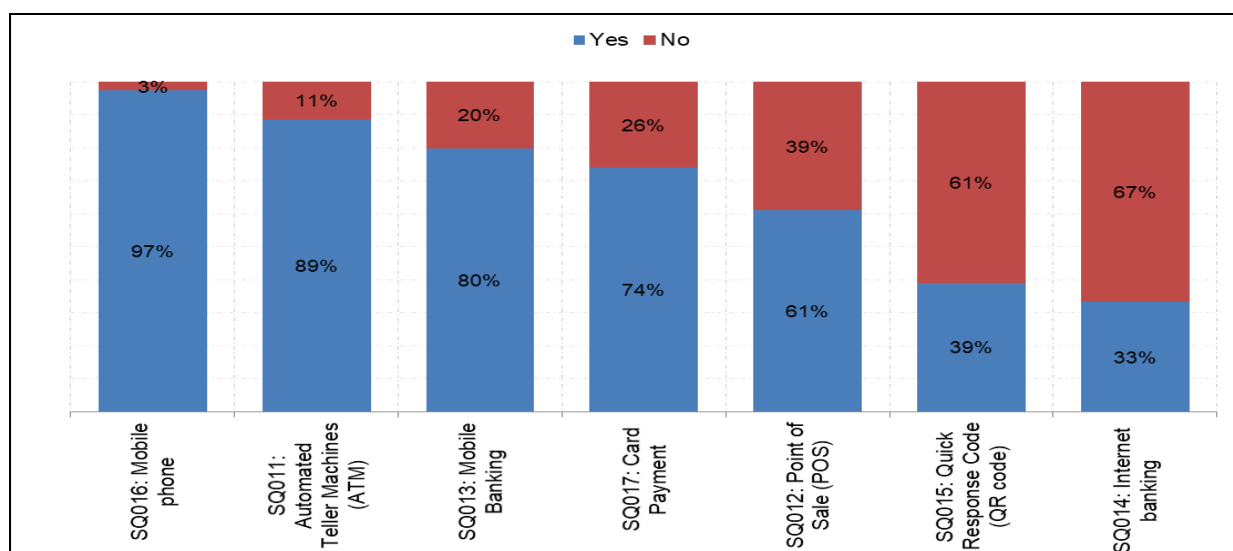
3.0 Survey and Research activities

3.1 Survey Findings

To promote the usage of digital payment channels, the Bank of Tanzania conducted a survey on factors influencing the adoption and use of digital payment systems in Tanzania. The survey covered Automated Teller Machines (ATMs), Point of Sale (POS), Mobile Payments, Mobile Banking, Internet Banking, Quick Response (QR), and Card Payments (Visa, MasterCard, Umoja Card, MVisa). The survey covered Arusha, Tanga, Coastal region and Zanzibar. A total of 535 respondents were involved in the survey. The survey examined the level of understanding of the various payment system channels, preference of usage, frequency of usage, and factors influencing use.

Level of awareness: the survey indicated that mobile phones are a well-known digital channel by scoring 97 percent, followed by ATM (89 percent), while Internet banking was the least known payment system channel. It was noted that only 33 percent of the respondents were aware of the internet banking channel. Figure 6 indicates the level of respondents understanding of the various payment system channels.

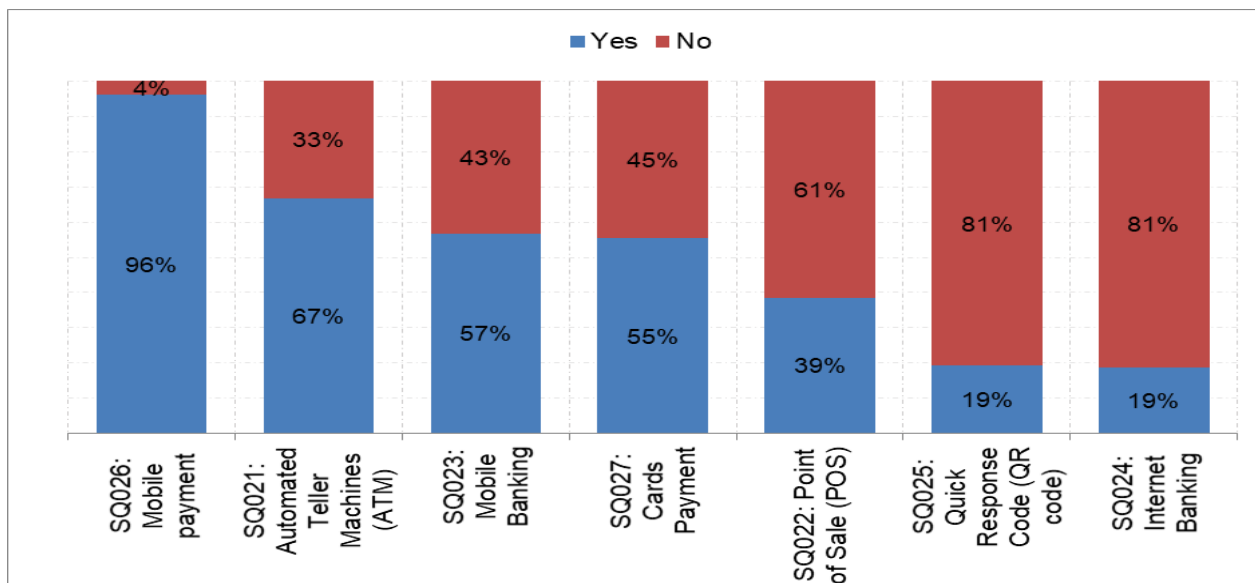
Figure 6 Level of understanding of payment system channels



Source: Bank of Tanzania

Level of preference: Mobile payment and ATM were the most preferred channels, while Internet banking and QR code services were the least preferred services in the list (See Figure 7).

Figure 7 Level of payment system preference



Frequency of usage: internet banking was the least frequently used channels, while mobile payment, mobile fund transfers and ATMs were used most frequently in a month. The low score in this type of service was lack of awareness and lack of supportive electronic devices. Figure 8 and 9 below shows the frequency of usage.

