



Central Bank of Kenya

National Payments Strategy 2022 - 2025





National Payments Strategy 2022 - 2025

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Abbreviations

AACB	Association of African Central Banks	DESK	Digital Economy Strategy of Kenya
A2A	Account-to-Account	DFCC	Domestic Foreign Currency Cheques
AFI	Alliance for Financial Inclusion	DFS	Digital Financial Services
AML	Anti-Money Laundering	DLT	Distributed Ledger Technology
API	Application Programming Interface	DT	Deposit Taking
ATM	Automated Teller Machines	DvP	Delivery-versus-Payment
AU	African Union	EA	East Africa
BCP	Business Continuity Plan	EAC	East African Community
BIS	Bank for International Settlements	EAPS	East African Payments System
BoE	Bank of England	EFTs	Electronic Fund Transfers
C2G	Citizen to Government	FATF	Financial Action Task Force
CA	Communications Authority of Kenya	FGDs	Focused Group Discussions
CAK	Competition Authority of Kenya	FSB	Financial Stability Board
CBDC	Central Bank Digital Currency	FSD	Financial Sector Deepening - Kenya
CBK	Central Bank of Kenya	FSI	Financial Stability Institute
CEMAC	Central African Economic and Monetary Community	FSP	Financial Service Provider
CFT	Combating the Financing of Terrorism	GDP	Gross Domestic Product
CH	Clearing House	GPFI	Global Partnership for Financial Inclusion
CMA	Capital Markets Authority	ICT	Information and Communication Technology
COMESA	Common Market for Eastern and Southern Africa	IMF	International Monetary Fund
COVID	Corona Virus Disease	IMT	International Money Transfer
CPMI	Committee on Payments and Market Infrastructures	IOSCO	International Organization of Securities Commissions
CSP	Customer Security Programme	IPSL	Integrated Payment Systems Limited
CTS	Cheque Truncation System	IRA	Insurance Regulatory Authority
DEB	Digital Economy Blueprint	ISO	International Organisation for Standardisation
DeFi	Decentralized Finance		

KBA	Kenya Bankers Association	PoS	Point of Sale
KCDCA	Kenya Credit and Debit Card Association	PSP	Payments Service Provider
KEPSS	Kenya Electronic Payment and Settlement System	PvP	Payment-versus-Payment
KPIs	Key Performance Indicators	RBA	Retirement Benefits Authority
KYC	Know Your Customer	REPSS	Regional Payments and Settlement System
MAC	Monetary Affairs Committee	RTGS	Real Time Gross Settlement
MDAs	Ministries Departments and Agencies	RTP	Real-Time Payment
MFBS	Micro Finance Banks	SACCO	Savings and Credit Cooperative
MFI	Microfinance Institution	SADC	Southern African Development Community
MMO	Mobile Money Operator	SASRA	SACCO Societies Regulatory Authority
MNO	Mobile Network Operator	SDGs	Sustainable Development Goals
MoICTIYA	Ministry of ICT, Innovation and Youth Affairs	SIM	Subscriber Identity Module
MPSP	Mobile Payment Service Provider	SIPS	Systemically Important Payment Systems
NACH	Nairobi Automated Clearing House	SMEs	Small and Medium Enterprises
NFC	Near Field Communication	STP	Straight Through Processing
NIIMS	National Integrated Identity Management System	SWIFT	Society for Worldwide Interbank Financial Telecommunications
NPS	National Payments System	TPPP	Third Party Payments Provider/ Processor
OECD	Organisation for Economic Co-operation and Development	U.S.	United States
P2B	Person-to-Business	UK	United Kingdom
P2G	Person-to-Government	UN	United Nations
P2P	Person-to-Person	UNSGSA	United Nations Secretary-General's Special Advocate for Inclusive Finance for Development
PaaS	Payment as a Service	USSD	Unstructured Supplementary Service Data
PAPSI	Pan-African Payment System Integration	WAMZ	West African Monetary Zone
PCI-DSS	Payment Card Industry Data Security Standards		
PFMIs	Principles for Financial Market Infrastructures		

NATIONAL PAYMENTS STRATEGY 2022 - 2025

VISION

A secure, fast, efficient and collaborative payments system that supports financial inclusion and innovations that benefit Kenyans.

PRINCIPLES

- *Trust*
- *Security*
- *Usefulness*
- *Choice*
- *Innovation*

Foreword

It gives me great pleasure to present to you the National Payments Strategy, 2022 to 2025 (the Strategy). The Strategy is the outcome of a consultative process that brought together a wide range of stakeholders, including from private sector players drawn from the payments industry, Government, other public institutions and international organisations.

The Strategy comes at an important juncture in Kenya's payments journey. This journey has been marked by important milestones, such as the modernisation of the domestic payments infrastructure through the deployment of the Real Time Gross Settlement system in 2005, the launch of mobile money services in 2007, among other key developments.

Over the years, we have witnessed robust improvements in the payments ecosystem, in terms of innovations that have enabled digital payments solutions to be integrated in all sectors of the economy, and support people's livelihoods in areas such as health, education, manufacturing, transport and agriculture. Digital and electronic payments are now an integral part of our everyday lives.

These developments have provided a strong foundation that has enabled the National Payments System to support Kenya's digital transformation and inclusive growth agenda. The digital payments infrastructure continues to provide much needed support to build resilience against the evolving challenges brought about by the COVID-19 pandemic.

Across the African continent, major payments initiatives have been launched to promote faster, secure and affordable cross-border payments. This

is accelerating regional and continental integration by facilitating trade, investments and capital flows. While the domestic and regional payments scene has been changing, the global payments landscape has also witnessed significant shifts.

Technological developments have given rise to new platforms, such as the adoption of blockchain technology in payments, emergence of new forms of digital money, among others. Across the globe, real-time payment services have been launched – and accelerated during the pandemic period – while new standards are being adopted to enhance, for example, the safety and interoperability of domestic and international payment systems. At the same time, customer preferences are changing, making providers turn to innovative solutions to meet fast-changing consumer and business needs.

As the COVID-19 pandemic impacted economies and societies, regulators continue to call for enhanced safety, agility and resilience of the payments system in order to mitigate the current and future impact of the pandemic.

As we build back better over the next few years, and harness the benefits of digitalisation of payments and financial services, it is imperative that we leave no one behind, particularly women and the youth who have been disproportionately affected by the current economic, health and environmental crises.

The Central Bank of Kenya (CBK) is cognisant that the next phase of our journey should ensure that payments services contribute not only to better quality of financial inclusion, but more importantly, economic resilience and shared prosperity.

This new chapter should be one where payments are anchored on the Principles outlined in this Strategy; where citizens have trust that their monetary value can be safely and securely held and transferred; and that this is done in an environment underpinned by customer-centricity and value-adding innovation.

In launching this Strategy, the CBK is re-affirming its commitment to continue creating the enabling environment to usher in the new chapter of Kenya's

payments journey, enhance our participation at the regional and global stage, and realise the vision of "*a secure, fast, efficient and collaborative payments system that supports financial inclusion and innovations that benefit Kenyans.*"

I appreciate the valuable support and efforts from the stakeholders, partners and Staff who made the development of this Strategy possible. The real work of making it a reality is now upon us.

Dr. Patrick Njoroge

Governor

| 1 Executive Summary

The National Payments System (NPS) has undergone significant change over the last few decades. Some of the key milestones achieved over this period include the established Kenya's Real Time Gross Settlement (RTGS) system in 2005, the launch of innovative mobile money services from 2007 and the subsequent improvements that were implemented to strengthen and automate clearing systems. These developments were underpinned by the enactment of a supportive legal and regulatory framework through an amendment to the Central Bank of Kenya (CBK) Act in 2003, enactment of the NPS Act in 2011 and its operationalisation through the NPS Regulations enacted in 2014. Today, CBK regulated payment rails support a wide range of activities and innovations throughout the economy such as education, healthcare, agriculture, and many other sectors of the Kenyan society. The use of mobile money systems to mitigate the effects of the COVID-19 pandemic is testimony of the strong foundation that Kenya has laid for its payments ecosystem.

The National Payments Strategy 2022 - 2025 is expected to build on this foundation, while anchoring our work on the CBK payments mandate of establishing, regulating and supervising an efficient and effective payment, clearing and settlement system. This mandate remains the cornerstone of past, present and future NPS initiatives and will continue to support CBK's role in facilitating economic activities, livelihoods and its journey of becoming *A World Class Modern Central Bank*.

The first National Payments Strategy was implemented at a time when the payments sector faced a number of challenges. This included high risks due to the absence of a real-time settlement system, limited trust in payment instruments such as high-value cheques and an under-developed policy, legal and regulatory framework. Following the successful implementation of the first NPS Framework and Strategy in 2004 through 2008, these challenges were addressed. Today, the payments ecosystem is significantly different than what it was a few decades ago (**Section 1**). The Strategy also comes at an important juncture both from a

domestic and global payments perspective. Just as the domestic ecosystem has evolved, so has the global payments landscape. Rapid technological change in the last few years has significantly impacted how payments are made and how payment solutions and infrastructure are deployed (**Section 3**). In recent years, the emergence of blockchain and distributed ledger technologies has given rise to a spirited effort to innovate and design new payment solutions. This has resulted in the emergence of innovations such as cryptocurrencies and new forms of digital money like Central Bank Digital Currencies (CDBC) currently being explored by central banks globally.

In addition to these technological developments, changing customer preferences and the emergence of new risks such as cyber-threats have underpinned the shifts being witnessed in the design and architecture of payment systems.

Finally, Kenya, like other countries across the globe, is grappling with the current and future impact of the COVID-19 (Coronavirus) pandemic.



A secure, fast, efficient and collaborative payments system that supports financial inclusion and innovations that benefit Kenyans.

- Vision Statement

While the pandemic continues to evolve, the global community has learnt important lessons in how payment ecosystems – and the financial sector more broadly – can be made more people-centric in order to provide much needed resilience and support to businesses and livelihoods affected by the pandemic. Major progress has been witnessed in Kenya in terms of how payment rails have mitigated the impact of the pandemic by supporting a shift to mobile and digital payments (**Box 3.3**).

The overarching purpose of the Strategy is to provide a framework to guide the current and future of payment services anchored on the Vision Statement – ***a secure, fast, efficient and collaborative payments system that supports financial inclusion and innovations that benefit Kenyans*** – and five core principles. These Principles will be the pillars upon which the Strategy is implemented (**Section 4**):

1. **Trust** – A system which guarantees that payments will be made and received in a timely and reliable manner.
2. **Security** – A resilient system that safeguards all payments and channels in an increasingly digital world.
3. **Usefulness** – A system that meets customer needs, especially among the financially excluded, in a cost-effective manner.
4. **Choice** – Availability of feasible options resulting from collaboration among different players in the payments ecosystem.
5. **Innovation** – An ecosystem that produces customer-centric and value-adding solutions which also compete on the global stage.

To concretise the realisation of the Strategy, and guided by the Principles, the Strategy sets out four key Strategic Objectives, namely:

1. To support a payments system that meets the diverse needs of customers, especially with respect to financial inclusion and shared prosperity.
2. To enhance the safety and security of the payments system through the adoption of relevant industry and global standards.
3. To support an ecosystem that is anchored on collaboration that produces customer-centric and world-leading innovations.
4. To create a supportive policy, legal and regulatory framework that is robustly enforced across existing and emerging players in the payments ecosystem.

The Strategic Objectives will also provide the basis for monitoring implementation of the Strategy initiatives and the corresponding activities, and articulate concrete ways in which this Strategy is complementing the wider Government digital transformation agenda (**Box 1.1**).

The Strategy was developed in a consultative process, drawing on discussions with a wide range of stakeholders such as PSPs, banks, Savings and Credit and Cooperative Organisations (SACCOs), fintechs and business organisations (**Box 2.1**). Based on this engagement, CBK obtained extensive feedback that was useful in the design of the initiatives to be implemented (**Section 5**), ensuring alignment to relevant international standards and global best practices (**Box 3.4**) and identifying the overall approach to review the NPS legal and regulatory framework to make it fit for purpose and fit for future (**Section 6**).

Box 1.1: Payments Strategy Alignment with Wider Government Initiatives

Payments are simply means that facilitate economic activities among individuals, households and businesses. To this end, the Strategy is designed to enable payments to support wider Government initiatives aimed at integrating digital technologies in the economy and boosting attainment of our long-term development aspirations. These include the *Vision 2030* and the third *Medium Term Plan (2018 - 2022)*, the *Big Four Agenda*, the *Digital Economy Blueprint*, and the envisaged *Digital Finance Policy Framework* that is being developed by the National Treasury and Planning. Further, the Strategy seeks to build on CBK interventions in facilitating mobile payments during the COVID-19 pandemic (**Box 3.3**). These include the mid- to long-term initiatives that support the 8-Point Economic Stimulus Programme announced by the President in May 2020, and the Post COVID-19 *Economic Recovery Strategy* outlined in the 2020/2021 *National Budget Statement* presented in June 2020 and the 2020 Budget Review and Outlook Paper presented in September 2020.

Vision 2030, Medium-Term Plan III and Post COVID-19 recovery strategies

Kenya's *Vision 2030* is the long-term development blueprint which aims to transform Kenya into a newly industrialised country and provide high quality of life to all citizens by the year 2030. The third *Medium Term Plan* and the *Big Four Agenda* (food security, affordable housing, manufacturing and affordable healthcare for all) were being implemented to accelerate the achievement of Kenya's *Vision 2030* aspirations. However, following the outbreak of the COVID-19 pandemic, the Government announced an 8-Point *Economic Stimulus Programme* and a Post COVID-19 *Economic Recovery Strategy* aimed at protecting vulnerable Kenyans and sectors in the short-term, and also stimulating economic activity in the mid to long-term. The focus of the Post COVID-19 *Economic Recovery Strategy* includes investment in ICT and digital infrastructure to support the use of digital

platforms, facilitate e-commerce and efficient delivery of public services. This Strategy seeks to build on gains made through CBK measures that were announced in March 2020 to increase the use of mobile money and digital payments. These will focus on enhancing digital infrastructure and increasing access to affordable payment services, anchored on the Pricing Principles announced by CBK in December 2020.

Digital Economy Blueprint and Strategy

The *Digital Economy Blueprint (DEB)* was formulated by the Ministry of ICT, Innovation and Youth Affairs (MoICTIYA) in collaboration with relevant private and public sector stakeholders. It was launched by H.E. President Uhuru Kenyatta in Kigali, Rwanda in May 2019. Its vision is "a digitally empowered citizenry, living in a digitally enabled society." The DEB defines the 'Digital Economy' as "the entirety of sectors that operate using digitally-enabled communications and networks leveraging on internet, mobile and other technologies." It will be delivered through five pillars, namely: Digital Government; Digital Business; Infrastructure; Innovation-Driven Entrepreneurship, Digital Skills and Values. MoICTIYA is finalising the *Digital Economy Strategy for Kenya (DESK)*. The Strategy will support the DEB and DESK through enhancing efficiency and increased use of digital and mobile payments. This will also positively impact on other pillars such as Digital Government and Digital Infrastructure and Innovation.

Digital Finance Policy

The National Treasury and Planning is in the process of finalising a *Digital Finance Policy* for Kenya. The objective of this policy framework is to strengthen Kenya's digital finance infrastructure and framework. The Strategy will support the Digital Finance Policy through deployment of a robust, secure, efficient and effective payment system.

2 Introduction

The National Payments Strategy 2022 - 2025 sets out the vision and Strategic Initiatives for the payments ecosystem in Kenya for the next four years. The Strategy is anchored on five core principles and four Strategic Objectives that will guide the implementation process. The vision and the accompanying Strategic Initiatives will be the foundation for the development of Kenya's payments ecosystem and industry. The Strategy is motivated by a desire to meet the diverse needs of the Kenyan people and its economy, and support our nation's ambition for a digital, inclusive and 24/7 economy. The Strategy will also be the basis for consolidating and extending Kenya's global leadership in digital payments and innovation. Finally, the Strategy will provide the overarching policy framework that will guide the work to strengthen the NPS legal and regulatory framework.

The Central Bank of Kenya (CBK) has developed this Strategy in line with the mandate of formulating and implementing policies that best promote the establishment, regulation and supervision of efficient and effective payment, clearing and settlement systems, anchored on CBK's establishment in the Constitution of Kenya, 2010.

Central banks have always been about money – how money is created, how money is held, how money is exchanged and how money or monetary value is moved. In turn, these roles accord particular core functions to any central bank – monetary policy, bank supervision, foreign exchange and payments oversight. Payments, therefore, has been an integral feature of how CBK has operated since its inception in 1966. This Strategy carries on from that tradition and heritage of supporting Kenya's quest for sustainable development of her people. The Strategy also projects the role of CBK in accelerating the digitalisation of financial services while enhancing the safety, security, stability and relevance of payment systems. As a testament to this, CBK successfully completed a major upgrade of the KEPSS platform in June 2020, giving it unparalleled capabilities (**Box 4.1**). Along these lines of renewing the performance and stability of Kenya's payments rails, this Strategy will also provide

a basis to accelerate current initiatives which are being implemented such as the review of KEPSS rules and procedures, adoption of key standards such as ISO20022 across the payment sector, completion of various NPS guidelines and enhancement of reporting and compliance by Payments Service Providers (PSPs).

These improvements are in keeping with the rapid change witnessed in Kenya's economy in general and in financial inclusion in particular. In 2003, only two in every 10 adults had access to prudentially regulated financial services. Today, that number has risen to more than 8 in every 10 Kenyans, providing a majority of Kenyans with a means of not just holding monetary value, but a safe way of transmitting it, i.e., making payments.

CBK is cognisant that this strong performance should not make Kenya complacent. Kenya's payments journey is still an incomplete story; and it is impacted by multiple forces. The structure of the economy is changing, as is the country's demographics. A service-oriented economy, underpinned by *Vision 2030* and *Big Four Agenda*, will require faster, affordable and secure payment systems. Similarly, an increasingly younger population, means that payments solutions need to present versatile

choices that meet changing customer preferences. Responding to current and future COVID-19 impact requires resilience and customer-centric services.

As a payments regulator, CBK will continue to engage players in the payments ecosystem to ensure full alignment to our priorities on embedding a better culture of compliance and customer centricity. This needs to span the whole spectrum of the payments journey such as product simplicity, pricing, resolution of customer complaints, governance and risk mitigation. Further, CBK will put particular emphasis on ensuring that a culture of compliance cuts across all aspects of payments services, anchored on a strengthened regulatory framework and enhanced oversight. Ensuring that these outcomes are felt by customers is key for payment systems to support the Kenya's inclusive growth agenda.

Grappling with COVID-19 and associated uncertainties presents its own challenges, but opportunities as well. The pandemic has produced significant adverse effects on businesses, economies and livelihoods. Payment systems, however, were rapidly deployed to help support businesses and customers cope with pandemic related shocks. In this context, the CBK undertook a number of measures to help the country mitigate the effects of COVID-19. Soon after the first case of COVID-19 was confirmed in Kenya, CBK moved swiftly to implement emergency measures to enhance the use of mobile and digital payments (**Box 3.3**). In addition, various cash transfer and emergency related payments by the Government and other organisations have leveraged on the mobile money payment system to support businesses and the public. The payment system that

Kenya had built over the last decade became an asset that the nation deployed in its time of need.

In developing this Strategy, the CBK undertook an all-inclusive and consultative process (**Box 2.1** and **Annex 1**). A number of stakeholder engagement activities were conducted. These include: industry engagement through an extensive survey that was used to obtain feedback across a range of payments stakeholders; a detailed market analysis that was used to drill down into the current state of the payments sector; and focus group discussions that were used to gauge the understanding and perceptions of the payments sector.

CBK consulted with various groups, these include: PSPs, commercial banks, switches, microfinance banks, e-money issuers, mobile network operators, deposit-taking SACCOs, international money transfer providers, payments aggregators and international card schemes; various industry, business and customer associations and bodies; various government ministries, departments and agencies; payments industry and systems experts; customer groups; various merchants; and financial technology (fintech) firms.

Finally, work also included a review of various payments strategies from other countries in order to benchmark with other jurisdictions. Internally within the CBK, the Strategy drew input from various Departments, namely: Banking and Payment Services; Bank Supervision; Financial Markets; Currency Operations; Strategic Management; Finance; Internal Audit and Risk; Research; and Legal Division, Governors' Office.

Box 2.1: Process and Stakeholders Involved in the Strategy Development

The National Payments Strategy 2022 - 2025 has been developed in a collaborative and consultative basis, drawing on participation from various stakeholders throughout the payments industry. In particular, feedback was sought and obtained from key industry players such as payment service providers, banks and money remittance providers, Kenya Bankers Association, SACCOs, fintechs, payment processors and aggregators, retailers and merchants, Government Ministries, Departments and Agencies (MDAs), the World Bank and FSD Kenya. The key elements of the design and consultative process included the following:

Technical design

The technical work was undertaken by CBK through an Inter-Departmental Project Team comprising the following Departments: Banking and Payments, Legal, Bank Supervision, Financial Markets, Currency Operations and Research. To ensure that the Strategy was developed on a comprehensive basis, it covered a wide scope which included review of the previous NPS framework, undertaking a diagnostic of the current domestic payments sector, review of emerging payments regionally and globally, investigating factors that underpin payments market trends, identifying key challenges and gaps to be addressed, reviewing relevant global standards, and identifying best practices in other countries that Kenya can learn from.

Research activities

To augment the technical design and incorporate feedback and input from the payments industry and stakeholders, a market survey (using a structured questionnaire) was undertaken to obtain views from various stakeholders (Annex 1) for summary findings. This also included drawing on data and findings from the FinAccess surveys. The response rate from the survey was 71 percent and it included feedback from 35 commercial banks, 11 microfinance banks, 3 mobile money providers, 8 fintechs, 9 Government Ministries Departments

and Agencies (MDAs), 14 money transfer operators, 3 deposit taking SACCOs, 2 citizen associations and 3 industry associations. The questionnaire enabled feedback on a number of areas, mainly:

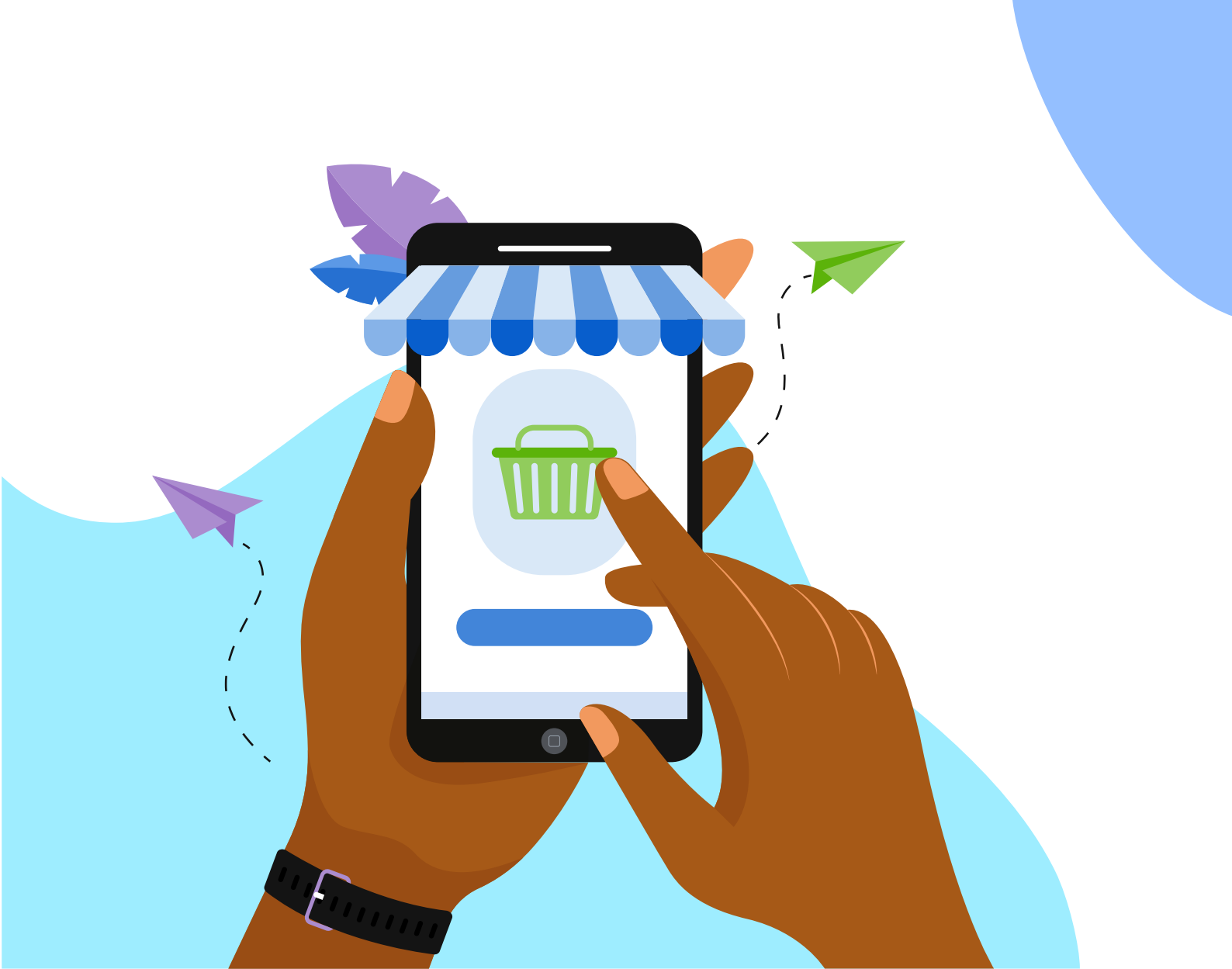
- Degree to which the current payment system meets the needs of its users and citizens
- Challenges faced in areas such as fraud, cyberthreats and access, including affordability
- Priority areas for realising the Strategy, with a focus on policy, regulation and security
- Key future drivers of a payment system such as interoperability, digital identity, cyber security, smartphones, e-commerce, customer centricity, regulation, security, infrastructure, innovation, competition and standards

Industry engagement

In order to further interrogate the technical design and survey findings, CBK also directly engaged industry players and payment participants. This included a stakeholder workshop, a market analysis workshop and additional focus group discussions (**Annex 1**). The direct industry engagement was also used to test the applicability of the findings from the surveys, findings from the global best practice review, and agree on the challenges, priorities and casting of the overall payments vision for Kenya.

Global scan and best practice review

CBK also partnered with FSD Kenya (and its research partner, Bankable Frontiers Associations Global) to undertake a global scan to review payment vision and strategy documents from other countries (**Annex 2**). The aim was to learn relevant lessons that could be adopted in Kenya. The countries reviewed include South Africa, India, United Kingdom, Canada, Singapore and Nigeria. Key lessons were drawn in terms of how to design and pitch a Vision Statement, the scope of forward-looking payments strategies, and the importance of underpinning a payments vision with core principles and alignment to relevant international standards.



| 3 Domestic and Global Context

3.1 National Payments System

The National Payments System (NPS) are the rails through which individuals, businesses, corporates and government institutions transfer monetary value to facilitate economic and business transactions. The NPS comprises various participants who interact on the basis of business arrangements and procedures through payments infrastructure that enables issuance of payments instructions, clearing and settlement. The NPS therefore forms an integral part of the country's monetary, financial and economic system, making it crucial for realisation of the Government's economic and long-term development agenda.

The NPS is made up of instruments and participants whose interaction is governed by various rules and procedures (**Figure 3.1**). The foundation for these rules is the NPS Act of 2011, and the NPS Regulation of 2014.

Some payment streams have their own rules such as the rules and procedures for the Kenya Electronic Payment and Settlement System (KEPSS). Similarly, the Nairobi Automated Clearing House (NACH), which is responsible for the clearing of cheques and Electronic Fund Transfers (EFTs), has standards that govern how its members operate and interact with each other.

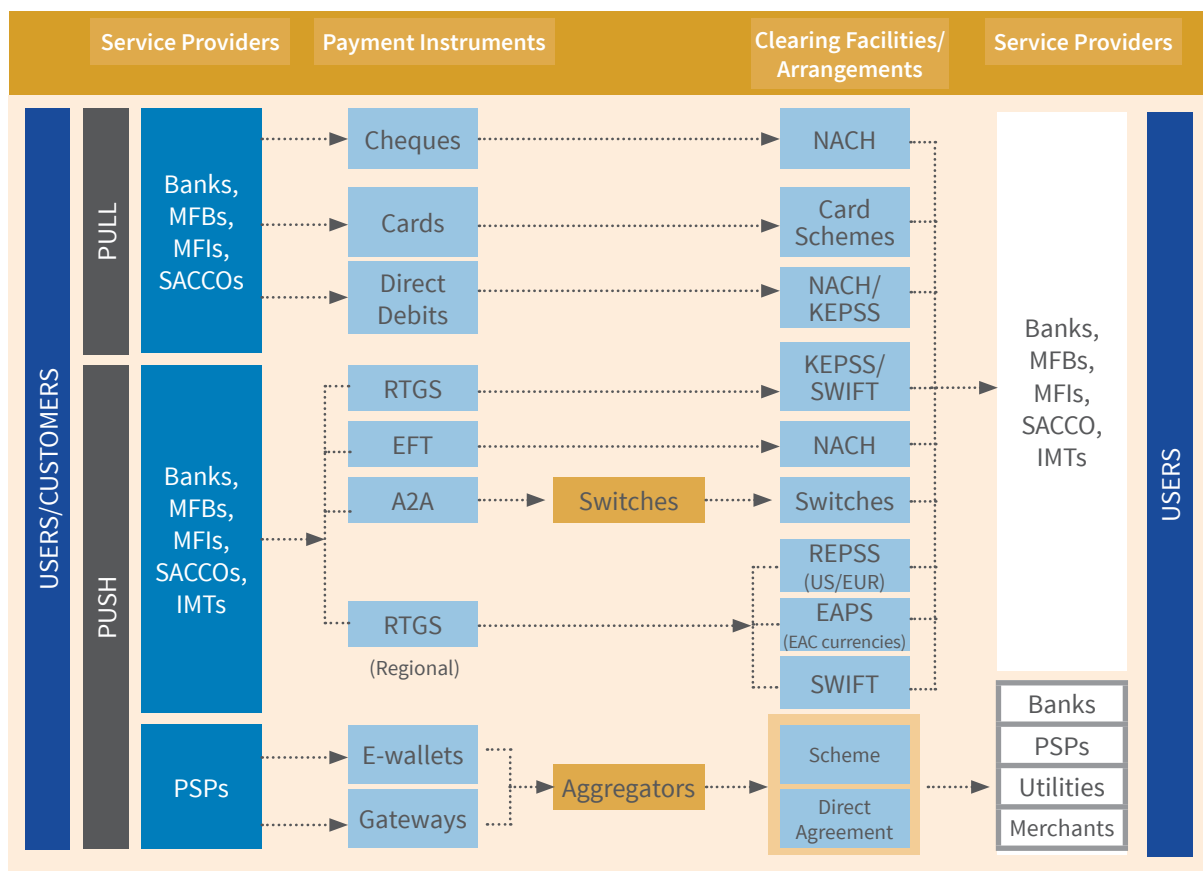
3.2 Regulatory Framework

Kenya’s payments legal and regulatory framework consists of key elements that are designed with a specific purpose. The CBK Act specifies CBK’s overall payments mandate. The NPS Act of 2011 sets out the

specific supervisory and oversight framework while the NPS Regulation, 2014 provides further details to operationalise the Act. There are a number of guidelines such as cybersecurity and authorisation of PSPs to provide specific guidance on these areas. Key features of the payments regulatory framework include:

- Establishment of the CBK supervisory and enforcement powers
- Setting out the criteria of designating payment systems and instruments
- Setting out PSP authorisation process and requirements

Figure 3.1: The National Payments Landscape



Note: A push payment is originated by the payer while a pull payment is originated by the payee.

- Specifying participants who are permitted to operate in the KEPSS and the applicable rules
- Setting out the operating requirements for PSPs, such as on governance and trust fund management
- Outlining the process of introducing new payment products into the market and making changes on existing products

Since the enactment of the NPS Act, 2011, the CBK has published a number of guidelines such as the guideline for authorisation of PSPs that was issued in June 2014, and the guideline on cybersecurity for PSPs that was issued in July 2019. At an industry level, payment participants have standards and scheme rules which are concerned with the method of transmitting payment information and requirements on participating PSPs to ensure appropriate management of risks. The standards, procedures and rules form an integral part of the framework that ensures efficient and secure transmission of payment information as well as clearing and settlement.

3.3 Payments Participants

- **Central Bank of Kenya:** CBK relates with the NPS at three levels: primarily as a regulator, but also instances where CBK acts as an operator and participant. As a regulator, it draws its mandate from Section 4A(1)(d) of the CBK Act, which is the foundational statute that anchors various CBK regulatory, supervisory and enforcement mandates. Within the CBK Act, the regulator is charged with the responsibility of formulating and implementing policies which best promote the establishment, regulation and supervision of efficient, effective payment, clearing and settlement systems. As an operator, CBK also owns and operates the KEPSS through which the Regional Payments and Settlement System (REPSS) take place. CBK also houses the Nairobi Automated Clearing House (NACH) for cheque clearance and Electronic Funds Transfers (EFTs). As a participant, CBK also owns accounts at KEPSS for conducting its own payment operations with banks and other government institutions.
- **Settlement participants:** Institutions that discharge payment obligations between two parties. These include both domestic settlement (i.e. KEPSS) mainly banks, and cross border settlement, that is, East African Payment Systems (EAPS) for East African Community payments, Regional Payment Settlement System (REPSS) for COMESA payments and SWIFT for other international payments.
- **Clearing participants:** Comprises bank and non-bank institutions that exchange payment instructions between PSPs. They include the NACH, switches and aggregators, international card schemes and PSPs.
- **PSPs:** Includes mobile money providers, payment switches and international money remittance providers.
- **Industry associations:** These are bodies who bring together members to articulate issues of common interest, promote best practices and advocacy.
- **Domestic and international switches** There are a number of payment switches for switching ATM and card payments.

■ **End users:** These are individual customers and institutions such as Government bodies, businesses and corporates who utilise the payments infrastructure and channels to make and receive payments. As the ultimate

beneficiary of any payments system, this Strategy is aimed at ensuring that the needs of users are satisfactorily met (customer-centric approach).

3.4 Payment Instruments

Table 3.1: Payment Instruments in Kenya

Instrument	Entity	Channels	Description
Coin and Paper Based Instruments			
Cash	<ul style="list-style-type: none"> Banks MFBs MPSPs SACCOs MFI IMTs 	<ul style="list-style-type: none"> Bank branches ATMs Agents 	Cash is composed of notes and coins issued by the CBK
Cheques	<ul style="list-style-type: none"> Banks MFBs SACCOs 	<ul style="list-style-type: none"> Bank branches ATMs 	Clearing of cheques is done electronically at the NACH, on a T+1 basis. The maximum payment value per transaction for local currency cheques is Ksh. 999,999
Electronic Instruments			
Cards	<ul style="list-style-type: none"> Banks SACCOs IMTs 	<ul style="list-style-type: none"> ATMs POS devices Online 	Debit, credit or prepaid cards are primarily used for making purchases of goods and services, and for withdrawing cash at ATMs
E-money	<ul style="list-style-type: none"> Mobile money providers 	<ul style="list-style-type: none"> Mobile money agents Mobile banking SIM toolkit Mobile Apps USSD 	The main issuers of mobile money are mobile PSPs The maximum payment value per mobile money transaction is Ksh. 150,000, with a daily maximum transaction value of Ksh. 300,000

<p>Account to Account (A2A)</p>	<ul style="list-style-type: none"> • Banks • SACCOs 	<ul style="list-style-type: none"> • Bank branches • Internet • Mobile phones • RTGS 	<p>A2A is made up of a number of instruments:</p> <ul style="list-style-type: none"> • EFTs (push payment) that are cleared through NACH. They are restricted to a maximum payment value of Ksh. 999,999 • Wire transfer (domestic or cross-border) used for large value transactions (Ksh. 1 million and above). These push transactions are settled on a real-time basis through KEPSS. The system also settles time critical payments below the Ksh. 1 million • Cross border SWIFT transactions include telegraphic transfers, EAPS for EAC payments, and REPSS for COMESA payments • Bank P2P (push payment) initiated by the payer. The maximum payment value per transaction is Ksh. 999,999 • Intra-bank (push payment) transactions occurring from one account to another account within the same institution • Standing orders (push payment) regular payments. Executed using either EFT or RTGS payments • Direct debits (pull payment) executed using either EFT or RTGS payments
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3.5 National Payments Framework and Strategy, 2004 - 2008

The first NPS Framework and Strategy was developed in 2004. Its main objective was to modernise the payments system and provide basis for reforming the legal framework that followed through the development of the NPS Act that was enacted in 2011. At the time, the payments system suffered the following challenges:

- High credit, liquidity and operational risks associated with the payments system mainly due to lack of a real-time settlement system.
- Preference of cash and lack of trust on cheque payments due to dishonoured cheques and fraud.

- Limited sharing of information due to lack of interoperability and coordination across the payments infrastructure.
- Lack of coordinated public awareness among the payment system stakeholders.
- Inadequate regulatory framework to support modern payment systems.

Implementation of the first Payments Strategy provided a number of important lessons which will be incorporated in implementing the current Strategy. These include the need to maintain engagement with key stakeholders and ensuring that reforms are anchored on a firm legal and regulatory framework.

Table 3.2: Status of Strategic Initiatives Under the 2004-2008 Strategy

Overarching goals	Initiatives / projects	Status
Systemic risk reduction	Introduction of an on-line settlement system for banks to effect interbank funds transfer in real-time	Completed: RTGS system (KEPSS) went live on July 29, 2005
	Implementation of risk-reduction measures in inter-bank and multilateral netting schemes	Completed: Capped domestic cheques to Ksh. 999,999, and foreign currency to USD35,000, £15,000 and €30,000 in 2009
	Introduction of cheque truncation	Completed: Launched in August 2011
	Introduction of same day settlement	Completed: Files received during operating hours in KEPSS are settled on the same day since 2012
	Collateral requirement and related management processes	Completed: The Master Repurchase Agreement and Intra-day liquidity facility agreement were developed in 2006
	Payment oversight	Completed: National Payments Act was enacted in 2011 and operationalised in 2014, together with the NPS Regulations
Legal and regulatory framework	Review of the statutory powers of CBK regarding payments systems	Completed: The review was completed in 2003/2004, and the Act amended to give CBK oversight over the NPS
	Adaptation of the legal framework to ensure legal enforceability of payment service agreements and legal certainty in respect of industry practices	Completed: The NPS Bill 2010 was enacted in 2011, and operationalised in 2014
Interface between trading system and the payment system	Review of financial market practices from an NPS perspective	Completed: The settlement in financial markets take place in one day through KEPSS, since 2012
	Encouragement of electronic trading and payment mechanisms in the trading systems	Partially completed: The Delivery-versus-Payment (DvP) and Payment-versus-Payment (PvP) principles have not been fully adopted
	Introduction of mechanism to relay information associated with a payment to the beneficiary	Deferred: This has not been achieved across all the banks
	Review of cross border/ foreign currency market practices from an NPS perspective	Partially completed: EAPS and REPSS have been launched but need to increase uptake. Also, a domestic foreign currency cheque (DFCC) clearing house (CH) was developed. However, an integrated mechanism for cross border retail payments for the two regions of EAC and COMESA is still not in place

Payment practices	Introduction of a regulatory framework for PSPs	Completed: Achieved through NPS Act, 2011, and NPS Regulations 2014
	Creating public awareness	Completed: CBK participated in a number of public awareness activities
Management of the NPS	Establishment of a Kenya NPS forum	Completed: Implemented through CBK's engagement with industry players
	Establishment of NPS standards	Completed: Implemented through issuance of various guidelines and circulars

Box 3.1: Summary of the 2021 FinAccess Household Survey

Like most countries around the world, Kenya has been conducting national financial access (FinAccess) surveys to study and track the adoption of financial services across different segments of its population. In Kenya, the first FinAccess survey was released in 2006 and since then the surveys have been carried out every two to three years. The latest FinAccess survey report, the sixth edition was, released in December 2021. These FinAccess surveys have, been carried out in collaboration with the Kenya National Bureau of Statistics (KNBS), FSD Kenya, with the participation of other private sector and international partners such as the Alliance for Financial Inclusion (AFI).