Figure 8 Monthly frequency of usage

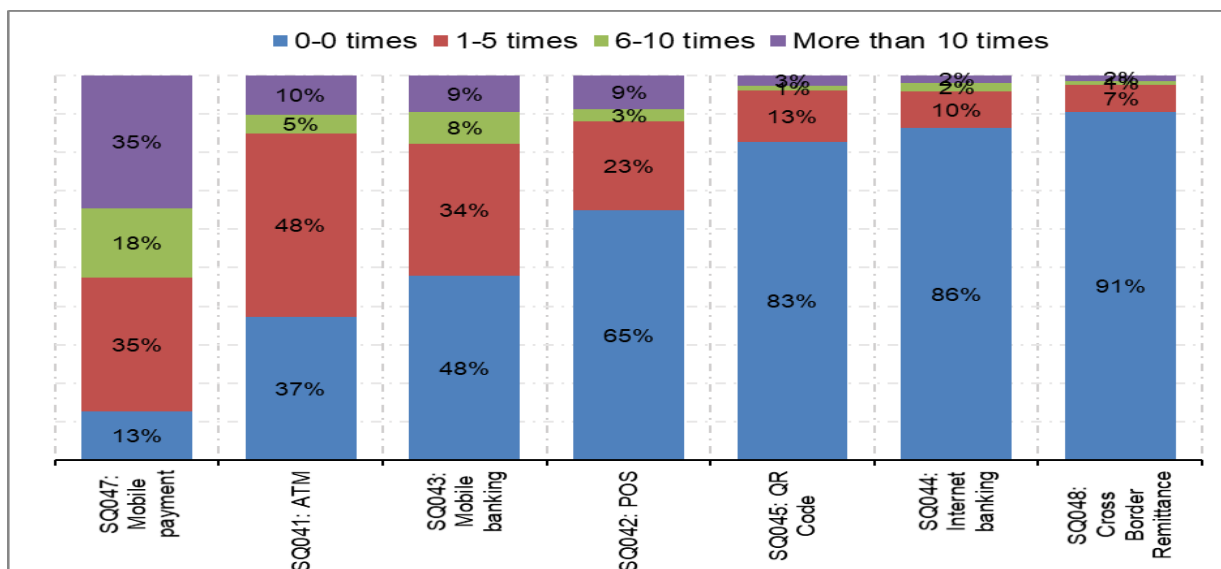
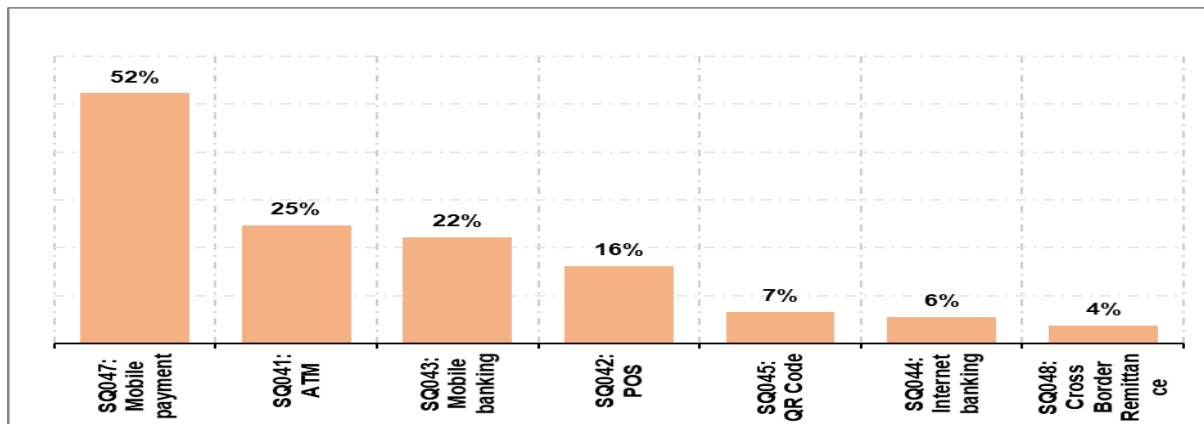
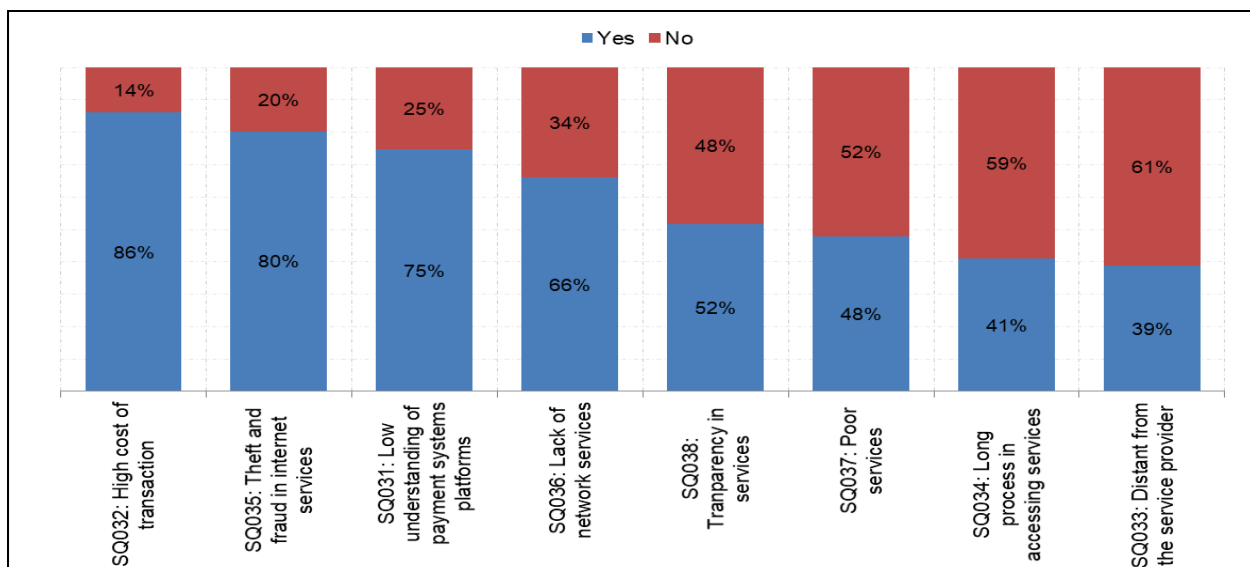


Figure 9 Monthly usage frequency score



Factors influencing usage of payment systems: several factors surveyed and their influence on the usage of payment systems were cost 86%, safety (80%), level of understanding (75%), service availability (66%), disclosure of service information (52%), quality of services (48%), ease of service usage (41%), and proximity (39%). Figure 10 indicates the score of factors influencing usage.