The 2021 FinAccess Survey was unique in several respects. First, the Survey provides much better disaggregation of financial inclusion levels at County level (Kenya's 47 devolved units). Second, the Survey was carried out during the COVID-19 pandemic, presenting unique challenges, but also providing useful data that will be useful in supporting close examination of the pandemic impact from a financial inclusion perspective. Third, the Survey report has been accompanied with data visualization tools that will enable quicker and versatile viewing and interaction with the Survey results. Finally, the 2021 Survey provides in-depth trends of how financial inclusion in Kenya has evolved over the four key dimensions of access, usage, quality and impact.

In terms of access, formal financial access in Kenya has increased significantly, from 26.7 percent in 2006 to 83.7 percent in 2021. For the first time,

the FinAccess survey recorded a slight increase in financial exclusion (from 11.0 percent in 2019 to 11.6 percent in 2021) illustrating some of the adverse economic impacts brought about by the COVID-19 pandemic. Usage of financial services continues to be a much more vibrant area, in keeping with continued innovation in the industry, and supportive regulatory environment. For example, proportion of adult Kenyans using a combination of two or more financial services has quadrupled from 18.8 percent in 2006 to 75.3 percent in 2021. Similar to previous surveys, in 2021, usage of mobile money has shown the single largest share at 81.4 percent. Mobile money channels continue to support a wide range of transactions in Kenya, including sending and receiving money, paying for daily expenses, medical bills, and so on. However, there is still room for improvement in terms of how Kenyans use cash and non-cash instruments. For example, the usage of mobile money and cash for receiving and sending money within Kenya was the same, both at 43.4 percent and 42.3 percent, respectively.

While access and usage of financial services has recorded considerable growth over the years, more focus is needed in terms of improving the quality and impact of financial inclusion. Financial literacy and consumer protection concerns still remain. There is also need to enhance the degree to which financial access contributes to real welfare of households and individuals. Implementation of various measures as outlined in this Strategy will provide complementary support in ensuring that payments fosters people-centered and customer-centric services.

3.6 Recent Developments on the Global Payments Landscape

The global payments landscape has evolved rapidly over the last few years. In its 2020 annual report, the Bank for International Settlements (BIS) noted that digital innovations are radically changing payments systems globally, and that central banks can play a pivotal role in influencing that change.¹ These developments have been driven by multiple factors, with payments providers introducing new forms of payments, entry of non-traditional institutions into the payments space and shifting customer preferences. More recently, the impact of the COVID-19 pandemic has also significantly accelerated these trends. Overall, the drivers underpinning these shifts, particularly the most recent changes in terms of digital money, include both demand and supply side factors.

On the supply side, providers of payment services have changed remarkably, particularly with the entry of new and non-traditional payments providers such as fintech firms and more recently, large technology companies (referred to as “bigtechs”).² In 2019, the Financial Stability Board (FSB) noted that bigtech firms have not only expanded their operations in payments and other types of financial services, but their market share is increasing at a fast pace.³ While the patterns are not uniform globally, the role of bigtech has expanded significantly in East Africa, Latin America and Asia in particular. In countries like China for example, non-bank mobile payments between 2015 and 2019 grew at a compound rate of 75 percent.⁴ Overall, the World Payments Report 2020 noted that about 30 per cent of customers are already using payment services offered through bigtechs, based on a survey that was conducted across 21 countries.⁵

Finally, recent developments in terms of providers have witnessed the rise and evolution of various forms of payments instruments based on distributed ledger and blockchain technology (discussed further below), and integration of social media tools (due to involvement of bigtech firms) into financial services such as use of WhatsApp messaging service in payments as is happening in countries like Brazil and India.

On the demand side, customers globally have shifted their preferences and expectations in terms of speed, cost and security of payment services. Customers are now expecting payments that are fast (in fact, instant), secure, affordable, versatile or adaptable to changing needs. Each of these customer preferences have driven the evolution of payments services in different dimensions as well. For example, due to privacy, security has now come to embody features such as safety in terms of integrity of the payment rails, and more lately, need to safeguard data privacy and confidentiality. Similarly, countries across the globe have in the last few years launched real-time payment (RTP) initiatives due to customer push for instant payments. Most developments on the global payments landscape have therefore been targeted at addressing these customer preferences.

To underpin these global changes, two forces have played a self-reinforcing role. One is regulation, and the second is the recent impact of COVID-19. On the regulatory side, policymakers and central banks have in the last few years called for payments and financial service providers to increase focus on stability and resilience of payment services, partly underpinned by global efforts to improve global financial architecture following the 2007/2008 crisis, and more recently, intensification of particular risks such as AML/ CFT, cyber-security and privacy. The

onset of the COVID-19 pandemic in late 2019, resulted in rapid adoption of digital payments, and acceleration of global trends that had been witnessed earlier. For example, according to a report by Visa, 78 percent of customers and small businesses surveyed in eight countries changed the way they do payments during the COVID-19 pandemic.⁶ The ability to offer instant and digital payments which was seen as an optional competitive advantage pre-pandemic become a near-

necessity during the pandemic. The pandemic also drove the search for new payments options, with the World Payments Report 2020 noting that as of April 2020, more than 38 percent of customers surveyed across 21 countries discovered a new payments provider when countries were in lockdown, and were considering switching to the new provider.⁷ These regulatory and COVID-driven changes will continue to drive shifts in payments trends across regions **(Table 3.3)**.

Table 3.3: Changes at the Global Payments Landscape

Supply side and technology	Shifting customer preferences	Regulatory guidance
<ul style="list-style-type: none"> Increased role of bigtech in payments and financial services 	<ul style="list-style-type: none"> Demand for end-to-end fully digital solutions that are seamlessly interoperable 	<ul style="list-style-type: none"> Push for digital payments due to COVID-19 impact and need for payments resilience
<ul style="list-style-type: none"> Increased use of digital identity to drive down costs and comply with KYC requirements 	<ul style="list-style-type: none"> Payments channels and ‘Smart’ Apps to enhance user experience and seamlessly meet customer needs 	<ul style="list-style-type: none"> Call for heightened vigilance to detect and contain fraud, cyberattacks; adoption of best practice standards
<ul style="list-style-type: none"> Artificial intelligence and data-centric service delivery 	<ul style="list-style-type: none"> Customers expect payments as a service (PaaS), instant payments and embedded finance 	<ul style="list-style-type: none"> Push for faster, more transparent and speedier cross-border payments
<ul style="list-style-type: none"> Cryptocurrencies, DLT, blockchain integration to retail and cross-border payments 	<ul style="list-style-type: none"> Mixed views on privacy and data sharing; younger customers willing to share data if this delivers value 	<ul style="list-style-type: none"> Growing concerns on power of bigtech, market power, data governance and systemic risks

Distributed ledger, blockchain and emergence of cryptocurrencies

The adoption of distributed ledger technology (DLT) and blockchain technology in financial services has been one of the most significant developments in payments, a trend that is set to continue in the coming years. As a form of advanced cryptography and decentralised ledger system, DLT operates on the premise of having no central authority to manage and authenticate transactions. This role is instead managed and validated in separate records (or “blocks”) based on consensus among the participants. As the Committee for Payments and Markets Infrastructures (CPMI) observed back in 2015, the use of blockchain technology in Bitcoin that was launched in 2009 has since paved the way to a wide range to cryptocurrencies currently existing.

The underlying blockchain technology has been applied in a number of areas in the field of payments, most notably, the emergence and subsequent proliferation of various forms of cryptocurrencies, cryptoassets, decentralised finance and stablecoins (discussed further below).

While there has been significant rise in the types of cryptocurrencies, the primary features remain broadly the same. This includes the use of distributed ledgers (or records) as the basis for transacting and validating transactions, without reference to any single, central authority. As the diagram below illustrates, unlike traditional notes and coins or their electronic version that can be held in central bank money or electronic money (e-money such as M-Pesa), cryptocurrencies are not backed by any institution, and is therefore not anyone’s liability, meaning that there is no single

body that provides assurance and guarantee of the currency’s value and exchangeability.

Evolution from Bitcoin, altcoins to stablecoins

For the last 20 years, DLT and blockchain technology have inspired the emergence of various types of cryptocurrencies. Blockchain technology first emerged as a form of connecting different ledgers without any central authority as is typically the case with traditional forms of maintaining and managing transactional information. The use of such decentralised systems that heralded the development of Bitcoin has since provided impetus and inspiration for a wide range of cryptocurrencies that have since emerged. The “money flower” depicted below provides a general taxonomy of understanding how underlying blockchain technology has been applied to payments instruments, and how these developments relate to more traditional forms of money (central bank fiat currency, or the electronic reserve accounts that banks typically maintain at the central bank).

To illustrate how active the crypto space has become over the last few years, as of 2018, it was estimated that there were more than 1500 cryptocurrencies globally. These varieties of cryptocurrencies and cryptoassets launched so far have been developed on the basis of attempting to offer distinctive features from each other. Similarly, other cryptocurrencies have been developed to offer contrasting features to their forerunners, thereby offering alternative design options; the alt-coins. Other cryptoassets have also been developed to offer asset-like features, such as promising a return to the holder (referred to as tokens).

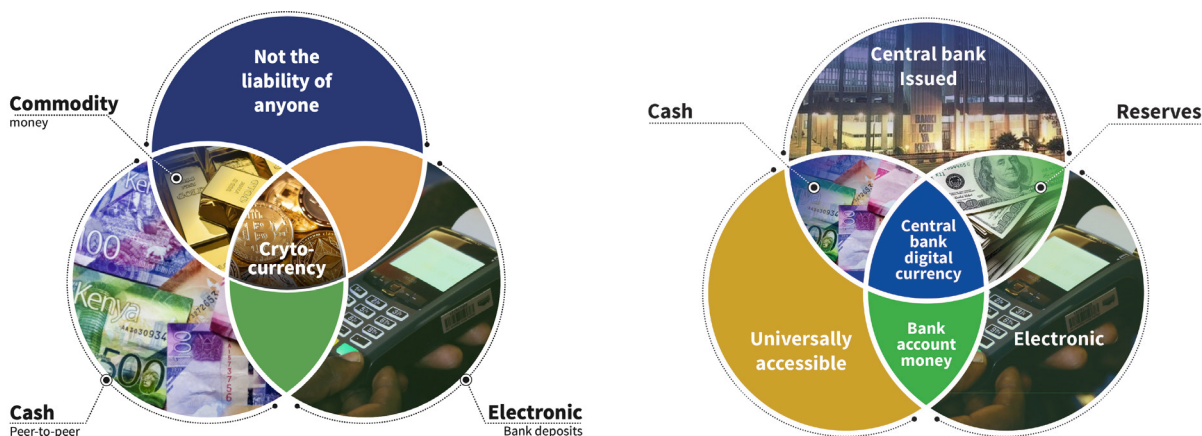
Still, other forms of cryptocurrencies, have been developed in order to be universally accessible members of the public (public cryptoassets), while others are used in a closed group (private cryptoassets). Based on this, there is no doubt that this evolution will continue in the coming years as issuers attempt to address changing needs and to leverage technological changes.

The most recent form of blockchain or DLT-driven application has been the emergence of Decentralised Finance, and more lately, emergence of stablecoins. Decentralised Finance (DeFi) are business models based on blockchain technology that facilitate peer-to-peer financial transactions through the use of smart contracts and without the use of central intermediaries such as brokers who typically facilitate transactions among several parties. According to the World Economic Forum, applications and assets mobilised using DeFi models have risen rapidly over the last few

years, driven partly by the launch of Ethereum that is used as the foundation for smart contracts.

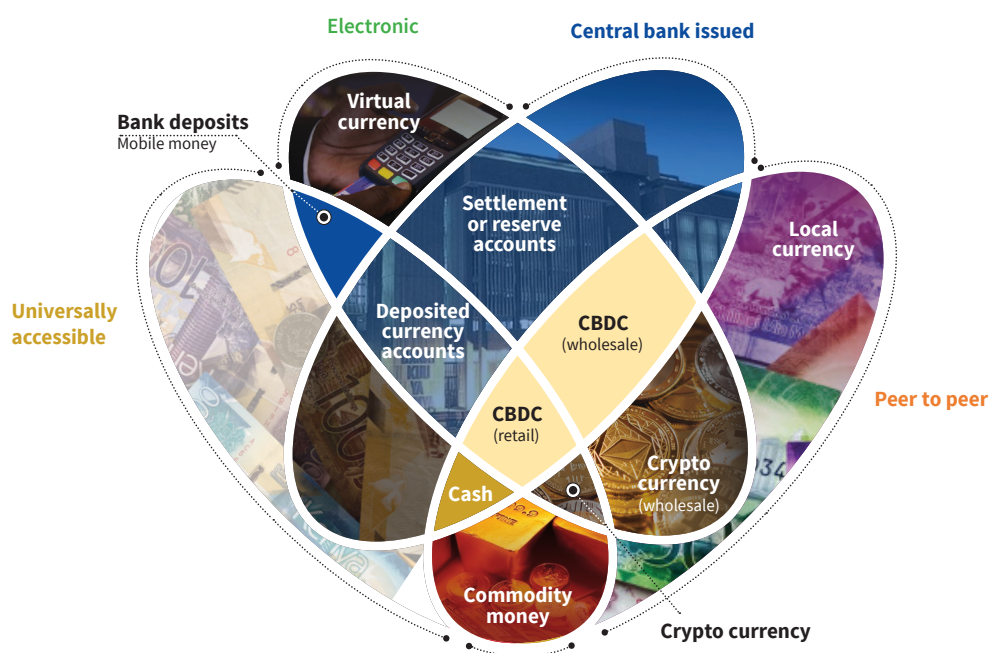
The recent emergence of stablecoins, on the other hand, sought to address the volatility concerns of cryptocurrencies, by pegging their design and value on underlying traditional fiat currencies. The most prominent stablecoin project was the Libra that was launched, in 2019, by Facebook and other organisations under the auspices of the Libra Association. In December 2020, the Libra coin was renamed Diem, and its sponsor body to Diem Association and the ambitions scaled back. In addition to stablecoins such as Diem that have been targeted to users across the globe, other ‘closed loop’ stablecoins have also been launched by single institutions on a solo basis (e.g., JPM Coin that is issued by JP Morgan for use amongst its clients).

Diagram 3.1: Taxonomy on New Forms of Digital Money



Source: Adopted from BIS, 2017

Diagram 3.2: Taxonomy on Various Types of Money



Source: Adopted from BIS, 2017

Even though DLT and blockchain has led to immense changes in the evolution of digital assets over the years, major risks and regulatory concerns remain. Regulators are assessing how to mitigate the inherent risks, and fine-tuning their toolkits in order to swiftly address vulnerabilities and risks of various cryptoassets when integrated in payment systems. Despite the attempts to position stablecoins as superior digital asset and the bid to help address public policy objectives such as financial inclusion and cross-border payments, regulators around the world continue to express concern around the unregulated nature of cryptocurrencies and assets, due to risks such as financial crime, data privacy and volatility that is not based on fundamentals. Some of these risks have already crystallised in a number of countries, hence the need for caution and continued regulatory vigilance.

Impact of DLT on domestic and cross-border payments

The primary premise for applying DLT and blockchain in payment systems has been based on its potential for impacting the speed and cost of payments, both in domestic payment systems, but more importantly, in cross-border and international payments. Cross-border payments have often operated with processes that take time for payments to seamlessly move across borders, often at high cost and with limited transparency. However, as noted in a 2019, BIS paper that offered a framework for assessing the applicability of DLT in payments systems, there are important features that would need to be considered before embracing DLT or blockchain powered domestic and cross-border payment schemes.

While there has been significant progress in terms of improving the cost and speed of cross-border

payments, more needs to be done in terms of improving the speed and affordability. In this regard, countries like Kenya that have developed robust payments ecosystems stand at a unique position. Due to the robust mobile payments ecosystem existing in the country, Kenya has witnessed significant developments in terms of facilitating cross-border payments and remittances, by creating an enabling framework for international money transfer (IMT) institutions. Increasingly, IMTs are also shifting operations from remittance source countries to recipient countries through partnerships with domestic payment service providers.

A specific application of advances in payments technology has been the recent emergence and debate on Central Bank Digital Currencies (CBDCs). As illustrated in **Box 3.2**, the interest in CBDCs stems from a range of diverse public policy needs, key among them financial inclusion, improving the efficiency of financial and payment processes, and cost. As a form of digital money that is issued by a central bank, CBDCs have the potential to offer cheaper means of payments, or where new payments innovations such as e-money are considered to be costly. Currently, a number of countries have launched CBDCs (**Box 3.2**). Additionally, several initiatives coordinated at regional or global levels are also being spearheaded by bodies such as the BIS.

These pilot projects at country and regional levels will be important in providing lessons for countries that are examining the potential benefits and risks associated with CBDCs. Examining the potential benefits, risks and mitigation will involve a number of considerations (**Box 3.2**). More importantly, the assessment and adoption of CBDCs also needs to be cognizant of a country's stage of development and maturity of its financial and payments ecosystem.

Sweden offers a good example. The use of cash has shrunk significantly over the last few decades. Cash as a proportion of GDP has fallen from 10 percent in 1950 to 1.5 percent in 2015. More recently, the proportion of people in Sweden using cash has fallen from 39 percent in 2010 to 9 percent in 2020, according to data published by Sweden's central bank.⁸ These outcomes have been achieved through the adoption of incremental interventions, without necessarily resorting to the use of disruptive technologies. On this basis, Kenya has a strong foundation to leverage from, particularly given the significant progress made in terms of financial inclusion and the widespread adoption of digital payments services.

3.7 Balancing Opportunities with Current and Future Risks

As the IMF observed in its July 2021 assessment of the rise of digital money, the benefits, risks and impact of new forms of money will vary across countries, depending on how each country approaches the issue. The impact will vary according to which type of digital money is adopted (public or private) and the form or design that it takes. Finally, as the BIS noted in its 2021 Annual Economic Report, the impact will also depend on the existing financial and payments architecture and infrastructure in each country. With this background, new technologies are being tested and applied in a number of areas such as:

- Blockchain and DLT-enabled payments to improve speed and costs of cross-border payments
- Digitizing trade finance and use of decentralized finance (DeFi) models
- Potential use of tokenised green bonds that can be used to raise funding for green energy initiatives

The emerging global learning and experience will be useful in guiding how countries can tap the potential benefits of blockchain and DLT, including the emergence of new forms of digital money. Kenya's experience in terms of the mobile and digital payments infrastructure provides a strong foundation for leveraging the opportunities presented by global developments.

Over the years, Kenya has developed a vibrant digital payments ecosystem, given the actions taken to focus on strengthening our payments rails. This approach not only enabled the country to attain significant levels of financial inclusion (83.7 percent in 2021), but also enabled the integration of digital payments platforms across all sectors of the economy, thereby providing a robust system that enabled the country to provide much needed relief and resilience during the COVID-19 pandemic. The overall architecture is still growing as CBK continues to strengthen elements such as interoperability, customer protection and cyber-resilience.

As countries consider the benefits presented by new technologies, it will be imperative to also consider, and mitigate, the current and future risks. Some of these include:

- High volatility of cryptocurrencies, making them prone to speculation. As a form of money, this means they cannot offer a stable store of value and therefore act as a medium for exchange
- Privately issued cryptocurrencies or assets whose issuers choose to remain anonymous may be used for ML/TF flows or facilitating payments for financial crime
- Data privacy and confidentiality risks, particularly in the case of cyber-attacks that result in data breaches or data leaks of confidential information
- Security and stability concerns as privately-managed and technology-dependent systems may not have robust defenses, which can result to attacks that cripple critical infrastructure
- Privately issued cryptocurrencies or payment institutions can constrain competition, especially when these have a first mover advantage
- Loss of funds and customer protection risks, particularly in the case where institutions providing unregulated products object to being subject to appropriate domestic and cross-jurisdictional regulation

Due to these risks, regulators across the globe have taken a cautious approach towards adoption of cryptocurrencies. As early as 2018, bodies such as the IOSCO had noted the risks associated with issuance of cryptocurrencies to investors who do not have the level of sophistication required to understand the inherent risks.

More recently, regulators in several jurisdictions have issued cautionary statements or prohibitions to particular crypto trading platforms that are operating without the required regulatory oversight or disclosures. For example, in June and July 2021, regulators in the United Kingdom and Japan issued warnings against Binance, noting that the platform was not subject to the required regulatory oversight. This followed similar notices in Canada against similar crypto asset trading platforms. The UK's

Financial Conduct Authority and the U.S. Securities and Exchange Commission have also issued similar warnings regarding investment offers that are linked to crypto assets.

In examining the opportunities and risks presented by emerging technological changes such as blockchain and DLT, central banks will have wide range of resources and collaboration to draw from. For example, the IMF's Bali Fintech Agenda that was launched in 2018 included a set of 12 policy considerations that countries can utilise to assess the opportunities of financial technology, while at the same time safeguarding domestic monetary and financial stability, and the integrity of financial systems.

More recently, the global policymaking community led by bodies such as the AFI, IMF and BIS have launched

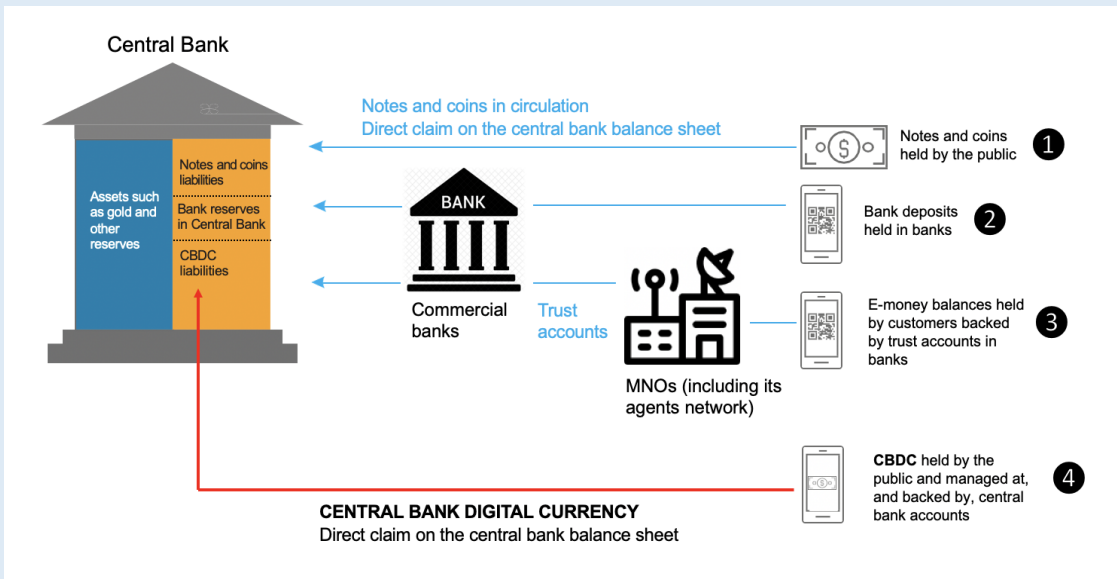
technical support programmes on which countries can draw on to foster mutual learning, collaboration, and global stability and convergence. Going forward, CBK will continue to provide a supportive regulatory framework as in the past, with an elevated focus on over-arching issues such as:

- Stability and security of the financial and payment systems, and in particular cyber-resilience
- Continuing to learn the lessons from COVID-19 measures in order to fine-tune future interventions
- Over-arching focus on protecting the population and business by fostering customer-centered payment services

Box 3.2: Central Bank Digital Currencies (CBDCs)

The next phase of Kenya’s payments journey will be impacted by both domestic and regional developments, but also emerging technological changes that are taking place globally. Rapid technological innovation is ushering in a new era of public and private digital money. The transition to digital payments has been accelerated by the proliferation and easy access to mobile devices, as well as the emergence of fintech firms that constantly innovate new products to run on these devices. New digital currencies that have emerged to facilitate payment transactions include: cryptocurrencies, stablecoins, and Central Bank Digital Currencies (CBDCs). Due to their rapidly evolving nature, there is not yet a universally accepted definition of CBDCs. Various institutions have defined CBDCs in a number of ways. In 2018, the Committee on Payments and Markets Infrastructure (CPMI) described a CBDC as “a digital form of central bank money that is different from balances in traditional reserve or settlement

accounts,” while the Bank of England (BoE) in 2020 defined it as “an electronic form of central bank money that could be used by households and businesses to make payments and store value.” More recently, the Bank for International Settlements (BIS) has defined CBDC as “a digital payment instrument, denominated in the national unit of account, that is a direct liability of the central bank,” while the IMF has defined it as “a digital representation of sovereign currency that is issued by a jurisdiction’s monetary authority and appears on the liability side of the monetary authority’s balance sheet.” In summary, we can broadly define a CBDC as a digital currency issued by the central bank directly to citizens to serve as legal tender. It is the same as a fiat currency and is exchangeable one-to-one with the fiat currency, only that it is in electronic form. To reap the full benefits and manage risks, policymakers are looking to step up. Central banks are exploring the possibility of rolling out CBDC solutions to meet their future payments needs as



Source: Adopted from BIS, 2021

economies accelerate their digital transformation initiatives and leverage the benefits of technological innovations. According to a 2021 survey of central banks by the Bank for International Settlements (BIS), 86 percent of central banks are actively researching the potential for CBDCs, 60 percent were experimenting with the technology and 14 percent were deploying pilot projects.

While these CBDC pilots are being assessed for very specific domestic or localized needs, overall, the policy objectives being sought by central bank revolve around a number of motivations, such as:

- ✓ **Financial inclusion** – to improve the level and quality of financial inclusion, even in cases where users have access to e-money, or where CBDC will not require previous account history
- ✓ **Speed** – particularly in retail and cross-border payments as transactions are debited and credited in central bank accounts in real time
- ✓ **Affordability** – CBDCs can be delivered at lower cost compared to other forms digital money as they can be issued on public good basis
- ✓ **Innovation** – where CBDC are issued in partnership with private sector (hybrid CBDC) and enable add-on services to be layered on CBDC wallets
- ✓ **Safety** – CBDC can permit a central bank to have immediate (real time) and direct line of sight of all transactions rather than rely on reporting by e-money issuers as is currently the case
- ✓ **Interoperability** – ability for holders of CBDCs to pay anyone anywhere with real time settlement in central bank accounts
- ✓ **Competition** – in regions with large payment players, CBDCs can bring about choice, therefore competition and de-risk concentration concerns

The extent of these benefits will depend on two primary consideration. First, is the CBDC design model that is chosen. Broadly, the main design options that have emerged thus far include: direct model where nearly all aspects of a CBDC are managed by a central bank; hybrid model where some functions are shared with third-party or private

sector institutions; and intermediated model where the central bank role is purely to process wholesale transactions. The choice on the model deemed most optimal for a country will be influenced by a variety of factors key of which are the stage of development of the financial system including the legal framework, policy need to be addressed by the CBDC and local technical capacity.

Second, is the current state of development of the domestic payments ecosystem and architecture will influence to a large extent how a country approaches CBDC design. Countries with more developed payment systems can leverage private sector capabilities by using intermediate or hybrid models. This allows the central bank to focus on providing the core infrastructure while private sector focuses on distribution and account management aspects of CBDCs. To help further this debate based on ongoing cross-country experience, the BIS has recently published a series of reports that touch on the lessons from how different countries and regions have implemented CBDC pilots thus far.

Overview of other countries CBDC projects

Different countries have been motivated by different reasons to research, pilot or launch CBDC, such as to enhance efficiency of payment systems, reduce risks in payment systems, access to financial services (financial inclusion) and enhance cross-border payments. This motivation is particularly important given that Kenya's assessment of CBDC must be focused on opportunities and risks specific to Kenya.

Several central banks have launched CBDCs, while others are at advanced stages of piloting or testing, both at a domestic and regional collaborative basis. For example, the Sand Dollar that was launched in October 2020 by the **Central Bank of Bahamas** to provide a digital alternative to tackle the problems of physical cash distribution over geographically dispersed rural island communities. The **Eastern Caribbean Central Bank (ECCB)** issued DCash in March 2021 as a pilot to banks and approved nonbank financial institutions on a

private permissioned blockchain network. Similar to the Sand Dollar, DCash aims to tackle difficulties in physical distribution of cash over ECCB's set of islands by providing a digital alternative. Meanwhile, the **Central Bank of Nigeria** launched the e-Naira in October 2021.

There are other jurisdictions in the exploratory stage of CBDC for example, the **Monetary Authority of Singapore (MAS)** has collaborated with other countries e.g., Canada and Thailand in experimenting CBDC cross-border payments. **Bank of England (BoE)** is also exploring CBDC due to the decrease in use of banknotes in England and increase in the use of privately issued money and alternative payment methods. In response to the decline in the usage of cash in Sweden, the **Riksbank** is seeking to implement a retail digital currency while the **Bank of Canada's (BoC)** is researching on the potential benefits and risks of a digital currency, how this could complement banknotes and fit into the future of digital money. In the U.S., the **Federal Reserve** has issued, in January 2022, a discussion paper that is examining the pros and cons of a CBDC, and to act as the basis for a consultation on whether and how a CBDC can improve the efficiency and safety of the U.S. payments system.

In September 2021, the BIS Innovation Hub, the Reserve Bank of Australia, Bank Negara Malaysia, Monetary Authority of Singapore, and South African Reserve Bank joined forces to test the use of CBDCs issued by multiple central banks for international settlements through **BIS' Project Dunbar**. Additionally, in September 2021, BIS reported that a prototype of multiple CBDCs (m-CBDCs) developed by BIS, **Hong Kong Monetary Authority, Bank of Thailand, Central Bank of the UAE, and People's Bank of China**, showed potential to shorten cross-border transaction time from 3-5 days to less than 10 seconds. Further, the platform cut the overall costs associated with international payments by half. China entered the next phase in its planned digital

Yuan rollout, targeting to make digital Yuan available to international visitors during the 2022 Beijing Winter Olympics. China aims to utilise the 2022 Winter Olympics in Beijing to upscale digital Yuan trials. In Turkey, the **Central Bank of the Republic of Turkey (CBRT)** has also begun to develop a prototype for a Digital Turkish Lira and run pilot tests. The study will also explore the integration of blockchain technology into payment systems.

CBK involvement in CBDC activities

CBK has been engaging with different partners including other central banks globally in assessing the implementation and development of CBDCs. This has included initiatives to support continuous learning and information sharing, as well as potential ways of leveraging innovation for the benefit of the people. As part of CBK's broader collaboration with the Monetary Authority of Singapore (MAS) the CBK has participated as a judge in the Global CBDC Challenge organised by MAS in partnership with the International Monetary Fund, World Bank, Asian Development Bank, United Nations Capital Development Fund, United Nations High Commission for Refugees, United Nations Development Programme, and the Organisation for Economic Co-operation and Development. The Global CBDC Challenge was launched as a build up to the 2021 Singapore Fintech Festival.

CBK is engaged in discussions with other institutions on the leading issues on CBDC including other central banks, BIS, UNSGSA, IMF, FSB and the World Bank. For instance, CBK participated in a BIS closed-door virtual roundtable on CBDC and financial inclusion in October 2021. The meeting was organised by the UNSGSA and the BIS Innovation Hub. During the roundtable, CBK and other central bank governors from select emerging markets, along with other stakeholders, discussed financial inclusion motivations and concerns regarding CBDCs in various emerging markets.

How a CBDC could work in Kenya

A CBDC issued by the CBK would be a sovereign currency in an electronic form and it would appear as a liability on CBK's balance sheet and an asset to users holding it. The most valuable opportunities that encourage issuance would be where a CBDC can support CBK's public policy objectives. In view of the fact that a CBDC is likely to impact a country's financial stability and monetary policy, CBK would need to carefully examine a number of important issues such as the current legal, regulatory and supervisory framework, existing infrastructure, governance and risk management, central bank resources, and the core central bank legislation.

The trend in Kenya's domestic payments confirm the existence of a digital currency (e-money) that is robust, inclusive and highly active. For this reason, the consideration to introduce a CBDC in the payments system in Kenya would then potentially focus on addressing current and future challenges in the payments ecosystem such as facilitating affordable payments, accelerating initiatives such as seamless interoperability domestically and cross-border, reducing illegal activity, addressing wider systemic risks due to the current market structure and overall enhancing CBK's oversight over emerging risks and developments in the payments system. There are various factors that would need to be assessed critically when evaluating the potential applicability of a CBDC in Kenya. Some wider considerations would include:

- ✓ **Trust** – ensuring that issuance of a CBDC carries with it the equivalent level of trust that the public has on fiat currency that is typically issued by a central bank;
- ✓ **Safety and security** – maintaining a safe and secure infrastructure that minimises or eliminates operational risks, including robust cyber-defences

- ✓ **Innovation** – Guaranteeing that regardless of design, a CBDC is able to support innovation in the long term by enhancing integration with value-adding, people-centred innovation
- ✓ **Customer protection** – Provide sufficient customer protection such as on responsible data governance due to the immediate data that would accrue from issuance of say a retail CBDC
- ✓ **Regional cooperation and global convergence** – From an international perspective, a CBDC framework should enable cross-jurisdictional integration of CBDC systems, protocols, in order to further support cross-border payments and eliminate divergence or fragmentation

Launching a CBDC is a multidimensional undertaking that extends beyond CBK's normal financial innovation policy frameworks. Issuing a CBDC will require national and international collaboration, including alignment to existing and emerging global best practice and international standards on payments. A CBDC could impact monetary policy transmission, financial stability, financial sector intermediation, and the exchange rate channel. These elements have to be closely and carefully examined. In the final analysis, as is with mobile money and the innovation that CBK has supported thus far, the focus of the assessment of CBDC must be on functionality and the problem it resolves for the people rather than the underlying technology. Whilst CBDC offers various opportunities to improve the digital payments ecosystem, it also comes with risks including how it would impact the central bank's core functions of monetary policy, financial stability and payment systems oversight. This is an area that CBK is closely monitoring and exploring in collaboration with other stakeholders.

3.8 Kenya's Payments Journey and Infrastructure Modernisation

Kenya's payments journey

Kenya's payments journey dates back two decades, when Kenya introduced reforms aimed at bolstering and improving the domestic financial system. In 2003, an express payments mandate was introduced in the CBK Act, namely to formulate, regulate and supervise effective and efficient payment, clearing and settlement systems. In subsequent years, modernisation activities were implemented to improve the operation of the NPS, such as automation of the clearing house, value capping, and the establishment of the Real Time Gross Settlement (RTGS) System. In 2007, with CBK's guidance and approval, a major milestone was reached with the introduction of mobile money through the launch of M-Pesa by Safaricom. Other players in the market followed by rolling out mobile money services such as Zap (presently Airtel Money), Yu Cash and T-Kash. The milestone of interoperability was achieved in April 2018 enabling customers to transfer funds across networks in real time and in a secure environment. More recent developments have been focused on the launch of various payment switches, the entry into the NPS sector by fintechs and introduction of a wide range of payments products and innovations.

Improvement of large-value payments infrastructure

Over the recent past, CBK has continued with the trajectory of modernising the payments system and infrastructure in line with CBK's vision of being *A World Class Modern Central Bank*, and also in line with wider Government agenda on emergence of a fully digitized economy. In June 2020, CBK implemented a major upgrade of the Real Time Gross Settlement (RTGS) system known as the Kenya Electronic Payments

and Settlement System (KEPSS). This upgrade was aimed at providing the KEPSS platform with enhanced features and world class capabilities to match the current and future needs of payments users and support the emergence of a 24/7 digital economy. The new RTGS platform adds key additional benefits to the payments sector and financial system as a whole, including:

- Processing ability of more than one million transactions per day (up from daily average of 19,000 transactions)
- Capability to support the industry on a 24/7 basis
- ISO 20022 SWIFT messaging standard compliant
- AML/CFT screening capabilities
- Providing modern interface by being accessible through the most widely used browsers
- Functional alerts for monitoring purposes
- Improved and flexible timetable mechanism to run either automatically (scheduled) or on a manual basis
- Enhanced liquidity management features for the participants to use to optimise the available settlement funds

These functionalities simply mean that large-value and time-critical payments in Kenya are now being processed in a premier, world class, environment that is fast, secure and efficient, putting Kenya among the few countries in Africa that are processing payments with the latest RTGS systems. In line with the Government's intention to deliver a fully digitised economy, CBK will be gradually rolling out the enhanced features of the new RTGS platform, in order to continue the journey of modernising the NPS. In addition, CBK intends to review the rules and

procedures that govern KEPSS, and its operating hours in order to support the shift to 24/7/365 settlement. For Kenyan banks, businesses and individuals who are the users of the KEPSS, these enhancements will lead to faster, secure and efficient payments to support the economy.

Improving cheque and electronic funds transfers (EFTs)

The NACH facilitates the exchange of cheques and electronic funds transfers (EFTs) between bank customers. Participation in the ACH is open to commercial banks and microfinance banks that are licensed by the CBK. Since its inception, the ACH has undergone several major modernisation initiatives to improve the duration it takes to clear and settle payments, including automation of the ACH in 1998, introduction of Electronic Funds Transfers (EFTs) in 2002, and commencement of domestic foreign currency cheque clearing (DFCCC) in 2004. A major milestone was the introduction of value capping in 2005 which was implemented following the introduction of KEPSS in 2005. In 2011, CBK in conjunction with the KBA implemented the Cheque Truncation System (CTS) which introduced significant efficiencies that enabled the reduction of the clearing cycle from 5 days to 3 days. By 2013, the clearing cycle had been reduced to T+1. The implementation of CTS resulted in improved efficiency of the clearing process, resulting in the reduction of cost for handling physical cheques. To build on these gains, and in line with global trends, CBK is supporting the effort by KBA and NACH stakeholders to upgrade clearing operations in order to adopt the ISO20022 messaging standards. Once the upgrade is completed in 2022, Kenya's payments customers and the public will enjoy significant benefits such as increased efficiency with straight-through-processing (STP), inclusion of richer information in payment transactions, and interoperability with other systems that are also ISO20022 compliant.

At a broader level, cheque volumes and values continue to fall, as individuals and businesses make greater use of electronic payment instruments, particularly during the COVID-19 pandemic. Prior to the pandemic, several countries had initiated discussions on the future of cheques. In countries like Sweden and Norway cheques have either been eliminated, or form a small fraction of the payment instruments in use. Closer home, Namibia in 2019 and South Africa in 2020 have phased out the use of cheques as a payment instrument and directed payments to alternative electronic payments methods.

These global trends point to the prominent role that is currently being played by electronic payments with a shift away from paper-based instruments such as cheques. A review of current value capping of cheques will be considered as part of the process to modernise the ACH infrastructure, continuation of past efforts of shifting to electronic payments, and aligning with emerging regional and global practice. However, the review of current value-capping will be considered in order to mitigate the risk of 'digital exclusion' that may arise due to businesses and individuals who still rely on cheques as the only means of making payments.

Emergence of payment switches and gateways

Switching infrastructure is an important plank of the payments system as it has enabled different payment streams to be able to transfer value and process various payments, hence enabling a more integrated ecosystem. As at 2021, Kenya had three payment switches and four gateways that are involved in the processing and switching of various transactions. With the launch of IPSL's Pesalink service, customers can now send amounts ranging from Ksh. 10 to Ksh. 999,999 instantly between bank accounts using multiple channels like mobile, ATMs and internet.

The emergence of a fully integrated ecosystem that is seamlessly interoperable is critical. A strong foundation has already been laid with the rollout

of P2P interoperability in 2018 and the industry engagement that culminated to the proposal for a single integrated solution with multiple functionalities (national switch). To take this to the next level, CBK will examine and provide guidance required for the full development of the solution anchored on a multilateral arrangement and the required scheme rules, technology solution, governance and oversight. The overall objective is to ensure that customers can move money across any mobile money provider or banking institution, promptly and at reduced cost than is currently the case.

Improving government payments operations

The government is the largest payer in the economy. In its role as banker, adviser and fiscal agent to the government, CBK has continuously endeavored to improve the efficiency, safety and resilience of payments services to the government. For example, when the decision was taken to discontinue the use of cheques for all government payments in 2009, shifting these to the RTGS system, this resulted in government payments being done in a safe and secure environment. Following the promulgation of the new Constitution in 2010 and the creation of Counties, CBK also introduced electronic payments for all County Governments. Since 2014, CBK introduced Internet Banking to all National Government entities as well as County Governments, further consolidating the gains of use of electronic payments with enhanced efficiency, safety, resilience, ease of use and improved customer experience.