Figure 10 Factors influencing usage.



3.2 Survey recommendations

Bank of Tanzania recommended the following measures to be taken by financial service providers to address the observed challenges: -

- (a) Reduce charges and fees on digital financial services;
- (b) Enhance risk management systems to mitigate financial cyber risk and fraud;
- (c) Implement customer awareness program on cyber risks;
- (d) Improve procedures for registration of mobile money subscribers by ensuring access is limited to users with national identification and whose biometric information are well captured;
- (e) Conduct awareness programs to enhance customers' understanding of various digital financial services and products;
- (f) Develop accessible and straightforward messages on their product details;
- (g) Enhance disclosure of fees and tariffs at agents' access points;
- (h) Observe consumer protection regulations and advocate for consumer rights;
- (i) Review products to simplify its usage.

CHAPTER FOUR

4.0 Oversight activities

4.1 Introduction

The objective of payment systems oversight is to ensure the national payments system operates safely and efficiently with fair and transparent business conduct in alignment with international best practices. The role involves putting in place laws and regulations, and instituting policies and procedures to monitor existing and planned systems and instruments as well as payment service providers. In broad terms, the oversight function fosters robust risk management systems that minimize shock transmission across the financial system and economy. The oversight function supports building resilient payments systems, with capacity to continue with operation even in the event of major disruptions to systems or providers. In addition, the oversight role strives at achieving a level of technological and institutional development necessary to meet payment needs of a growing, open, regional and internationally integrated economy.

4.2 Payment system licensing procedures

The licensing procedures provides a framework for timely assessment of applications with a view to mitigating payments system risks at entry point. A detailed procedure is provided under Annexure 2, which includes minimum information requirement for application of payment system licenses.

4.3 Procedures for approval of payment system instruments

Licensed payment system providers are permitted to issue payment systems products in line with their business models. The approval needs to be sought from the Bank prior to any product launch. Procedures to follow in requesting approval for payment system instrument are provided under *Regulation 22 and 30 of the Payment Systems Licensing Approval Regulations 2015*, applicable for banks and non-banks. Detailed procedures for application for approval of payment system products are covered under Annexure 3.

4.4 Payment system providers

The number of licensed payments system providers increased to 71 in 2022 compared to 59 reported in 2021. Out of the licensed PSPs, 44 were banks, and the remaining 27

were non-banks. During the year 2022, five new non-bank licenses were issued to Virtual Pay (TZ) Limited, DigiCash (T) Limited, Pesapal Tanzania Limited, Simba Money Limited, and Smartx Limited (Annexure 4) while the license in favour of FNB Bank Tanzania Limited was surrendered on acquisition of the bank operations by Exim Bank. Similarities of payment system products issued intensified the competition. In addition, Money Transfer Operators (MTOs) were most preferred by retail customers for cross-border remittances.

Six Electronic Money Issuers (EMIs) operated in the market during the year under review, namely Tigo Pesa, M-Pesa Limited, Airtel Money Tanzania Limited, TTCL Pesa Limited, Halo Pesa, and Azam Pesa Tanzania Limited. The number of EMIs decreased to six from seven, reported in the previous year following the consolidation of Millicom Tanzania Mobile Solutions T/A Tigo Pesa with Zanzibar Telecommunication Corporation Limited.

4.5 Onsite oversight activities

In 2022, the Bank conducted onsite oversight activities to Selcom Paytech Limited, TTCL Pesa, UBX (Tanzania) Limited, Viettel Ecommerce Limited, M-Pesa Limited, Terra Payment Services Limited, I&M Bank (T) Limited, Flutter Technology Limited, Ecobank Tanzania Limited, United Bank for Africa (T) Limited, and KCB Bank(T) Limited. The onsite review is aimed to ensure payment systems operates in a safe and efficient manners.

4.6 Public awareness on payment system

Bank of Tanzania has undertaken efforts to enhance public awareness of payment systems through a diverse array of channels, including radio and television programs, participation in trade fairs like Saba-Saba and Nane-Nane, involvement in Financial Service Week, and active engagement on social media. This multifaceted approach demonstrates a strategic effort to reach a broad audience, utilizing both traditional and contemporary communication mediums.

The use of radio and television programs is an effective means to reach geographically dispersed populations, while participation in trade fairs facilitates direct interactions with the public, fostering a deeper understanding of payment systems. The Bank's engagement on social media aligns with modern communication trends, ensuring accessibility to a younger and tech-community. Additionally, strategic alignment with industry events, such as Financial Service Week, is part of the Bank's commitment to integrating awareness initiatives into broader financial service narratives.

The Bank's proactive engagement with payment system providers, financial service providers, and journalists further strengthens the effectiveness of their awareness campaign, contributing to a more informed and educated ecosystem around payment systems. Periodic surveys and research conducted by the Bank is used to evaluate the impact of the public awareness initiatives and helps in recommending necessary policy actions, ensuring sustained effectiveness over time.

4.7 Risk Based Oversight Framework

Drafting of National Payment Oversight Policy based on Principles for Financial Market Infrastructures was at an advanced stage, awaiting stakeholders' engagement for comments. The Oversight Policy will provide a framework for regulation and supervision payment system providers. In parallel with this initiative, the Bank is developing Risk-Based Oversight Framework (RBOF) that intends to implement risk-based oversight in supervising non-bank payment system providers. The RBOF will make it mandatory for non-bank payment system providers to define minimum risks per the framework and attain a certain level of quality of risk management through enhancement of their Board and Senior Management oversight; policies, procedures and limits; procedures for risk identification, monitoring and reporting; and enhancing internal control activities.

To create necessary environment for implementation of RBOF, the Bank developed a guideline for identifying Systemically Important Payment Systems(SIPS). The measure aims at minimizing the regulatory burden for PSPs by imposing relevant supervisory measures in accordance with the nature, risk and size of the payment system provider.

The minimum criteria in ranking PSPs include geographical coverage, transaction volume, dependability, security and reliability, level of interoperability, and market share.

CHAPTER FIVE

5.0 Emerging Technologies

5.1 Introduction

Payment systems, Financial Market Infrastructures (FMIs) and Digital Financial Services (DFS) have been the key instruments for expanding financial inclusion, fostering economic development, enabling digital economy and supporting financial stability. These infrastructures promote safe, reliable and efficient domestic and cross-border payments. Across the globe, countries are taking measures to promote payment systems in areas of laws and regulations, large-value payment systems, securities settlement, foreign exchange settlement, retail payment systems, government payments, cross-border payments, oversight activities and cooperation. The most recent development in payment systems includes the emergency of crypto assets, central bank digital currency, digital banking, and cloud computing.

5.2 Cryptocurrencies and Central Bank Digital Currency

The Tanzania Payment system is affected by domestic and global developments in emerging technologies, including cryptocurrencies and Central Bank Digital Currencies (CBDCs). Regarding cryptocurrencies, the Bank issued a public notice in November 2019 warning the public against participation in cryptocurrencies as the existing foreign exchange regulations do not provide for virtual currencies⁶.

CBDC is a digital form of a country's fiat currency issued and regulated by central banks. The Bank of Tanzania has been researching and exploring potentiality of issuance of its CBDC. The Bank is still examining the practical aspects of CBDC by engaging its stakeholders such as banks, international organizations and regional partners. In January 2023 the Bank issues a public notice regarding the research work on CBDC⁷. The research is aimed at identifying suitable approach to CBDCs aligned to the Tanzania context.

⁶ Public Notice is available online at <https://www.bot.go.tz/Adverts/PressRelease/sw/2020031307240424208.pdf>

⁷ Public Notice on CBDC is available online at <https://www.bot.go.tz/Adverts/PressRelease/en/2023011413181519.pdf>

5.3 Supervisory Technologies (SupTech)

Global technological innovation is transforming financial services and reshaping financial supervision worldwide, prompting regulators to embrace Supervisory Technology (SupTech) for improved oversight. SupTech automates processes, streamlines procedures, and enhances data analytics, enabling faster and more complex analyses that were previously impractical. This innovation not only improves the quality and reliability of regulatory data but also saves significant time and financial resources by eliminating manual data consolidation. SupTech facilitates better resource allocation for risk-based supervision. The Bank of Tanzania's adoption of SupTech is driven by the increasing demand for comprehensive decision-supporting information on payment services, necessitating advanced data collection technologies. This moves addresses challenges in the current Electronic Data Interchange (EDI) system by minimizing errors, omissions, and manual consolidation, while supporting forward-looking risk management with real-time data.

In 2022, the Bank of Tanzania continued with development of a SupTech solutions for real-time surveillance and supervision of payment systems. The solutions will enable the collection of real-time granular data using Application Programming Interfaces (API), and processing of collected data using Big Data analytics technologies of Hadoop/Spark, Artificial Intelligence (AI) and Machine Learning (ML). The anticipated benefits of these developments to the Bank include costs and time savings in reporting by eliminating manual data processing. Also, the SupTech Solutions will provide an opportunity for the Bank to make data-driven supervisory judgements, improved risk management processes and payment system compliance assessments.

5.4 Cloud Computing

Cloud computing has been defined as the delivery of computing services, including storage, databases, networks, software, analytics and intelligence over the internet (“the cloud”) to offer faster innovation, flexible resources and economies of scale. It optimizes the information technology costs by eliminating capital expenditures for buying hardware and software, and those related to setting up and maintaining data centers. Challenges related to cloud computing include complex pricing structures and concerns

over data confidentiality to national security when massive data are hosted in another jurisdiction, lack of possibility of switching clouds due to the amount of data housed in a particular cloud. The Bank has drafted Cloud Computing Guidelines that shall apply to all financial service providers intending to adopt cloud computing solutions for peripheral systems. The Guidelines aim at ensuring an orderly adoption of cloud computing, well-managed outsourcing contracts of cloud computing, training programs and putting in place tools for managing risks associated with cloud computing. Stakeholders' consultation on the draft Guidelines is in the final stages.

5.5 5G Internet services

The global volume of data crossing telecoms networks is growing massively as more people use broadband connectivity and the demand for data to support heavy digital content such as streaming video. In order to accommodate the rising flows of digital traffic and sustain service performance, mobile operators need to invest in expanding their network capacity, close the coverage gaps and deploy new technologies. Along with the deployment of new network infrastructures, fiscal intervention is needed to reduce the cost of acquiring an internet connection. This fiscal intervention can be reduction in taxes and fees, network deployment costs and restrictions. Further, there is a need to reduce the network distribution gap through a combined effort between mobile network operators (MNOs) and the government. In addition, collaboration with MNOs is needed to ensure they invest, maintain, and expand their networks to meet the expectations of their customers and achieve broader public policy objectives.

In Tanzania, two Mobile Network Operators (MNOs) launched a 5G Network in 2022 and 2023, respectively. The 5G (Fifth Generation), a global wireless standard, is the new and fastest mobile network in the country. The key advantages over the previous generations are its ultra-speed in conveying information, low latency and huge ability to transmit information to different users simultaneously. Also, 5G enables the connection of multiple devices, making it useful across industries, hospitals and other places that need speed networks. Leveraging on 5G Network, there is an opportunity to improve the efficiency and reliability of payment system services in Tanzania. Other MNOs are

encouraged to look for possibilities of adopting and implementing this new network infrastructure in the country to attain high-quality service delivery to customers.