To consolidate and build on these gains, CBK is in the process of upgrading its core government banking system in order to continue supporting efficient, safe and secure government payments infrastructure. As a result of this improvement, this will mean that CBK's Government Payments services will provide the following benefits, both from a user and CBK perspective:

- Secure access with the introduction of biometric client authentication
- Functionality to support real-time monitoring and reporting for timely decision making
- Security features for mitigation against cyber-security threats
- Capabilities for transaction monitoring and reporting so as to support AML/CFT
- Use of mobile technology to enhance customer communication and payments
- Capabilities to support government payments processing on a 24/7/365 basis in support of a 24-hour economy

Enhanced government payments framework and infrastructure will also enable CBK to support Government Ministries, Departments and Agencies undertake more efficient payments. In partnership with the National Treasury, CBK will aim to play its role as banker and advisor to Government by making improvements to the government payments infrastructure in order to:

- Improve Government-to-Persons (G2P) payments such as social protection payments for cash transfers to poor and vulnerable segments, building on the lessons from livelihood support payments that were done in the early phase to COVID-19 pandemic
- Increase the scope, efficiency and use-cases for Citizens to Government (C2G) payments that are made through the digital government collections platform commonly known as eCitizen.

3.9 Cross-Border Payments and Remittances

Cross-border remittances form an important element of how international payments and financial flows help countries remain connected, enable diaspora communities to participate in the socio-economic development of their home countries, and facilitate international trade and capital flows. Remittances have also emerged as a key foreign exchange earner for countries with significant diaspora population working in foreign countries. In Kenya, for example, remittance inflows in December 2021 was an all-time record of US\$ 350.6 million, compared to US\$ 299.6 million in December 2020, a 17 percent increase. The inflows were higher by 9.5 percent compared to the US\$ 320.1 million in November, in line with seasonal factors. The cumulative inflows in 2021, were a record of US\$ 3,718 million from US\$ 3,094 million in 2020, a 20.2 percent increase. The US remains the largest source of remittances into Kenya, accounting for 63.2 percent in 2021.

In the past, most remittances flowed through traditional providers such as money remittance companies like Western Union and MoneyGram. However, over the last few years, countries like Kenya have witnessed the emergence of International Money Transfer (IMT) institutions that have partnered with local Money Remittances Providers (MRPs). The thriving mobile money ecosystem in Kenya has provided a very strong foundation and channel through which Kenyans living abroad send money back home. Mobile money providers present a convenient channel to send money home, with funds sent through these channels being received in near-real time basis. For instance, remittance payment sent from an IMT is received by the Kenyan recipient within 3 to 5 seconds, depending on the source country and whether the sender drew their funds from a bank account or credit card.

Evidently, COVID-19 has adversely impacted remittance flows. The World Bank estimates that remittances sent by migrant workers will fall by 14 percent in 2021, compared to the pre COVID-19 levels in 2019. For Sub-Saharan Africa, it is estimated that remittances decreased by 9 percent to US\$44 billion in 2020.⁹ According to the Diaspora Remittances Survey 2021, respondents noted that they expected to sustain the level of remittances in 2021 due to increased demand from their recipients in Kenya. This may be attributable to the resilience exhibited by the mobile money sector and the role they play in facilitating remittances in an easy and convenient manner.

Despite COVID-19 impact on remittances, in countries like Kenya, the frequency of remittance payments remains an important element in enhancing the resilience of cross-border payments. Results from the Kenya Diaspora Remittances Survey, carried out between March and May 2021, showed, that 63 percent of respondents send money back home every month. The survey also showed that the most preferred channel was mobile money (32 percent), money transfer companies (31 percent) and banks (22 percent).¹⁰ In terms of the impact of the COVID-19, the Survey results showed that in 2020, 76 percent of the respondents still remitted cash to recipients in Kenya, sending an average of US\$4,000 during the survey period.

Going forward, attention will need to be focused on addressing some of the key challenges that still remain in the cross-border remittances sector. Respondents in the Remittances Survey mentioned the following as some of the key challenges: high cost of remittances; hidden fees and charges such as indirect currency conversion fees; unfavorable exchange rates; limited interoperability; and slow interbank transfer processes.

In Sub-Saharan Africa, it is estimated that the cost of sending \$200 averaged 8.5 percent in the third quarter of 2020, representing a modest decrease compared with 9 percent in 2019, making this region the most expensive receiving region.¹¹ The global target set by the UN under the SDGs is 3 percent by 2030.

CBK plans to implement a range of measures to facilitate even more sustainable growth of remittances in Kenya, and ensure that remittance activities become cheaper, faster, secure and more transparent. Among the initiatives that will be considered include aligning the costs and charges of mobile money remittance transactions to the Pricing Principles that were issued by CBK in December 2020, ensuring increased transparency by adopting global standards on remittances, price transparency and tracking such as encouraging the use of such tools as the World Bank's Remittance Prices Worldwide database, and overall, aligning the remittance sub-sector with global best practice and guidance from the G20 Plan to Facilitate Remittance Flows and Global Partnership for Financial Inclusion (GPFI) targets.

3.10 Regional and Pan-African Payments Integration Initiatives

The National Payments System (NPS) does not operate in isolation; it is linked to payment systems in other countries in the EAC and COMESA regions through the East African Payment and Settlement System (EAPS) and the Regional Electronic Payment and Settlement System (REPSS) for the EAC and COMESA. CBK has worked closely with regional and continental counterparts in ensuring that payment systems are supported by regional cooperation to facilitate trade at an EAC, COMESA and pan-African level.

The EAPS is a product of the East African Community integration agenda, where the EAC Secretariat in conjunction with the Partner States Central Banks, under the Monetary Affairs Committee (MAC)

framework, pursue the integration of payment systems infrastructure and harmonisation of regulatory frameworks for payment systems. The objectives include the modernisation and integration of financial market infrastructures, harmonisation of financial laws and regulations, and capacity building. Some of the developments already achieved under the MAC framework include the implementation of EAPS and the development of a harmonised regional payment systems oversight framework, among others.

In order to deepen co-operation and emergence of integrated and efficient regional payment system that can support the continent's trade and investments agenda, CBK will continue to participate in various initiatives at the regional and continental level. This continued cooperation with sister central banks and regional partners will be anchored on ongoing initiatives such as implementation of regional interoperability systems and upgrading of the EAPS to run on a single shared technology platform. When fully achieved, these initiatives will offer the following benefits to the region:

- Minimise the duration and time taken for cross-border payments within the EAC and beyond
- Reduce cost and improve the transparency of cross-border payments
- Strengthen collaborative oversight of cross-border payment systems through effective reporting and prudent risk management
- Engender intra-regional trade and investment flows in the EAC as well as formalise some of the unaccounted trade that goes through informal cross-border channels
- Support EAC integration agenda through harmonised payment systems regulatory frameworks, integrated clearing and settlement systems infrastructure and a harmonised risk management framework

To succeed in achieving effective interoperability and integration of payment and settlement systems at the regional level, all the EAC Partner States must also implement interoperability at the national level. Kenya is making steady progress in ensuring that effective interoperability at the national level is achieved. As a regulator, the intention is that payments interoperability be underpinned by core principles and regulatory considerations such as customer-centricity, affordability, security and full alignment to the mobile money Pricing Principles (**Annex 3**) that were developed in consultation with the industry, and announced in December 2020. Interoperability designed with these considerations will also provide Kenya with a gateway that can connect to other regional payment platforms hence increasing regional cooperation and integration.

At the continental level, the African Union in its Agenda 2063 has committed itself to increase intra-Africa trade from 12 percent in 2013 to 50 percent by 2045 through development of an integrated payment infrastructure, among other measures. Currently, intra-Africa payments go through circuitous routes which can be inefficient, costly, time consuming and non-transparent.

To address these structural challenges, regional blocs such as SADC, COMESA, WAMZ, CEMAC, and EAC, among others have pursued various initiatives to modernise their regional payment systems, harmonise legal frameworks that govern payment systems and improve infrastructural interoperability. However, this created fragmented regional systems, further complicating inter-regional trade, cross-border payments and also make cross-border banking transactions difficult. To address these challenges, the African Union (AU) together with the Association of African Central Banks (AACB) and the Afreximbank have launched a Pan-African Payment System Integration initiative (PAPSI), with the twin objectives of: developing a comprehensive regulatory framework for the

integration of payment systems in Africa; and developing a framework for the establishment of a new integrated payment infrastructure to facilitate inter-regional payment flows. A Taskforce has been formed to work on PAPSI. As a member of the Taskforce, Kenya will continue its involvement in PAPSI and the various initiatives to be implemented, and ensure that regional and continental payments become fast, affordable, transparent and secure. This Strategy will provide the framework for Kenya's partnership with its regional and continental partners. The overall aspiration is to ensure that Kenya continues its long heritage of supporting regional and continental programmes for payment systems' modernisation, harmonisation and integration.

3.11 Adoption of Global Standards for Instant Domestic and Cross-border Payments

As highlighted in the emerging global trends discussed above, customers are now expecting instant payments characterised by increased transparency and affordability. From CBK's standpoint, adoption of global standards and best practice is essential to ensure that payments infrastructure is able to deliver safe, secure and regionally interoperable payments, within a rapidly changing global payments landscape. To improve domestic and cross-border payments, CBK is currently collaborating with industry and preparing for the adoption of the ISO20022 standard. Once the domestication process is completed, customers of Kenya's NPS will be able to:

- Experience more transparent payments due to enhanced payments information
- Enable business to unlock solutions for business automation due to use of better structure payments data

- Conduct end-to-end straight through processing and reconciliation
- Easily track payment and carry out system reconciliation
- Simplify international and cross-border payments
- Reduce the risk of error or confusion in processing international payments
- Reduce friction for multinational corporations in terms of reconciling payments across borders
- Realise other benefits such as Standardisation of financial messages, boosting remittance

information included with payment transactions, transparency, global interoperability and increased privacy

In addition to the ISO20022 standard, CBK has been implementing a security programme, the SWIFT Customer Security Programme (CSP), to ensure that Kenya is meeting set global security standards for payments. With an increased Digitisation of the payment infrastructure and the ever-growing cyber threat, CBK will continue to build strong security systems in order to ensure the safety, confidentiality and confidence in the NPS is maintained. This will also protect payments infrastructure against cyber-attacks and other threats.

Box 3.3: Measures that Facilitated Mobile Money During the COVID-19 Pandemic

Soon after Kenya declared its first COVID-19 positive case on March 12, 2020, the CBK announced a number of emergency measures aimed at supporting economic activity through the pandemic period. The short-term objective of these measures was to reduce the risk of transmission of COVID-19 (Coronavirus) by handling banknotes and in the medium term, accelerate the reduction in the use of cash in the economy. The measures took effect from midnight of March 16, 2020 and were implemented for an initial period running to June 2020 and later extended to December 2020. These measures included:

- Removal of charges for mobile money transactions up to Ksh. 1,000
- The transaction limit for a mobile money transaction was increased from Ksh. 70,000 to Ksh. 150,000
- The daily limit for mobile money transactions was increased to from Ksh. 140,000 to Ksh. 300,000
- The mobile money wallet limit was increased from Ksh. 140,000 to Ksh. 300,000
- The monthly total limit for mobile money transactions was removed
- The tariff for mobile money transactions that applied for the hitherto Ksh. 70,000 limit was to apply for transactions up to Ksh. 150,000
- PSPs and commercial banks were mandated to eliminate charges for transfers between mobile money wallets and bank accounts
- All PSPs and banks were urged to continue applying current frameworks on anti-money laundering and countering financing of terrorism (AML/CFT)

These measures had significant impact in cushioning the economy against the effects of the pandemic, both at a household and enterprise level. Based on CBK's data, we have seen significant increase in the

use of mobile money channels by individuals and businesses, confirming the efficacy and timeliness of CBK's response.

Between February and December 2020 – when measures for transactions below Ksh. 1000 were withdrawn – the volume and value of transactions below Ksh. 1000 had increased by 145 percent and 247 percent, respectively. Looking at a much longer period, February 2020 and December 2021, there were 4.9 million new 30-day active customers using mobile money as a result of implementation of the COVID-19 mobile money measures. Over the same period, volume and value of other mobile money payment channels recorded significant growth, as shown below:

Growth in mobile money transactions between February 2020 and December 2021

	Volume (%)	Value (%)
Person-to-person	135	84
Pay bills	143	344
Till numbers	263	136
E-wallets to bank accounts	573	849

Source: CBK statistics

While the pandemic is still evolving, and its future impact remain unclear, it is clear that CBK measures have been effective in supporting customers, businesses and the economy cope with the shocks brought about by the pandemic. CBK expects that implementation of the various Strategic Initiatives outlined in this Strategy will build on these gains, and as the basis for supporting the Government's wider initiatives for post COVID-19 recovery and the digital transformation agenda.

In line with global developments and emerging best practice, CBK is also supporting efforts by different players to implement the Automated Payment Tracking system (e.g., SWIFT gpi). This will improve the speed and transparency of international payments and SWIFT go, a transformative new service that enables small businesses and customers to send fast, predictable, highly secure, and competitively priced low-value cross-border payments anywhere in the world. This new development will mean that customers domestically and internationally are able to:

- Monitor and track cross-border payment-related messaging flows
- Provide an end-to-end visibility and control of transactions
- Foster a more secure and trusted ecosystem

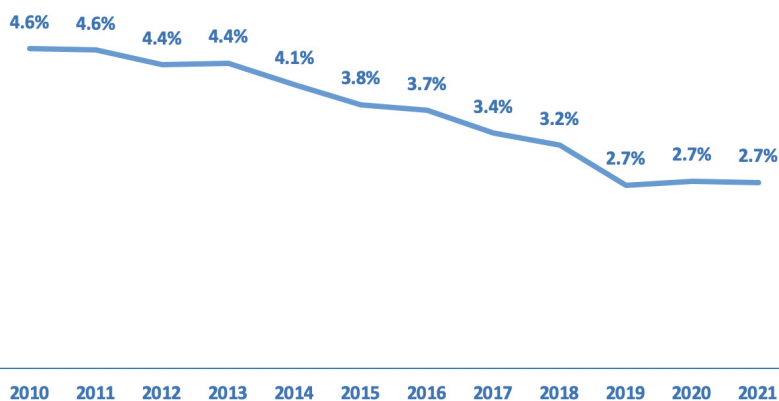
3.12 Recent Performance of the Domestic Payments System

Kenya has experienced a steady adoption of electronic and mobile payments, reflected in trends over the

last decade. This was accelerated in 2020, as COVID-19 resulted in the rapid shift to electronic payments, especially in mobile money (**Box 3.3**). However, despite these long and recent trends in digitalisation, cash usage remains high. Though the nominal cost of transacting in cash to the customer is nil, it has its associated risks in terms of safety and handling costs incurred by merchants and banks. With the progress made in financial and digital inclusion, the dominance of cash is reducing in general terms as customers increasingly use digital payments to make P2P, P2B and P2G payments. For the last ten years, Kenya has continued to record a steady decline in currency in circulation as a share of Gross Domestic Product (GDP) (**Figure 3.2**).

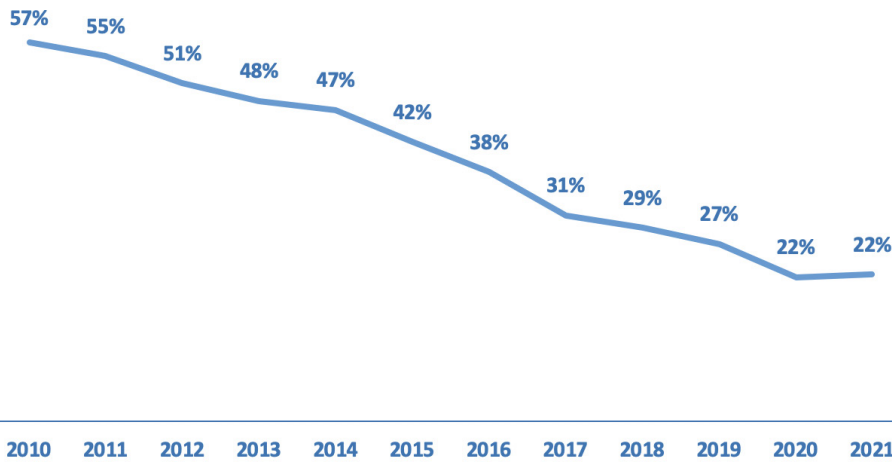
Cheque volumes and values continue to fall relative to the size of the economy, as individuals and businesses make greater use of other electronic payment instruments such as KEPSS and mobile money. In 2010 the value for cheques was Ksh. 1.8 trillion or 57 percent of GDP. This proportion has reduced steadily to the current level of 22 percent in 2021 (**Figure 3.3**).

Figure 3.2: Currency in Circulation as a Share of GDP (%)*



Source: CBK statistics
 *2021 GDP is projected

Figure 3.3: Cheque Values as Share of GDP (%)*

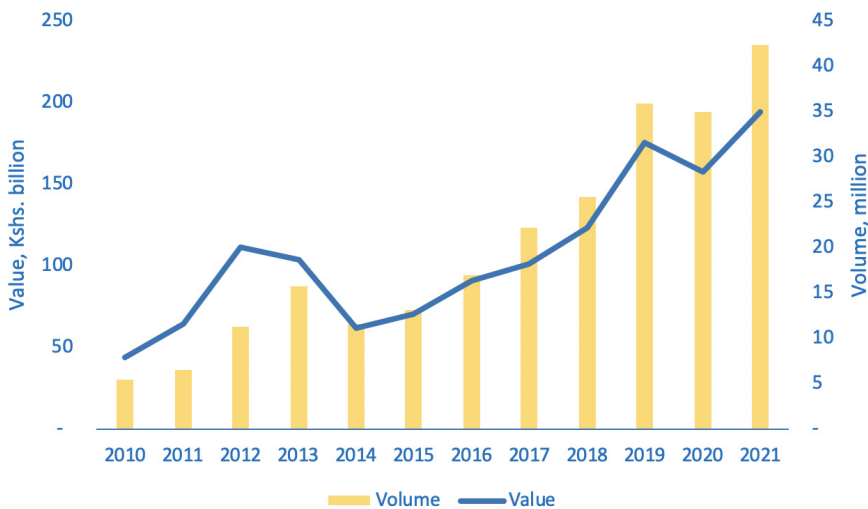


Source: CBK statistics
 *2021 GDP is projected

The volumes and values of card transactions have been increasing over time. From 2010, both card transactions at point of sale have increased in value and volume. Volumes have increased from 5.5 million in 2010 to 42 million in 2021, while value has increased from Ksh. 44 billion to Ksh. 194 billion over the same period (**Figure 3.4**). The slight dip recorded in 2020 compared to the pre-2019

growth trajectory is due to COVID-19 restrictions that curtailed physical presence in points of sale. This said, usage of cards in Kenya is still relatively low and there is still significant room for growth if key issues would be addressed such as poor network of POS terminals, cost of POS terminals and acceptance by merchants, and negative perception among customers due to incidents of fraud. Also,

Figure 3.4: Trends in Point of Sale Transactions

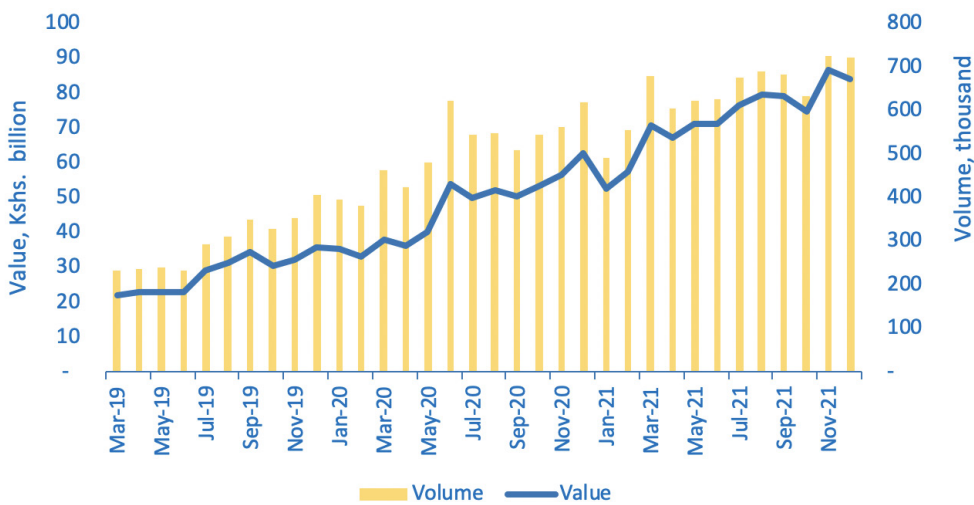


Source: CBK statistics

mobile money transactions – particularly merchant payments – may have become a substitute for card payments. Pesalink, a bank P2P service, which was launched in 2017, enables 24/7 real-time payments of up to Ksh. 999,999 across banks. For the period

March 2019 to December 2021, bank P2P has witnessed a modest but steady increase in both volume and value (**Figure 3.5**), a trend that is likely to grow as more users adopt the use of this service.

Figure 3.5: Total Value and Volume of Bank to Bank P2P

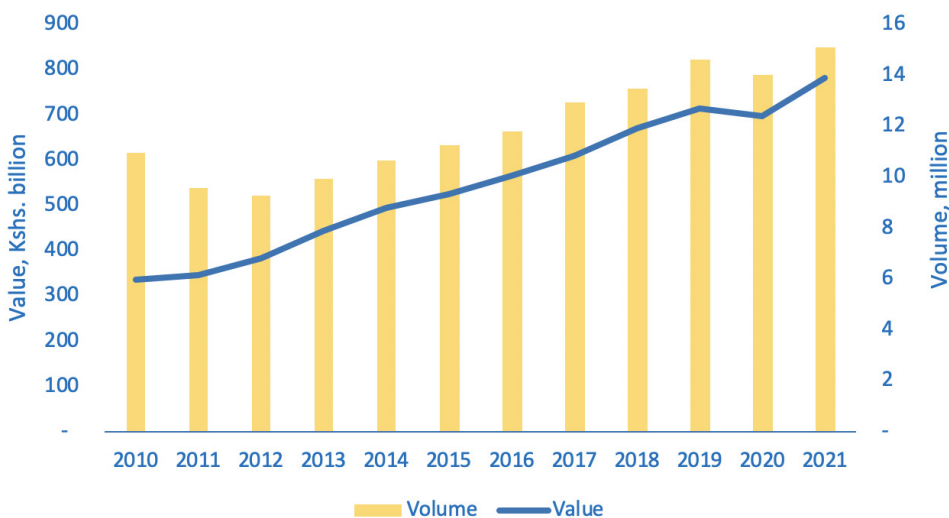


Source: CBK statistics

After an initial drop between 2010 to 2012, EFT volumes have steadily increased since then. EFT

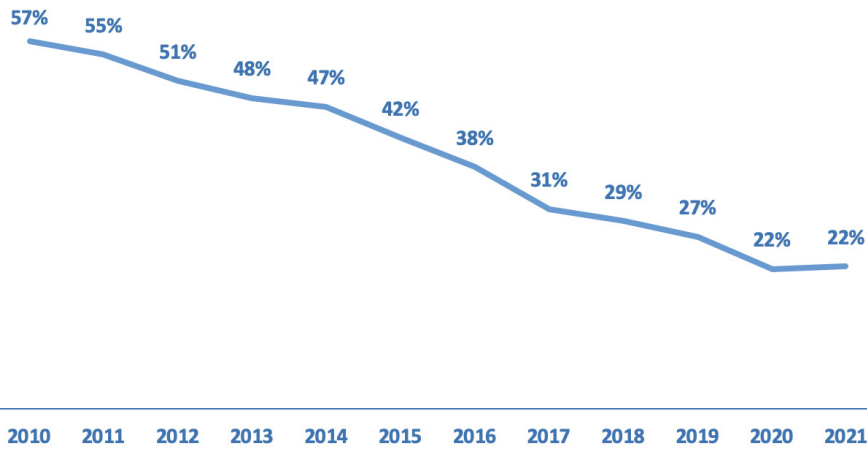
values recorded steady increase from 2010 to 2021, with only a marginal drop in 2020 (**Figure 3.6 and 3.7**).

Figure 3.6: Trends in the Total Value and Volume of EFTs



Source: CBK statistics

Figure 3.7: Total Value of EFTs as a Share of GDP (%)*



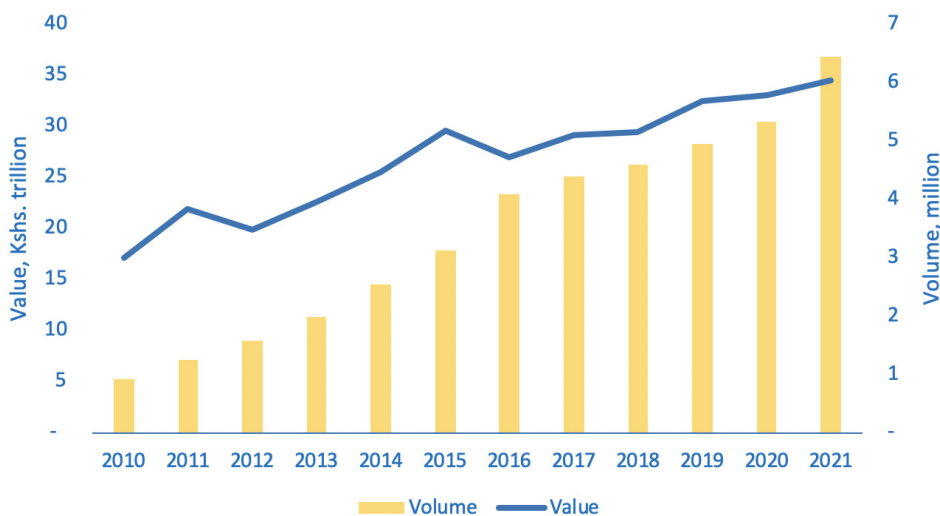
Source: CBK statistics
 *2021 GDP is projected

The growth in volume of RTGS transactions has risen steadily over the past decade, as more payments shift to RTGS; volumes have grown faster than value of RTGS payments. As a result, average transaction values have dropped from Ksh. 19 million in 2013 to Ksh. 5.3 million in 2021. Volume of RTGS transactions increased from 904,717 transactions in 2010 to 6.4

million in 2021, driven mostly by shift to electronic payments that are processed through the KEPSS (**Box 4.1 and Figure 3.8**).

Additionally, it is likely that customers are continuing to demand and prefer same day settlement that is offered by the KEPSS.

Figure 3.8: Total Value and Volume of RTGS Transactions



Source: CBK statistics

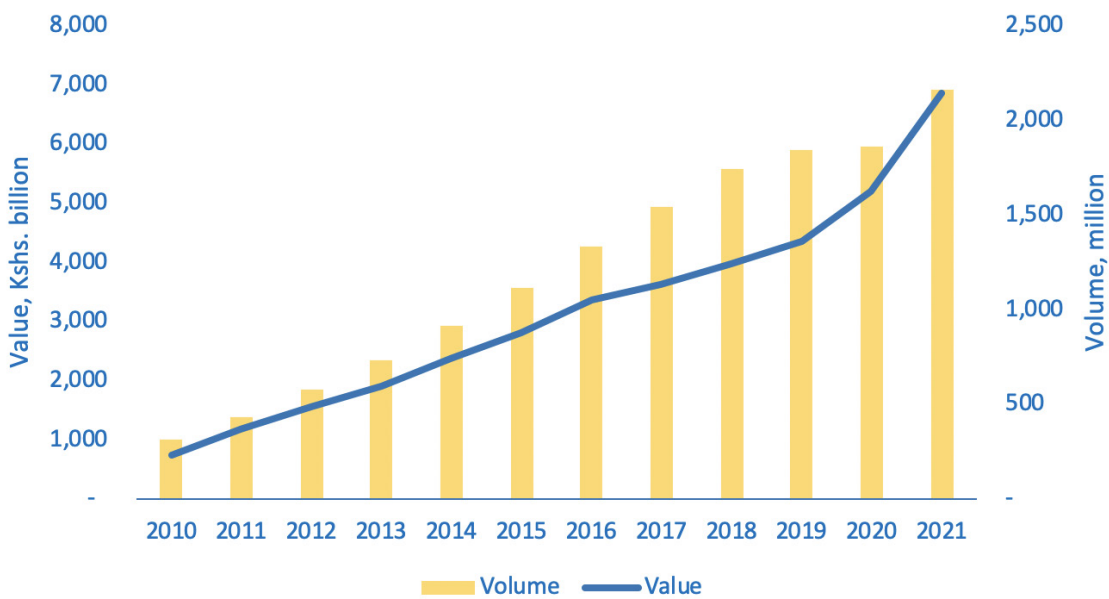
Mobile money transactions have shown the largest growth since the inception of this payment service. It was launched initially as a means of sending money between individuals. In 2013, merchant payments were added, and today, the variety of mobile money payment options have increased significantly. Mobile money rails also support payments in various sectors of the economy. The value of mobile money transactions carried out at agents, as a proportion of GDP, has increased from 23 percent in 2010 to 60 percent in 2021. In terms of absolute performance, in 2021, there were over 2.2 billion transactions with a total value of over Ksh. 6.9 trillion (**Figure 3.9**). This trend is expected to continue increasing once initiatives such as interoperability are fully rolled out, allowing customers to seamlessly transact across the ecosystem irrespective of their provider.

Although Kenya’s payments landscape has undergone significant changes in the last ten years, there are still areas with considerable opportunities

for improvement such as cards, Bank P2P, EFT and RTGS.

From a mobile money perspective, collaboration amongst industry players led to the launch of several products in the market. In the public sector, the launch of government-to-person (G2P) payments in 2013 (eCitizen) was a major milestone. This enabled digital and online payments for a range of public services. The Government still continues to leverage on electronic payments infrastructure to make social transfers such as *Inua Jamii* cash transfer programme and the payment of COVID-19 transfers by the Government and non-government entities that were channeled through mobile money rails. The expected roll out of the National Integrated Identity Management System (NIIMS), commonly known as *Huduma Namba*, will provide a key impetus to further deepen the adoption, safety and robustness of digital payments.

Figure 3.9: Mobile Money Cash-in and Cash-Out Transactions at Agents



Source: CBK statistics

3.13 Pricing of Payment Services

While the recent improvements in various payments channels have been commendable, the same has not been reflected in terms of pricing of various payments services. Aside from the COVID-19 support measures that were designed to cushion the economy, the benefits of digitisation of payments are yet to be fully passed on to customers. Prices and tariffs of some payment services can be high in relative terms, while others are not easily understood by the average customer. Further, where institutions utilise payments rails, services are availed to end-customers with multiple charges. The inability to put in place effective and easy-to-access mechanisms to address price related complaints, particularly on digital channels, has undermined trust. CBK is determined, working with the industry, to change this reality and ensure that benefits of digitalisation translate to affordable, transparent and customer-centric payment services. The main initiative will be the gradual rollout of the Pricing Principles (**Annex 3**).

3.14 Payments in the COVID Context

In Kenya, the COVID-19 pandemic accelerated the use of digital and mobile payments, at a rate that was significantly faster than would have otherwise been the case. The pandemic also accelerated the rate of adoption of electronic payments that different regions have been witnessing in the last few years. In Asia, for example, the region has witnessed rapid growth in alternative forms of payments, partly due to the entry of bigtech firms into the payments space. According to the 2019 McKinsey Global Payments report, transactions in electronic payments in the

Asia Pacific region have grown by more than 15 percent annually. In China in particular, mobile payments experienced a 123 percent cumulative annual growth rate in the period 2013 to 2018, fueled by large payment ecosystems such as Alipay and WeChat Pay.¹² In India, the *Aadhaar* system has facilitated rapid innovation and integration of key enabler systems such as electronic identification, reducing the cost and extending digital payments to millions of customers.¹³ Across Europe, a number of countries had moved to instant retail payments, hence reducing the proportion of cash that is used in retail payments. In the Nordic region, countries like Sweden, Norway and Denmark had reduced the use of cash at point of sale to near-single digit levels.¹⁴ In other markets, mobile and digital payments had already taken a rising share of e-commerce spending: 71 percent in China, 32 percent in India and 24 percent in the U.S.¹⁵ It is likely that COVID-19 related impact will continue to accelerate these trends, while increasing the rate of innovation and adoption of mobile-based payments.

However, as more payments shift to online and electronic channels, risks will increase as well. The increased use of online and digital channels also meant increased cases of fraud and scams at a customer level. At a systemic level, COVID-driven impact has increased the dependence on electronic infrastructures, most of which are owned and operated by private entities. This has created concerns on a wide range of issues from data privacy to market concentration risks. Finally, there will be need for increased vigilance and alertness in a post-COVID payments world, in order to protect systems against increasing cases of cyber-attacks and AML/CFT risks.

Box 3.4: Strategy Alignment to Global Standards, Principles and Accords

In preparing the National Payments Strategy CBK reviewed a number of global standards such as the Principles for Financial Market Infrastructures (PFMIs), the International Organisation for Standardisation (ISO) standards on messaging, the Payment Card Industry Data Security Standards (PCI DSS), among others. CBK also sought to align this Strategy with global initiatives touching on wider financial inclusion and financial sector development such as the Maya Declaration and its Accords, the G20 High Level Principles on Digital Financial Inclusion, the Financial Action Task Force (FATF) Standards including its 2011 Guidance on Anti-money laundering and terrorist financing measures and the Financial Inclusion and 2020 guidance on digital identity. Finally, reference was made to the report of the United Nations Secretary-General Task Force on Digital Financing of the Sustainable Development Goals in order to align our work with its focus on fostering a people-centred approach to digital payments and financing of a sustainable future.

The Principles for Financial Market Infrastructures (PFMIs)

The PFMIs are a set of 24 principles on the safety, efficiency and effectiveness of financial market infrastructures, including payment systems that are systemically important. PFMIs also set out five core responsibilities that are offered for consideration by central banks and other regulators who oversee payment systems. The PFMIs provides that systems should identify plausible sources of operational risk, both internal and external, and mitigate their impact through the use of appropriate systems, policies, procedures, and controls. The Principles also focus on efficiency and effectiveness aspects, meeting the requirements of their participants and the markets they serve, while maintaining appropriate standards of safety and security. The system should provide comprehensive and appropriately detailed disclosures to improve the overall transparency of the system, its governance, operations, and risk

management framework. Overall, the Strategy seeks to align CBK's payments oversight by implementing initiatives that bolster payments oversight as anchored on the explicit payments mandate in the CBK Act [Section 4A(1) (d)] and NPS Act (PFMI Principle 1, legal basis), undertaking continuous improvement of the NPS regulatory framework (PFMI Principle 2, governance) and enhancing safeguards against operational, market and technology risks (other PFMI Principles such as 15-17 on management of risks and 18-22 on efficiency and access of the payment system). As detailed in Section 5, initiatives will include strengthening of the NPS regulatory framework through development of guidelines in a number of key areas, enhancing oversight over systemic systems and providers, and continuous rollout of the enhanced features of the new RTGS platform that enables, among other benefits, better AML/CFT disclosures.

The International Organisation for Standardisation (ISO) Standards

The PFMIs advocates for the use of standardized messaging formats and reference data standards for identifying financial instruments and counterparties in line with the ISO Technical Committee Standards (i.e. ISO 20022 on messaging). The use of internationally accepted standards for message formats and data representation generally improves the quality and efficiency of the clearing and settlement of financial transactions. The Strategy work will accelerate on-going efforts to adopt the ISO 20022 messaging standard across the payments industry in order to enhance disclosures that will improve transaction and AML/CFT reporting among payment participants.

The Payment Card Industry Data Security Standards (PCI DSS)

Standards (PCI DSS) PCI-DSS is an information security standard for organisations that handle branded credit cards. The standard was created to

increase controls around cardholder data and reduce credit card fraud. The Strategy implementation will ensure attainment of highest levels of security standards in the payments card industry in Kenya by adoption of international best standards on security in relation to the payment cards.

G20 High-Level Principles on Digital Financial Inclusion

The G20 High-Level Principles for Digital Financial Inclusion are a catalyst for action for the G20 to drive the adoption of digital approaches to achieve financial inclusion goals, as well as the related G20 goals of inclusive growth and increasing women's economic participation. The Principles call for the need to balance promoting innovation to achieve digital financial inclusion with identifying, assessing, monitoring and managing new risks. That is, they recognize the need to actively balance the promise of digital innovation with the new risks that rapidly evolving technology introduces.

The Strategy will enable CBK to renew its focus on improving the entire payments system in the country with a view to enhancing participation of women and youth through initiatives such as on financial education, enhancing digital infrastructure and identity particularly for women and youth who currently are excluded from financial activity due to lack of basic/traditional identity documents.

Financial Action Task Force (FATF) Standards

The Financial Action Task Force (FATF) is an intergovernmental body that sets standards to promote implementation of legal, regulatory and operational measures for combating money laundering, terrorist financing and other related threats to the integrity of the international financial system. In collaboration with other international stakeholders, the FATF also works to identify national-level vulnerabilities with the aim of protecting the international financial system from misuse.

The Strategy document will accelerate CBK's work on enhancing the security and integrity of payment systems. This will include strengthening AML/CFT safeguards for digital payments through development of a guideline that is purpose-built for AML/CFT risk mitigation in digital payment ecosystems, enhancing data and AML/CFT reporting and improving vigilance and surveillance through implementing awareness programmes among payment participants and users.

Maya Declaration and Accords

Maya Declaration is the first global and measurable set of commitments by developing and emerging countries to unlock the economic and social potential of poor people through greater financial inclusion. Several other Accords have also been agreed on, providing focus on particular areas in financial inclusion. These include SMEs (2015 Maputo Accord), gender (2016 Denarau Action Plan), green finance (2017 Sharm El Sheikh Accord), FinTech (2018 Sochi Accord).

The Strategy will build on CBK's work that has been implementing activities to actualize the Maya Declaration and its Accords. With 83.7 percent financial inclusion according to FinAccess 2021, focus is now shifting from financial access, to usage, quality and inclusion of particular groups such as women and youth. Improving the affordability, safety and innovation of payment services will improve the quality and welfare aspects of financial inclusion. Overall, the NPS Strategy seeks to enhance security of the entire payments system in Kenya. This will have the effect of promoting trust and confidence in the payment systems thereby increase the uptake payment services by all users.

Box 3.5: Lessons Learnt by Regulators During the COVID-19 Pandemic

The COVID-19 pandemic is arguably the first major test to the stability and resilience of financial institutions since the 2008/2009 global financial crisis. However, unlike the 2007/2008 crisis, the difference this time was that policymakers and regulators had been implementing a number of reforms – such as capital adequacy, crisis management, risk management, and cyber-threats – aimed at strengthening the resilience of financial institutions and their capacity to deal with domestic and global shocks.

The above notwithstanding, the severity of COVID-19 had no parallel and the speed of its spread and impact is unprecedented. For most central banks and national authorities, mitigation measures had to be designed quickly and improved upon on the go. No toolkit previously existed on how to deal with a crisis of such nature. Therefore, refining and adapting COVID-19 mitigation measures will require regular recalibration and constant learning.

To do this, it will be important to reflect on the lessons that have been learnt in terms of implementation of COVID-19 mitigation measures. In the coming period, it will be imperative for regulators to reflect on the question: if we were to do this all over again, how differently would we design and deploy mitigation measures?

- **Encouraging the agility of Business Continuity Plans (BCP).** By nature, regulators had operated or encouraged BCP developed to fit fixed and pre-defined risk events and incidents. However, the COVID pandemic tested not only the effectiveness of the contingency plans that institutions had developed in the past, but also their adaptability in scenarios that regulators had not foreseen. The experience of COVID mitigation measures underscored the need for agility in business continuity plans, and the need to regularly review such plans to ensure

relevance and applicability to a wide range of adverse events.

- **Need for mitigation measures to be more women and youth centric.** The pandemic magnified previously existing gaps in access and usage of financial and payments services among women, youth and other vulnerable groups. This was exacerbated by economic decline triggered by pandemic driven lockdowns, particularly within service sectors, which requires physical contact, and where women and SME supply lines are key. Consequently, mitigation measures going forward will need to put added focus on women and youth, and protecting the business and supply lines that employ these groups.
- **Combining mitigation measures with targeted financial literacy.** COVID-19 accelerated the use and dependence on digital services. In addition, there was a growing number of first-time users of these services. While accommodation measures were aimed at shifting services to digital channels, more emphasis could have been made to accompany these measures with adequate financial capability and awareness, in order to mitigate cases of abuse, fraud and scams that were witnessed during the pandemic period.
- **Intensifying focus on cyber defenses.** The rapid shift to digital channels increased dependency on technology platforms, most of which are owned and operated by private institutions. This has resulted in major vulnerabilities due to cyber related attacks. It also included emergence of new actors who sought to attack key infrastructure services resulting to the so-called “ransomware attacks.” The pandemic has served as a reminder to institutions and regulators on the

need for increased investment and vigilance to safeguard critical payments and financial infrastructure.