5.6 Digital Identity

The National Financial Inclusion Framework 2018-2022 ⁸(NFIF 2018-2022) advocates for establishing digital identification to help more people access financial services. A digital identity intends to reduce the number of identifications issued to individuals. The establishment of a single identity is a cornerstone for financial services access. Digital identity is the representation of an individual or entity in the digital world, and it is the collection of attributes, information and credentials that uniquely identify and verify a person or organization in digital transactions and interactions. Digital identity is crucial in various online activities, including authentication, access control, privacy protection and secure communication.

5.7 Regulatory Standards

Regulatory payment system standards refer to the rules, guidelines and requirements set forth by regulatory authorities to ensure payment systems' safety, efficiency, transparency and integrity. These standards aim to establish a secure and reliable infrastructure for financial transactions and protect the interests of participants, consumers and the overall financial system. Some of the standards includes:

Principles for Financial Market Infrastructures (PFMIs); Communication, Security and Payment Card Standards (CSPCS) and the Anti-Money Laundering and Combating of Financing of Terrorism Standards (AML-CFTS).

5.8 Distributed Ledgers Technologies

Distributed Ledger Technologies (DLT) are decentralized database systems enabling multiple participants to maintain a shared and secure record of transactions without the need for a central authority. Utilizing consensus mechanisms like Proof of Work or Proof of Stake, DLT ensures agreement on the state of the ledger across a network of nodes. The most prominent example is blockchain, offering features such as decentralization, immutability, transparency, and support for smart contracts. DLT promises increased

⁸ National Financial Inclusion Framework 2023-2028 was published on 5th August 2023

transparency, security, and efficiency. Nevertheless, DLT has some challenges such as scalability and regulatory issues that hinders timely adoption of these technologies. The Bank has not yet adopted Distributed Ledgers Technologies (DLTs) but Payment Service Providers have come up with products that uses DLT concept. However, in the course of developing a Real-Time Supervisory Information System (RTSIS), the Bank intends to explore the possibilities of adopting DLTs on the supervision of Electronic Money Issuance and Banc-Assurance services.

ANNEXURES

6.1 ATM distribution by region

Region	2017	2018	2019	2020	2021	2022	% Increase/ Decrease between 2021 & 2022
Arusha	148	108	102	100	102	130	27.45
Coastal	41	40	41	42	42	42	0.00
Dar es Salaam	837	537	481	476	452	596	31.86
Dodoma	88	64	67	71	77	85	10.39
Geita	22	19	21	20	22	55	150.00
Iringa	48	36	33	31	25	30	20.00
Kagera	52	35	36	32	31	33	6.45
Kaskazini Pemba	3	1	2	2	3	10	233.33
Kaskazini Unguja	2	2	6	6	5	6	20.00
Katavi	6	5	5	5	6	20	233.33
Kigoma	26	18	20	20	21	43	104.76
Kilimanjaro	87	63	60	58	59	65	10.17
Kusini Pemba	6	6	6	6	7	9	28.57
Kusini Unguja	6	6	3	4	9	10	11.11
Lindi	24	16	17	16	15	39	160.00
Manyara	38	27	20	22	22	31	40.91
Mara	46	33	33	33	31	42	35.48
Mbeya	92	56	56	59	55	64	16.36
Mjini Magharibi	49	40	47	49	49	57	16.33
Morogoro	87	69	67	66	62	88	41.94
Mtwara	42	28	25	24	26	56	115.38
Mwanza	126	88	83	81	81	90	11.11
Njombe	24	22	20	18	18	58	222.22
Rukwa	16	14	12	12	12	15	25.00
Ruvuma	34	30	28	27	27	36	33.33
Shinyanga	48	39	36	35	35	49	40.00
Simiyu	9	8	8	8	11	11	0.00
Singida	26	20	21	22	22	29	31.82
Songwe	18	13	14	14	16	21	31.25
Tabora	44	32	28	29	29	39	34.48
Tanga	60	45	44	43	44	52	18.18
TOTAL	2,155	1,520	1,442	1,431	1,416	1,911	34.96

6.2 Payment system license application procedures

S/no	Procedures
1.	<p>Self-Assessment</p> <p>The applicant is required to conduct a self-assessment to establish whether the payment system model meets one of the eligibility criteria mentioned under <i>Section 6 of the National Payment System Act 2015</i>. The applicant also assesses whether the payment instrument to be issued through the payment platform meets the payment instrument minimum conditions specified under Section 16 of the National Payment Systems Act 2015.</p>
2.	<p>Meeting with Bank of Tanzania</p> <p>If the business model meets one of the eligibility criteria above:</p> <ul style="list-style-type: none"> • Consult the Payment Systems Licensing Approval Regulations 2015 and read Regulations 5, 6, 7 and 42; • Send a PDF letter to mromari@bot.go.tz requesting for a meeting with National Payment System, the letter should briefly describe the business model, indicate the contact mobile number; • The Bank of Tanzania of Tanzania will contact you to schedule a meeting
3.	<p>Discussion with Bank of Tanzania</p> <p>During the discussion, the applicant shall clarify the business model and information system by preparing relevant information as stated in the cited regulations in 2 above. More importantly, the applicant shall demonstrate how the system works, present the system architecture, transaction process flow and settlement process.</p>
4.	<p>Minimum documents</p> <p>Prepare documents for the license applications and submit drafts to the BOT via emails for preliminary review. The minimum information is provided for in the Payment Systems Licensing Approval Regulations 2015. The following few information are required:</p> <ul style="list-style-type: none"> • Application Letter • Memorandum and Articles of Association; • Certificate of Registration/Extract from Registrar; • Board Resolutions authorizing the application for Payment Systems License; • Physical Address or registered office; • Latest Audited Financial Statements; • Tax Clearance Certificates; • A detailed Business Plan • Fit and Proper Form (directors, senior managers and significant shareholders)-FORM B • Curriculum vitae of every director, shareholder and proposed senior managers; • Certificate of good conduct as issued by the Police Force or any competent authority for