- **Acceleration of tools to provide prompt and granular data.** Most central banks have realized the importance of enhancing the granularity and real-time aspects of supervisory data. Due to the fast-moving nature of the pandemic, a number of mitigation measures were being implemented without requisite M&E. With hindsight, regulators perhaps would have also mandated robust feedback in order to track and analyse the immediate and long-term impact of mitigation measures, particularly in assessing impact on particular areas such as youth, women and the most vulnerable; or even at a macro level in terms of systemic stability impact.
- **Encouraging cross-government collaboration.** Prior to the COVID-19 pandemic, close collaboration between financial authorities, health authorities and local governments was not as robust. Key government actors now see the need for joined up collaboration among different institutions at the local and national level.
- **Importance of global regulatory cooperation.** The COVID-19 experience has demonstrated how the global financial and payment systems are interconnected, underscoring the need to deepen regional and global dialogue and collaboration.

4 Vision Statement, Principles and Strategic Objectives

4.1 Vision Statement

The main purpose for the Vision Statement is to present a picture of Kenya’s ambitions for the next four years. The Vision Statement embodies the key elements, issues and suggestions that filtered through the stakeholder engagement process and a detailed market analysis (**Annex 1**). It also provides the direction of travel that CBK desires to see as the payments sector in Kenya enters a new phase, particularly in terms of supporting individuals and businesses cope with the impact of the COVID-19 pandemic.

The Vision Statement reflects two main elements. First, the Vision Statement articulates the “big picture” that answers the question: where should the Kenya payments ecosystem be in the next four years? CBK desires to see a payments ecosystem that is safe, secure and efficient in all aspects. Secondly, the Vision Statement addresses the question: what is the end purpose of the ambition that Kenya desires to pursue? CBK’s conviction is that payments are only

a means to an end, to facilitate people’s livelihoods and extend the gains that Kenya has made in terms of financial inclusion. The end purpose is inclusive growth, sustainable development and shared prosperity.

4.2 Strategy Principles

Just like the Vision Statement, the Principles have been sifted from extensive comments and feedback from stakeholders. The principles capture some of the key features that were identified during the stakeholder engagement; key ones include security, usefulness and trust. Therefore, the principles are the pillars that will anchor the achievement of the vision.

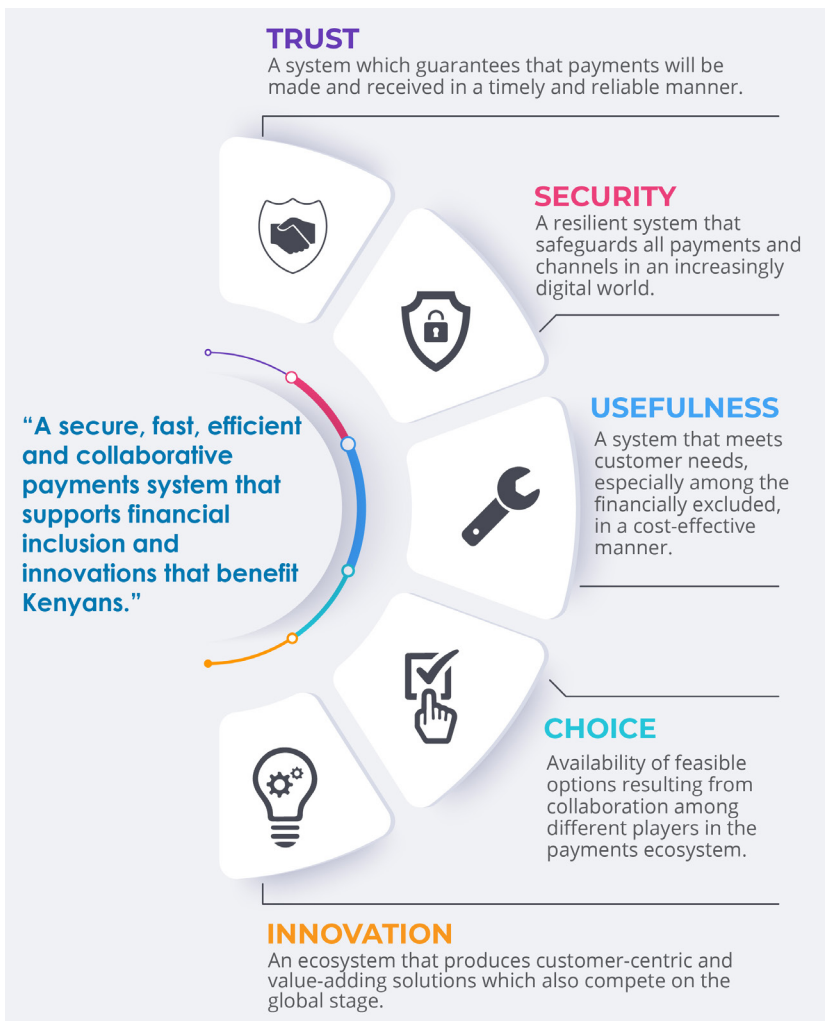
The Principles are interlinked, such that the progress of one will enable achievement of others. This interconnectedness will be evident in the complementarity between the Strategic Objectives and corresponding Strategic Initiatives (**Section 5**). A thriving payments innovation ecosystem will enable increasing choice of value-adding payments services that are both affordable and relevant to customer



A secure, fast, efficient and collaborative payments system that supports financial inclusion and innovations that benefit Kenyans.”

– Vision Statement

Diagram 4.1: Payments Strategy Principles



needs. Finally, CBK expects that from its regulatory perspective, key principles such as trust and security will cut across all activities that will take place in the course of implementing this Strategy.

4.3 Strategic Objectives

The Strategic Objectives have been informed by several considerations. Firstly, they have been distilled from the extensive material and consultation that was conducted during development of this Strategy. Secondly, the Objectives are informed by CBK’s view of how the payments system needs to evolve, based on our payments mandate, and

in line with CBK’s vision to be **A World Class Modern Central Bank**. Thirdly, the Objectives have been informed by the need to rapidly progress activities that have been in the process for some time, as their conclusion will be important in consolidating the foundation for full implementation of the Strategy.

Finally, the Strategic Objectives will form the basis for developing activities that will be implemented, including the monitoring framework. The articulation and use of this logic (Vision Statement, vision principles, Strategic Objectives and Strategic Initiatives) provides this Strategy with both the clarity and agility that will be required as new challenges, technologies and realities continue to shift and emerge. Therefore, the Strategic Objectives for the Strategy are:

1. To support a payments system that meets the diverse needs of customers, especially with respect to financial inclusion and shared prosperity.
2. To enhance the safety and security of the payments system through the adoption of relevant industry and global standards.
3. To support an ecosystem that is anchored on collaboration that produces customer-centric and world-leading innovations.
4. To create a supportive policy, legal and regulatory framework that is robustly enforced across existing and emerging players in the payments ecosystem.

Box 4.1: Kenya's Payment Journey, New RTGS Platform and Progression to 24/7 Economy

Kenya's Payment Systems have come a long way, beginning with the manual systems that existed in the early 1990s to the present-day automated, electronic payment systems. The development trajectory from the 1990s to date can be explained broadly by some key milestones:

- Amendment of the Central Bank of Kenya Act to include Section 4A 1 (d) that gave CBK an explicit mandate to “formulate and implement such policies as best promote the establishment, regulation and supervision of efficient and effective payment, clearing and settlement systems”
- Implementation of Kenya's Real Time Gross Settlement (RTGS) System in June 2005, that revolutionised the country's interbank settlement as well as enabled the country to establish regional links thereafter thus creating regional payments and settlement systems
- The continued expansion of the payment card industry and the introduction of the mobile money services in 2007, and in partnership with banks, launch of various mobile banking services
- Enactment of the National Payment System Act 2011, and the National Payment Systems Regulations in 2014
- Support and emergence of fintech and similar innovations launched using a test-and-learn approach, for example M-Akiba that allows purchase of Government securities over mobile phones

CBK has continued with this journey of modernising our national payments infrastructure. One such improvement was the upgrade and launch, on June 5, 2020, of a new platform for the Real Time Gross Settlement System (RTGS) otherwise known as the Kenya Electronic Payment and Settlement System (KEPSS). KEPSS is a critical infrastructure for the economy as it processes large value and time critical payments. The KEPSS, since

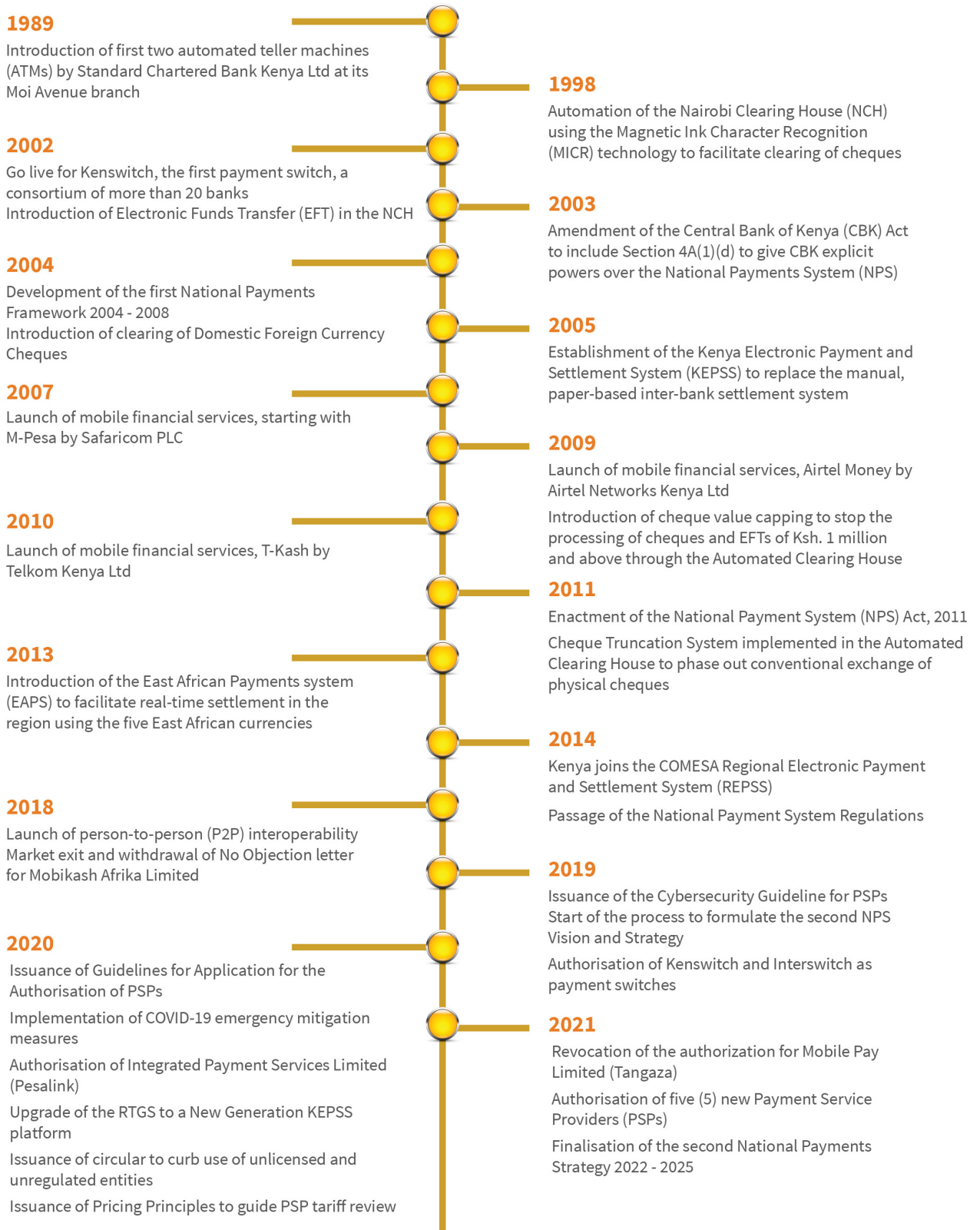
its implementation in 2005, has been processing a daily average of 19,000 transactions with a value of more than Ksh.103 billion. This represents more than 80 percent of the total value of transactions settled within the Kenyan payment systems.

The migration that was concluded in June 2020 marked an important milestone in the modernisation of Kenya's payment system. The migration was necessitated by CBK's desire to support a more digitized economy that continuously seeks new payment instruments and innovations that are safe, efficient and effective. The new RTGS platform brings key additional benefits to the payments sector and financial system as a whole. It can process more than one million transactions per day and a capability to support the industry on a 24/7 basis. It is also ISO20022 messaging standard compliant and has enhanced AML/CFT capabilities.

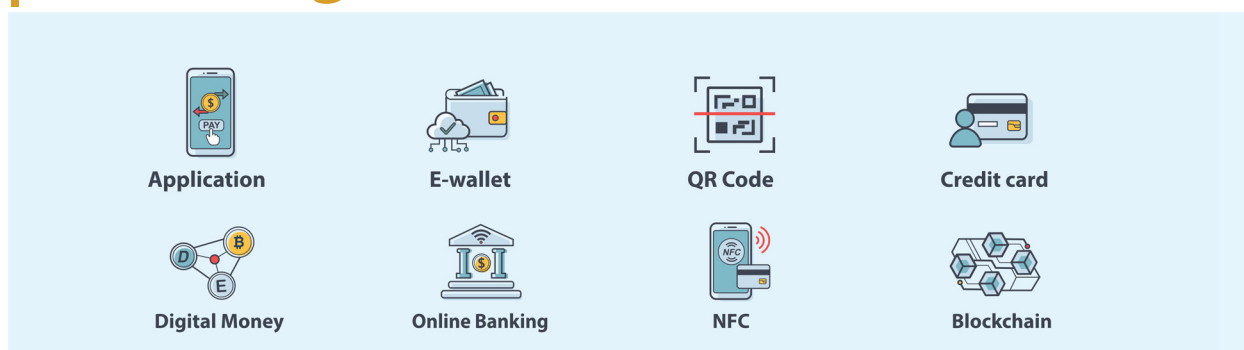
Other key benefits of the upgraded KEPSS include: more user friendly and accessible through all browsers; additional functionalities to the existing system such as alerts for monitoring purposes; enhanced transaction listing with a flexible filtering criterion for reporting purposes; improved and flexible timetable mechanism to run either automatically (scheduled) or on a manual basis; seamless integration with other systems to facilitate on-boarding of other payment channels; and enhanced liquidity management features for the participants to use to optimise the available settlement funds.

In line with the Government intention to rollout a digital economy and further to support The National Treasury and Planning Ministry's Digital Finance Policy, CBK will be gradually be rolling out the enhanced features of the new RTGS platform, in order to continue the journey of modernised NPS and support the emergence of a 24/7 economy in line with wider government agenda of a fully digitized and 24-hour based economy.

Diagram 4.2: Kenya's Payments Journey



5 Strategic Initiatives



As stated in the preceding Section, the Vision Statement, and Principles and Strategic Objectives constitute the core elements of the National Payments Strategy. For synergy and coherence, the Strategic Initiatives that follow in this Section have been organised based on the five Principles (Trust, Security, Usefulness, Choice and Innovation). This has in turn produced five clusters of Strategic Initiatives that will form the basis for implementation and monitoring (**Section 7**).



As Kenya continues to open up to the world, e-commerce will continue to be an important element of the payments landscape”

- Payment Switch

The clustering of Strategic Initiatives around the five principles gives a degree of overlap, which shows the inter-linkages between the initiatives. For example, implementation of common standards (e.g., on safety) or improvements in infrastructure will impact on both security, usefulness and innovation due to, for example, use of common standards such as the ISO20022. These inter-relationships show that success or outputs from one initiative will impact another initiative.

For context, the Strategic Initiatives have been preceded by a summary of key challenges. The articulation of the initiatives is at a high-level, but quite specific in order to provide a clear statement on the overall direction of travel for each initiative. The activities corresponding to each initiative have

then been listed in the implementation matrix (**Section 7**). Specific activities, including milestones and indicators, will be developed by the respective technical working groups that will be constituted by CBK after the launch of the Strategy.

Finally, each principle has been accompanied by an outcome statement communicating CBK’s understanding and expectations with respect to that principle. This is not meant to be a definition of the principle. Rather, the outcome statement under each principle is aimed at communicating CBK’s expectation in terms of what success in that principle means, taken from the perspective of NPS users in general and ordinary customers in particular. This people-centered approach will be a key element that will guide implementation of the Strategy.

5.1 Trust

The outcome:

A system which guarantees that payments will be made and received in a timely and reliable manner



A payments system can be well built from a technology point of view, offering the best experience in terms of efficiency, technology integration and real-time receipt of value. However, if it cannot be trusted, its ability to support the economy is significantly impaired. While trust may be a subjective concept, in the context of the payments system, it is about certainty and reliability of payment systems and channels. In short, a payer having the assurance that a payment will promptly and securely reach the intended payee.

However, trust in a payments system may mean more than this, particularly from the perspective of large users, and the regulator. For a large PSP or bank that is making a time-critical payment, trust is about having confidence that the payment will reach the intended beneficiary on time, with next-to-zero chance for failure. For a large business, that certainty is a matter of fulfilling a contractual obligation to a client. For the government and the regulator, trust is having the confidence that payments system will not be abused and become a conduit for money laundering or financing of criminal and terror activities. Overall, trust, just as security, will be the backbone of Kenya's NPS.

Challenges related to the Trust principle

Customers:

- They lack adequate assurances that payments will reach the intended recipients at the right time, thereby reducing their willingness to make regular use of digital payment services
- Frequent system failures and channel downtime causing delayed payment, reducing the chance a user will trust that channel next time
- Limited financial literacy also undermines trust as users are easily affected by fraud and scams



Kenyans are fast to adopt to new financial products that are simple, reliable, trusted, affordable and that bring more efficiency”

– Fintech



To enable wider usage, there must be confidence that the system is safe and affordable”

– Fintech

- Fraud undermines trust in particular, fraud such as socially engineered fraud, SIM swap fraud and identity theft
- Insufficient and ineffective complaints recourse. Where this exists, it is unclear or complex due to the existence of various customer protection frameworks. Further, no recourse mechanism has yet been purpose-built for digital payments
- Operationalisation of data protection regulations. Effective data protection remains a challenge. While regulations under the Data Protection Act, 2019 have been finalised, institutions will require significant capacity to enable customers realise the intended benefits
- Limited transparency in tariff setting practices affects customers' willingness to use digital payment services. This further impacts trust as they fear hidden costs

Businesses:

- Lack of sufficient assurances that businesses are making payment to the correct account especially for high-value and time-critical payments
- As with customers, system failures and channel downtime affect businesses' confidence in the use of digital payment services
- Business owners identified high incidences of fraud particularly in mobile money and card payments. This raises risks and operating costs to businesses

Payments industry participants:

- Cyber threats pose major threats in terms of cybercrime and online fraud. This inhibits uptake of digital payments and its ability to facilitate e-commerce

Government:

- Inability to promptly, correctly and cheaply confirm the identity of a beneficiary. This has been a particular challenge and likely to accelerate due to increased use of digital and mobile payments in the wake of the COVID-19 pandemic
- Money laundering and financing of terrorism undermine the trust and integrity of the payments system
- As the majority of transactions remain in cash, the government may have limited visibility of most transactions. This affects the ability to collect all revenue due to it

Strategic Initiatives on Trust

5.1.1 Adoption of relevant common standards

CBK will, with industry participation, facilitate adoption of common standards and principles across a range of topics that are essential for enhancing trust among participants, and more critically, between PSPs and customers. The key standards to be developed relate to messaging for financial transactions and security standards, among

others. This will also improve standardisation of product and user experience across channels. CBK will also seek to align with standards that are issued by global standard setting bodies.

5.1.2 Promote integration of digital identity

CBK will work with industry and government agencies to facilitate integration of digital identity to facilitate electronic Know Your Customer (KYC) systems.

It is expected that this will improve trust and secure customer identification and verification processes and strengthen AML/CFT oversight. The development of e-KYC systems to increase customer centricity and innovation will borrow the experience from jurisdictions that have adopted digital identity systems, but tailor that experience to Kenya's context. Focus will also be on marginalised segments of the population so that they are not denied access to digital payment services due to lack of identity documents.