	<p>every proposed director, shareholder and senior manager;</p> <ul style="list-style-type: none"> • Two Certified copies of academic and professional certificates for every director, shareholders and proposed senior managers; • Copies of passport of the shareholders, directors and senior managers; • Form C (sources of funds was missing); • Police Clearance Report/finger print; • Credit reference reports for directors and shareholders; • AML/CFT Policy; • Risk Management Policy • Organization structure consistent with your plan; • Business Continuity Plan (Was submitted but if update should be shared); • Disaster Recovery Plan and Data Centre Agreement (Primary Data Centre Agreement locally); • Process flow and system architectures; • Customers Terms and Conditions; • Pricing mechanism/policy; • Complaints Resolution Policy which should be consistent with the Financial Consumer Protection Regulations 2019 • Pay license application fees TZS 1 million by way of Transfer to: - Account name: NPS APPLICATION & LICENCING FEES Account No. 9944713301 Swift code: TANZTZX • Outsourcing agreements if applicable • Fill and complete Application FORM A • License Fees is TZS 12 million. This amount is paid when you are provided with a notice to pay. • Detail of contact person indicating name, physical address, telephone number, and e-mail address.
5.	Bank of Tanzania will accept the submission, review them and may request additional information and or schedule another meeting.
6.	Verification of primary and secondary data center will be conducted as part of the application procedure. Both the database and application systems needs to be domestically located in Tanzania
7.	The license is expected to be processed within 90 days if all the documents were complete.
8.	If successful, the applicant will be notified to pay license fees of TZS 12 million.
9.	The applicant will be notified to collect the license once it is ready signed and stamped

6.3 Payment system instrument application procedures

S/no	Procedures
1	If the applicant is a bank fill and complete Form E which is provided in the schedules of the regulation. In case of a non-bank, shall fill Form F
2	Application letter
3	A valid copy of payment system license
4	A description of the type of payment instrument to be issued
5	The mechanism for issuing the product and how customers shall acquire the services
6	Risk report indicating risks that are relevant to the product and the mitigation strategies to minimize those risks
7	Customer terms and conditions that include disclosure requirements, complaints, disclosure and redress mechanisms
8	Draft merchant and agent agreements if such products is to be issued through these channels
9	Payment instrument process flows indicating end to end procedures from customer initiation to exit
10	Pricing policies that include variables used to arrive at those prices, the nature of charges to be imposed to the customer.
11	Anti-Money Laundering procedures with regard to the product to be issued

6.4 Glossary

Item	Descriptions
Mobile payment	Mobile payment is the issuance of financial services through a mobile phone device. For the purpose of this report, the term is used to refer to services issued by Mobile Money Operators (MMO) through mobile phone. It includes payments services made through a mobile device such as personal to personal transfer (P2P), customer payment to businesses (C2B), business disbursement to customers (B2C), bill payment, tax collection.
Mobile banking	When mobile payment is issued by a bank or financial institution is termed as mobile banking. Mobile banking services links customer accounts with mobile wallet accounts enabling customers of the bank to seamlessly transfer fund from bank to wallets (B2W) and from mobile wallet to bank (W2B). Other services
Bank agent	A bank agent “means a person contracted by an approved bank or financial institutions to carry out agent banking business on behalf of the approved bank or financial institution in return for a commission. Services facilitated by bank agents include: cash deposit and withdrawal, cash disbursement and repayment of loans, cash payment of utility bills, cash payment of retirement and social benefits, transfer of funds, balance inquiry, account statement, collection of account opening forms, loan application and card application, facilitation in account opening, and collection of mails and correspondences with customers.

Agent banking	“agent banking” means the business of providing banking services to the customers of a bank or financial institution on behalf of that particular bank or financial institution under a valid agency agreement
Internet banking	An electronic payment system that enables customers to conduct financial transactions on a secure website operated by a financial service provider (FSP).
Interoperability	Interoperability allows participants in different payment systems to clear and settle payments or financial transactions across systems without participating in multiple systems. It enables the seamless interaction of two or more proprietary acceptance and processing platform.
Local brand cards - active	Payment cards that are issued by financial institutions within Tanzania. Local brand cards have limited usage within Tanzania and are issued by a local payment network card scheme such as UBX (Tanzania) Limited.
International brand card -active	International card brands are globally recognized payment card networks that facilitate electronic transactions between merchants and consumers. These card brands enable individuals to make purchases, withdrawals, and perform other financial transactions worldwide. Some of the prominent international card brands include VISA, MasterCard, American Express (Amex), UnionPay. These cards are either issued in foreign jurisdictions or issued by local financial institutions. International brand cards can be prepaid, debit or credit cards.
Mobile Network Operators (MNOs)	A company licensed by Tanzania Regulatory Authority (TCRA) to provide telecommunications services through mobile devices.
Money Transfer Operators (MTOs)	Means a financial service provider that facilitates funds transfer across national boundaries.
Automated Tellers Machines (ATM)	An electronic telecommunications device that enables the customers of a financial institution to perform financial transactions without the need for a human cashier, clerk, or bank teller. ATMs identify customers via either a magnetic or chip-based card, with authentication occurring after the customer inputs a PIN number. Most ATMs are connected to interbank networks to enable customers to access machines that do not directly belong to their bank, although some closed-loop systems also exist. ATMs are connected to a host or ATM controller using a modem, leased line or ADSL.
E-wallet/E-money	Short for ‘electronic money’, it is stored value held in virtual wallets or cards. The total value of e-money is mirrored in bank account(s), so that even if the provider of the e-wallet service were to fail, users could recover 100 percent of the value stored in their accounts. Bank deposits earn interest that are distributed to customers on regular basis.
Global System for Mobile Communication (GSM)	An open, digital cellular technology used for transmitting mobile voice and data services (call and messages). It is the most common standard for mobile communication.

Point of Sale (POS)	Electronic device used to process card payments at the point at which a customer makes a payment to the merchant in exchange for goods and services. The POS device is a hardware (fixed or mobile) device that runs software to facilitate the transaction. The hardware used may vary. The merchant regulated by Bank of Tanzania is limited to merchant and agents' POS that processes card payments.
Virtual card	Virtual card is a digital payment card, stored in mobile wallets or banking apps, that offer a secure and convenient means of conducting online transactions. It is limited to one-time use or limited-time validity, which reduces the risk of unauthorized use. The card is issued by card schemes, integrated into mobile wallets, and used to facilitate contactless payments.
Contactless cards/Near Field Communication	A method of contactless card payment (without a PIN), which uses short-range radio signals to exchange information between a card or mobile device and a terminal.
Unstructured Supplementary Service Data (USSD)	A protocol used by GSM mobile devices to communicate with the service provider's computers/network. This channel is supported by all GSM handsets, enabling an interactive session consisting of a two-way exchange of messages based on a defined application menu.
Virtual Private Network (VPN)	A private data network that makes use of the public telecommunication infrastructure, maintaining privacy through the use of a tunneling protocol and security procedures. It enables a computer to send and receive data across shared or public networks as if it is directly connected to the private network, while benefiting from the functionality, security, and management policies of the private network
Aggregators	Servicer provider with existing integrations to a number of MNOs and/or PSPs to facilitate billing, technical, and operational relationships and interfacing across operators via one link to the aggregator, as opposed to separate integrations with each provider.
Mobile money agents	A person or business contracted to process transactions for users. The most important of these are cash in and cash out (that is, loading value into the mobile money system, and then converting it back out again); in many instances, agents register new customers too. Agents usually earn commissions for performing these services. They also often provide front-line customer service, such as teaching new users how to complete transactions on their phone. Typically, agents will conduct other kinds of business in addition to mobile money. Agents will sometimes be limited by regulation, but small-scale traders, microfinance institutions, chain stores, and bank branches serve as agents in some markets. Some industry participants prefer the terms 'merchant' or 'retailer' to avoid certain legal connotations of the term 'agent' as it is used in other industries.
Merchant	A person or business providing goods and services to customer in exchange for payment. A merchant can be a retail and wholesale shops, supermarkets, gas and oil points, airlines, hotels and restaurants, pharmacies, online market place merchants. Domestic

	merchants provides their services within the country while international merchant provides services both domestic and cross border.
Remittance	<p>Remittances are household incomes from foreign economies arising mainly from the temporary or permanent movement of people to those economies. They include cash and noncash items that flow through formal channels, such as via electronic wire, or through informal channels, such as money or goods carried across borders. They largely consist of funds and noncash items sent or given by individuals who have migrated to a new economy and become residents there, and the net compensation of border, seasonal, or other short-term workers who are employed in an economy in which they are not resident. The standard components of remittances are:</p> <ul style="list-style-type: none"> (a) Personal transfers (part of current transfers), (b) Compensation of employees (less taxes, social contributions, transport and travel), (c) Capital transfers between households, and (d) Social benefits. <p>Remittances is directly related to household to household and must be transfer (goods are provided with no exchange of something of economic value). Examples of remittances are cash or goods sent by diaspora to family members/friends for consumption e.g. food and non-food items, settlement of medical bills, contribution to ceremonies and construction/renovation of houses for family use. Diaspora remittances excludes funds sent to family members for construction of apartment or house for rent (this is FDI), school fees sent to students abroad, purchase of goods online e.g. Amazon</p>

6.5 List of licensed non-bank payment system providers

S/No	Name of Licensed Institution	Address
1.	Airtel Tanzania Public Limited Company	Block 41, Kinondoni Corner of Ali Hassan Mwinyi & Kawawa Roads P. O. Box 9623 DAR ES SALAAM
2.	Azampay Tanzania Limited	Haile Selassie Road, Plot 208 P. O. Box 2517 DAR ES SALAAM

S/No	Name of Licensed Institution	Address
3.	Beyonic Limited	Beyonic Limited Tanzanite Park 38 New Bagamoyo Road P. O. Box 14107 DAR ES SALAAM
4.	Business Connexion Tanzania Limited (UBX)	UBX (Tanzania) Limited Plot No. 6, Lucy Lameck Street Mikocheni P. O. Box 76384 DAR ES SALAAM
5.	Cellulant Tanzania Limited	Cellulant Tanzania PLC 4 th Floor, Jangid Plaza Ali Hassan Mwinyi Road P. O. Box 31333 DAR ES SALAAM
6.	Data Vision International Ltd	Data Vision International Limited 373 Garden Road, Mikocheni P. O. Box 9983 DAR ES SALAAM
7.	DigiCash (T) Limited	DigiCash (T) Limited House Number 97 J, Block Number 140 Kilimani Road, Ada Estate Street P. O. Box 6189 14110 DAR ES SALAAM
8.	E-Wallet Africa Limited	E-Wallet Africa Ltd Quality Center Mall, Ground Floor Smart Office Wing, Nyerere Road P. O. Box 78843 DAR ES SALAAM
9.	FastHub Solutions Limited	Fasthub Solutions Limited Plot No.473, NHC Street, Off Mwai Kibaki Road P. O. Box 31206 DAR ES SALAAM
10.	Flutter Technology Limited	Flutter Technology Limited 7 th Floor, Amani Place P. O. Box 38568 DAR ES SALAAM

S/No	Name of Licensed Institution	Address
11.	Madina-Tech Group Limited	Madina Tech Group Limited 570/571 Mindu Street P. O. Box 6121 DAR ES SALAAM
12.	Mahali Sokoni Trading Company Limited	Mahali Sokoni Trading Company Limited Tarangire Street Mbezi Beach 'B', Kawe Kinondoni P. O. Box 79146 DAR ES SALAAM
13.	Maxcom Africa Public Limited Company	Maxcom Africa PLC First Floor, Suit 3-4 Millennium Towers Makumbusho Area 31211 Kinondoni DAR ES SALAAM
14.	HONORA Tanzania Public Limited Company	Honora Tanzania Public Limited Company 30 th Floor, PSSSF Commercial Complex, House No. 24, Plot No. 3 Sam Nujoma Road, 16102, Sinza C Street P. O. Box 2929 DAR ES SALAAM
15.	OMA Emirates	OMA Emirates Tanzania Limited 400 Toure Drive De Ocean Plaza P. O. Box 21773 DAR ES SALAAM
16.	Pesapal Tanzania Limited	Pesapal Tanzania Limited Kahama Road, CCM street, House No. 13. Masaki P. O. Box 11986 DAR ES SALAAM Tel: +255 768 858 415 Direct Line: +255 756 399 718
17.	Selcom Paytech Limited	Selcom PayTech Limited Uhuru Heights 8 th Floor Bibi Titi Mohamed Road Upanga East P. O. Box 20656 11102 DAR ES SALAAM

S/No	Name of Licensed Institution	Address
18.	Simba Money Tanzania Limited	Simba Money Tanzania Limited Plot No.71, Siwa Road P. O. Box 40451 DAR ES SALAAM
19.	Smartx Limited	Smartx Limited Uhuru Heights, Ground Showroom 2 Plot No.63/27, Bibi Titi Road P. O. Box 5192 DAR ES SALAAM
20.	Tanzania Telecommunications Company Limited	Tanzania Telecommunications Company Limited Extelecoms House 32 Samora Avenue P. O. Box 9070 11950 DAR ES SALAAM
21.	Terra Payment Services (Tanzania) Limited	Terra Payment Services (Tanzania) Limited 11 th Floor, Mwanga Tower Plot No 1&50-Block 45A New Bagamoyo Road P. O. Box 11133 DAR ES SALAAM
22.	Transsnet Financial Tanzania Limited	Transsnet Financial Tanzania Limited 3 rd Floor, Suite 310 Jangid Plaza P. O. Box 32080 DAR ES SALAAM
23.	Viettel Tanzania PLC T/A Halotel	Viettel Ecommerce Limited 10 th Floor, Tanzanite Park Building Plot No.38, South Ursino, New Bagamoyo Road P. O. Box 34716 DAR ES SALAAM
24.	Virtual Pay (TZ) Limited	Virtual Pay (TZ) Limited Wing B, Second Floor, Golden Jubilee Towers Ohio Street P. O. Box 9104 DAR ES SALAAM
25.	Vodacom Tanzania Public Limited Company	15 th Floor, Vodacom Tower, Regent Estate Bagamoyo Road P. O. Box 2369 DAR ES SALAAM

S/No	Name of Licensed Institution	Address
26.	Wakandi Tanzania Limited	Wakandi Tanzania Limited Golden Height Building, Chole Road Masaki P. O. Box 105343 DAR ES SALAAM
27.	Wiafrica Tanzania Limited	Plot No. 95, Light Industry Area, Mikocheni B, Coca Cola Road P. O. Box 34767 14112 DAR ES SALAAM

6.6 List of licensed electronic Money Issuers

S/NO	Name of Licensed Institution	Address
1	M-Pesa Limited	M-Pesa Limited 15 th Floor, Vodacom Tower, Regent Estate Bagamoyo Road P. O. Box 2369 DAR ES SALAAM
2	Viettel Ecommerce Limited T/A Halopesa	Viettel Ecommerce Limited 9 th Floor, Tanzanite Park Building P. O. Box 34716 DAR ES SALAAM
3	HONORA Tanzania Mobile Solutions Limited T/A Tigo Pesa	HONORA Tanzania Mobile Solutions Limited 30 th Floor, PSSF Commercial Complex Sam Nujoma Road, Sinza C Street P. O. Box 2929 16102 DAR ES SALAAM
4	TTCL Pesa Limited T/A T-Pesa	TTCL Pesa Limited Extelecoms House 32 Samora Avenue P. O. Box 9070 11950 DAR ES SALAAM
5	Airtel Money Tanzania Limited	Airtel Money Tanzania Limited Block 41 Kinondoni, Airtel House P. O. Box 9623 DAR ES SALAAM
6	AzamPesa Limited	Azam Pesa Tanzania Limited Haile Selassie Road, Plot No. 208 P. O. Box 2517 DAR ES SALAAM

6.7 Mobile transactions

Mobile Payments					Mobile Banking			
Year	Volume (Millions)	Value (TZS Millions)	% increase/decrease in volume	% increase and decrease in value TZS	Volume (Millions)	Value (TZS Millions)	% increase/decrease in volume	% increase and decrease in value TZS
2013	1,005	28,852,294	-	-	39	587,058		-
2014	1,234	40,809,832	22.79	41.44	47	1,161,763	20.96	97.90
2015	1,388	47,219,133	12.47	15.71	51	1,799,492	8.57	54.89
2016	1,578	57,641,859	13.70	22.07	53	2,176,918	5.57	20.97
2017	2,061	67,790,223	30.60	17.61	52	2,759,634	(2.83)	26.77
2018	2,685	81,379,017	30.26	20.05	46	2,997,566	(12.06)	8.62
2019	2,845	94,597,639	5.96	16.24	56	9,475,389	22.03	216.10
2020	2,917	109,214,299	2.55	15.45	59	15,227,413	6.26	60.70
2021	3,158	115,228,415	8.27	5.51	71	24,973,344	20.63	64.00
2022	3,595	114,315,985	13.82	(0.79)	92	30,651,581	28.93	22.74

6.8 Mobile money supply and demand indicators

Year	Mobile Money Agents	%increase /Decrease Agents	Total Mobile Money Subscribers (SimCard)	Active Mobile Money subscription (SimCard)	% increase active subscribers (SimCard)	Trust Account Balance (Mil. TZS)	% change Trust Account Balance
2013	153,369	0.00	31,830,289	11,016,757	0.00	293,521.25	0.00
2014	238,461	55.48	41,380,791	13,856,667	25.78	450,957.09	53.64
2015	270,974	13.63	53,843,917	19,006,176	37.16	583,773.01	29.45
2016	371,132	36.96	71,245,336	17,025,685	(10.42)	665,660.67	14.03
2017	427,445	15.17	75,559,441	19,383,246	13.85	720,040.51	8.17
2018	483,283	13.06	82,661,992	23,302,040	20.22	780,422.18	8.39
2019	569,187	17.78	95,576,695	24,379,804	4.63	856,510.04	9.75
2020	702,284	23.38	107,620,479	30,325,019	24.39	1,065,025.14	24.34
2021	838,759	19.43	108,681,990	33,142,118	9.29	1,184,155.16	11.19
2022	1,038,874	23.86	127,127,125	38,338,776	15.68	1,344,060.36	13.50