5.1.3 Customer protection framework tailored for digital payments

CBK will develop a robust framework for digital payments customer protection in order to address customer protection issues in digital payments services. This will include harmonisation of existing frameworks, or development of new frameworks where necessary. A robust digital payments customer protection framework will have key elements such as mechanisms for raising and addressing complaints on a timely basis, complaints handling procedures,

efficient dispute resolution, and providing clarity on liability and compensation where necessary.

5.1.4 Data protection framework tailored for digital payments

CBK will facilitate development of a framework for financial data protection. The Data Protection Act, 2019, provides the broad framework for handling and protecting user's data. In 2020, further regulations were drafted to operationalise the Act. From a payment perspective, CBK will seek to see the emergence of a comprehensive framework that is tailored for digital payments and in line with our payments mandate. The focus will be on enhancing safeguards on how payments data is collected, stored and shared. The overall objective will be to ensure payments data is used safely and securely to enhance a users' privacy, reducing fraud and facilitate positive elements such as use of data to enhance security, innovation, access to new services and customer-centricity approaches.

5.1.5 Enhance customer awareness among digital payment users

CBK will develop tailored approaches for customer education. CBK will work with relevant agencies and industry players to develop effective and usable financial education and customer awareness framework and content. The aim will be to have providers use approaches and content that is neither complex nor cumbersome. The content will be tailor-made to drive end user customer awareness and financial capabilities using simple and relevant content, appropriately delivered.

5.1.6 Align tariff setting practices to Pricing Principles

CBK will continue to roll out the Pricing Principles in order to enhance customer focus in pricing of digital services. The primary aim will be to ensure that tariffs and pricing policies and practices are underpinned by principles such as transparency,

disclosure, cost effectiveness and customer-centricity (**Annex 3**). In addition, focus will be on appropriate pricing that is consistent with the current state of the market including efficiency considerations and safeguarding against excessive pricing or customer abuse due to undisclosed fees and charges. This initiative will be closely related with work on customer protection and awareness.

5.2 Security

The outcome:

A resilient system that safeguards all payments and channels in an increasingly digital world



Security in the context of payments is an all-encompassing concept, capturing dimensions of safety, resilience and integrity. The shift to digital payments due to the COVID-19 pandemic has only added the need to enhance these features. Increase in use of mobile and digital payments has added new users, who have little or no experience of how to transact digitally or online. Ensuring that existing and new users are adequately protected will be a core focus of in this Strategy, recognising that threats keep shifting constantly.

In addition to security, it is important to note that the dimensions of security noted above are also linked to the principle of trust. The more Kenya secures its NPS against current and future threats, the more customers it will attract, therefore increasing uptake and reducing dormancy.

CBK will seek to adopt the most up-to-date and relevant security standards in order to facilitate the emergence of well-protected payment channels and infrastructure. In the long-term, this will provide support for driving down the cost of payment systems, especially for players who currently invest resources for additional end-user protection (sometimes pushing this cost down to users). Therefore, from a CBK perspective, security will be the backbone of the Kenya's NPS.

Challenges for the Security principle

Customers:

- As stated above, fraud not only undermines trust, but it also makes the users vulnerable to fraudsters who conduct their criminal activities through socially engineered fraud, SIM card swaps and identity theft.



Security is required to build and to safeguard payments”

– Fintech



An affordable, efficient and secure payments system is a win-win for the economy”

– Microfinance Bank

Businesses:

- Payment systems that are not secure may lead to loss of revenue by businesses due to compromised systems, either by external fraudsters or by employees. Building foolproof and secure systems comes with additional costs to PSPs.

Payment industry participants:

- Cyber-attacks on payments systems represent a major threat to both large, retail and cross-border systems. Lack of harmonised and coordinated cyber reporting undermines collective efforts to put in place sufficient safeguards.

Government:

- Payments systems that are not secure undermine financial system integrity, national security and public safety

Strategic Initiatives on Security

5.2.1 Adopt common security standards

CBK will facilitate adoption of the latest and relevant security standards and principles.

This includes the Principles for Financial Market Infrastructure (PFMI) that are issued by the Committee on Payments and Market Infrastructures (CPMI) that outline how payment systems are governed, COBIT-5 governance and management of IT frameworks and other standards especially on areas such as information security, cybersecurity

and AML/CFT. These standards are crucial for PSPs to safeguard risks and other threats. In addition to adopting these standards, CBK will leverage participation in various global fora to influence development of standards and principles.

5.2.2 Create robust security data reporting and analytics

CBK will enhance reporting of fraud incidents through robust data reporting.

This will enable understanding of the incidents and nature of payments fraud in order to support effective mitigation and enforcement activities. To facilitate enhanced reporting and safety of payment systems, CBK will also facilitate the adoption of enhanced big data analytics to support appropriate oversight over current and emerging security threats. As mentioned in the subsequent Sections, availability of increased structured data in the ISO20022 standard will be used for enhanced AML/CFT reporting.

5.2.3 Facilitate capacity enhancement on complaints resolution

CBK will facilitate capacity building for enhanced resolution of complaints related to security.

The objective for this is to facilitate timely resolution of payments related crime and fraud incidents, thereby providing relief to customers and certainty of business environment for the industry. This will also seek to ensure effective adjudication and deterrence. Key to this will be continuous alignment to the latest mitigation measures to ensure Kenya stays ahead of modern trends.

5.3 Usefulness

The outcome:

A system that meets customer needs, especially among the financially excluded, in a cost-effective manner



“
Payments are [an] integral part in the economy thus affordability and usefulness of the payment options in the market is critical. This will also boost financial inclusivity in the economy thus creating a robust platform for ease of exchange of value.”

– Bank

A payments system can only contribute with a wider economic and social development, if customers find it relevant and applicable to their day to day payments needs. While being a subjective concept, usefulness is taken to mean that the payments needs of users are reliably met in a cost-effective manner. Evidently, needs vary across different users. To a low-income or retail customer whose payments matter for day-to-day survival, usefulness is about affordability and trust; the assurance that a small amount can be sent at minimal cost. During the stakeholder engagement, people spoke of the importance of usefulness functionality if they were to shift from using cash to digital payments. It is not uncommon for customers to make several attempts before payments are successful. At this point, the need for usefulness and trust in payment channels and instruments converge.

To a small business, usefulness is also about availability (up-time) and cost effectiveness of payment services. For these businesses, payments are only useful if they are able to present a variety of options in payments solutions and channels. For these businesses, usefulness of payments systems ensures that they are able to present different options to their customers and suppliers. Usefulness understood in this manner provides a competitive edge to retain customers.

To a large business or multinational company, usefulness is predominantly about security. For these users, usefulness is about having a guarantee that large payments will reach the right beneficiaries securely in order to enable these large entities meet contractual obligations with their customers, or comply with AML/CFT requirements.

Challenges for the Usefulness principle

Customers:

- The lack of interoperability has increased the complexity, time and costs associated with making payments. Although there is some level of interoperability at P2P level there are still challenges such as resolution of customer complaints, and cumbersome customer journeys that has friction in usage (hence cost and delays) and lack of full-scale interoperability
- System failures and channel downtime associated with digital payment instruments affects customers' willingness to make use of digital payment services, hence increasing account dormancy and dominance of cash, especially for low-value payments.
- Costs across various channels remain relatively high, particularly at the retail end of the market where scale and numbers can potentially allow lower costs.
- Low levels of financial literacy affect customers' ability to use digital payments. This is further exacerbated by complex and non-intuitive steps to effect payments, thereby inhibiting use of digital payment services.

Business:

- Time taken to effect payments can be a hindrance to businesses. Real-time clearing and settlement are limited to mobile money, Bank P2P and RTGS. In addition, payments across different types of PSP institutions often require additional steps to complete.
- Payment reconciliation can take long. Businesses rely on specific invoicing and receipting requirements. Transaction notifications from different payment providers differ in the market,

making it difficult for businesses to reconcile the payments.

- Lack of interoperability between different stores of value means that businesses require multiple devices for different channels. An example of this includes mobile money and bank agents that require multiple handsets, POS devices and separate virtual floats for each PSP. This raises business operating costs.
- System failures and downtimes limit the usefulness of digital payment services for businesses.

Payment industry participants:

- Low uptake of digital payment products. A number of new payment services sometimes record limited uptake that is required to attain scale.
- Closed loop payment systems and bilateral agreements between PSPs creates limited transparency. The lack of transparency leads to higher transaction costs for end users and makes it hard for PSPs to attain scale thereby diminishing their return on investment.

Government agencies:

- Some government agencies do not offer their services on the digital payment platform, eCitizen. As such, a large number of collection services for government are carried out in cash. This raises the risk of revenue leakages and limits citizen's payment options.
- As with businesses, the government is affected by the lack of interoperability between stores of value. This also means that multiple devices for multiple channels are required thereby raising operating costs and risks for government collection agencies.

- System failures and downtimes as described above affect the confidence that government agencies would have to accept and use digital forms of payment

Strategic Initiatives for Usefulness

5.3.1 Promote full-scale payment interoperability

CBK will guide and facilitate the efforts to achieve full-scale interoperability across the payments ecosystem. Building on the gains from P2P interoperability, and recent discussions among various providers at the regional and national level, CBK will facilitate players in the industry to achieve seamless and customer-centric interoperability anchored on development and launch of a national switch, supported by the required multilateral agreements among participating institutions, appropriate technology solution, governance, and regulatory oversight. The overall aim is to provide customers with a seamless, secure and affordable functionality to send and receive money from any financial institution across the payments ecosystem.

5.3.2 Facilitating efficient and effective clearing infrastructure

CBK will facilitate efficient and effective clearing infrastructure. This will be required to enable different participants interoperate and efficiently clear transactions. All settlements will continue to be done in KEPSS. In addition to facilitating efficient clearing, efforts will be undertaken to shift payments of given value to digital and electronic instruments, depending on value and criticality. As the CBK measures that were implemented to encourage use of mobile payments during the COVID-19 pandemic demonstrated, users can shift payments to digital channels with the right incentives and regulatory support.

5.3.3 Common user experience standards

CBK will review and adopt common standards that can be used to enhance usefulness. The adoption of common user experience standards will make the use of various payment instruments easier to use. This will include standards, principles and procedures on payments such as QR code payments, NFC payments, mobile push payments, domestic card payments and cardless withdrawals. Additionally, this will include adopting and enforcing the ISO20022 messaging standard for financial transactions, which is recognised as the global, common language of financial communication. This will not only enable international interoperability, but will additionally promote the richness of payment data creating a more holistic approach to digital payments. .

5.3.4 Continuing improvements of the RTGS platform

CBK will work on a phased roll-out of the enhanced features of the new RTGS platform in order to support emergence of a 24/7 economy. In addition, KEPSS rules and procedures will be reviewed in order to align them with the enhanced RTGS platform, support affordable cross-border remittances and alignment to standards such as ISO20022 and the SWIFT global payments innovation (gpi) for tracking cross-border payments.

5.3.5 Facilitate increased government digital payments

CBK will work with government agencies to encourage adoption of electronic forms of payment as the main CBK will work with government agencies to encourage adoption of electronic forms of payment as the main means of accepting and making payments for public services. This may require business process re-engineering within MDAs, and having the right infrastructure. However, a non-exclusive and non-discriminatory approach will be

taken to ensure there is no discrimination or failure to access services by citizens that are yet to adopt digital payments for various reasons.

5.3.6 Boosting regional and cross-border payments

CBK will increase efforts to enhance regional and international payments and remittances. This will require continued collaboration with other regional governments to identify current challenges faced and develop solutions so as to promote regional trade. It will also require a review of the EAPS and REPSS regional payment platforms to identify how their usage can be increased. Similarly, CBK will review the risk associated with privately provided cross-border mobile money payments and ensure they conform to appropriate payment system

standards. Internationally, it will entail a review of how international payments are made and how remittances are received with a view of improving ease and efficiency.

5.3.7 Promote accessibility among marginalised groups

CBK in partnership with other players will explore ways for improving access to payments by marginalised groups. These include persons living with disabilities, youth, women and populations living in arid and semi-arid areas. The CBK will work with stakeholders to identify these groups and support processes to ensure that digital payments do not have the unintended consequence of leading to digital exclusion.

5.4 Choice

The outcome:

Availability of feasible options resulting from collaboration among different players in the payments ecosystem



A key feature of a competitive market is availability of viable payments options. These options need to be priced at the appropriate point that meets the needs of customers and encourages uptake. From the stakeholder engagement, it was clear that users associate choice with convenience of payments options. To achieve the shift to digital platforms that this Strategy is promoting, digital payments need to become an equal if not better competitor to cash. However, this does not call for a policy that eliminates the use of cash, as that could lead to adverse unintended consequences. Rather, it is a desire to present digital payments as a better alternative to cash given the benefits associated with use of digital payments. The major lesson is that for different channels of payments, they have to compete with the features that make cash a preferred choice: it offers instant payment; it is widely acceptable; at the point of making a payment it costs very little to use cash to settle low-value transactions. To make significant progress on the financial inclusion journey, PSPs must deliver digital and mobile payment options that exceed the benefits that cash offers.

Choice will be an important feature of Kenya’s NPS ecosystem in order to encourage uptake and efficiency. Encouraging competition will be a key enabler for effective and viable payments options.

Finally, there are segments in the payments architecture where competition and choice may be limited for legitimate regulatory reasons, i.e., areas that have features of public goods. In these areas, the key aim of CBK will be effective oversight to ensure that lack of choice in these segments does not lead to overpricing, exploitation or anti-competitive behaviour.



Payments is an integral part in the economy thus affordability and usefulness of the payment options in the market is critical”

– Bank

Challenges for Choice

Customers:

- Significant concentration of market power limiting choices to customers. This is a concern even across the globe, as bigtech firms enter the payments sector.
- Different payments channels being costly and out of reach for customers. For example, high pricing for ATM transactions made at third-party ATMs (off-us transactions). This limits the use of shared ATM infrastructure and resource waste as each provider replicates its own ATM network.
- Customers are unable to migrate their payment history from one payment provider to another. As such individuals are bound to incumbent providers – even when cheaper options exist.

Business:

- Market power where industry participants determine interchange fee that acts as a floor price in the provision of merchant services. This price floor raises costs to businesses that can inhibit their willingness to accept payment channels which in turn limits customers options.
- Limited competition for merchant acceptance in mobile money space. This is also due to limited acceptance of competitor payment instruments.
- Limited interoperability in the mobile money merchant acceptance space limits payment options available to customers as well.

Payment industry participants:

- Limited open and secure application programming interfaces (APIs) means that dominant players maintain their market position at the expense of smaller players.
- Lack of payment system participation for non-bank financial service providers means that customers of nonbank institutions rely on banks

or mobile money providers to clear and settle their payments.

- Complexity of on-boarding for different payment platforms affects competitiveness within differing platforms too.

Government agencies:

- Market dominance in the mobile money space impact the cost of delivering government services as both a large payer and recipient of payments.

Strategic Initiatives for Choice

5.4.1 Fostering effective competition

CBK will facilitate emergence of a competitive payments ecosystem in order to improve choice and competition among different payment options and products.

5.4.2 Gradual rollout of the Pricing Principles

CBK will gradually roll out Pricing Principles in order to facilitate choice and competition among various providers and services (Annex 3). The aim for this is to ensure that payment systems especially at the retail level enhance choice, competition and seamless payments across different payment channels and store of value.

5.4.3 Standards for open Application Programming Interface

CBK will facilitate development of appropriate API standards and mandate robust but secure data sharing. The use of secure APIs by digital financial providers makes it easier for third parties, mainly fintechs that offer tailored, innovative solutions, to connect in a seamless, fast and secure manner. This enables end users to have access to a wider range of relevant and easily usable products. Data sharing

and portability will be done while taking into account the Data Protection Act, 2019, in order to ensure that all aspects of data governance take into account the unique needs of payments data. The use of APIs will need to be evaluated against the risks that it also introduces into the payments ecosystem.

5.4.4 Promoting market entry

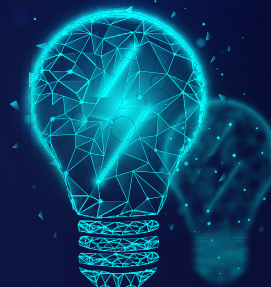
CBK will work towards streamlining the authorisation and product review process in order to enhance market participation and innovation.

This is especially in cases where applicants will be proposing to bring onboard value-adding and customer-centric innovation and new capabilities in the payments system. This will promote increased competition in the payments ecosystem, widen choice among customers and increase variety of product offerings. CBK will also explore appropriate ways of facilitating choice by reviewing the need for broader participation in the payments system, while ensuring that new payments participants do not result to added systemic or settlement risks.

5.5 Innovation

The outcome:

An ecosystem that produces customer-centric and value adding solutions which also compete on the global stage



Kenyans are fast to adopt to new financial products that are simple, reliable, trusted, affordable and that bring more efficiency, if the ecosystem can innovate around cashless solutions that provide these, then the uptake to a cashless society will happen.

– Fintech

Innovation in payments involves developments that increase access to digital forms of payment particularly for those that were previously excluded, enhancing the convenience and improvements of existing systems. Innovation can therefore occur at multiple areas across the payments value chain; ranging from the underlying infrastructure, the clearing and settlement processes, channels and the nature of the products and services offered to end users.

For Kenya to enhance its global leadership in digital payments, CBK will continue to facilitate uptake in new payment solutions anchored on the Strategy principles, and more importantly, based on the degree to which the proposed innovation meets customer needs in an efficient and affordable manner (people-centredness). In this regard, CBK as the regulator will continue to provide a conducive environment to players in the payments ecosystem to “test and learn” based on new business models.

However, while this facilitative approach is undertaken, there is need to be cognisant that an increasingly digitised world presents new risks and threats that could be systemic in nature if they remain unmitigated. CBK will take up an approach that considers testing within clearly defined parameters in order to ensure that innovation does not lead to a buildup of vulnerabilities in the payments ecosystems, instability or exposing customers to undue risks.

Challenges for Innovation

Customers:

- Payment initiation and processing can be slow depending on the type of payment instrument being used. Some payment interfaces take longer than others due to the number of steps required or the speed of processing.

- Availability of payment instruments is limited. For example, EFT or RTGS is not available over the weekend; while even with near real-time instruments like mobile money and QR codes, initiation speeds can vary.
- Managing multiple PINs and passwords for different payment platforms can be cumbersome for customers. Similarly, managing the process of retrieving PINs and passwords if forgotten can be a challenge as well. All this is due to lack of integrated payments services, lack of secure data sharing, and lack of an open architecture for identity and authentication.

Businesses:

- Uptake of secure pull payments has constrained growth. To date, pull payments have mainly been used for credit product repayments with limited growth in retail sector such as bill payments or ‘request to pay’.
- Payment reconciliation can take a long time to effect due to the transaction messaging that is not standardised.
- Businesses are unable to have accounting and business systems easily integrated with payment platforms. This would ease business operations where transactions generated in internal systems would then automatically be carried out through the PSP for payments.
- The reliance on multiple acceptance instruments raises complexity and costs of digital payment acceptance. This increases costs for digital payments for businesses, and in turn encourages the use of cash especially for small businesses.

Payments industry participants:

- There are no open API standards to allow customers to permit a third-party financial service provider access to that customer’s prior data or historical records.

- Lack of common standards for key payment technologies, procedures and security features has meant that similar innovations for example for QR payments from two different PSPs are not often compatible.

Government:

- The number of government services that are paid through electronic means still remains low, despite efforts to digitise payment of public services at national and devolved levels.
- Government agencies have different pay bill numbers to accept payments. This adds to confusion and complexity for customers when making payments to government.
- Lack of an efficient and fast payment interface for mass transit in the country. This would support efforts to increase efficiency in small value retail payments for key public services such as mass transport systems.

Strategic Initiatives for Innovation

5.5.1 Promoting of Application Programming Interface standards

CBK will facilitate development of industry wide standard for open but secure APIs in a way that guarantees access, safety and integrity of data sharing systems. These standards will include API specifications for identification, verification and authentication; customer account information/ data access; transaction initiation; and formats and coding languages for APIs. Due to the risk associated with opening up data from financial institutions to third-parties, CBK will define clear risk management frameworks, especially on liability and customer protection.

5.5.2 Regulatory support for innovation

CBK will continue to facilitate ‘test and learn’ approaches in order to support innovation in payments. The main objective for this will be to build on CBK’s legacy of facilitating test and learn, for innovation that is consistent with CBK’s policy and regulatory mandate and key objectives such as customer-centricity, a people-centred approach, and risk mitigation.

5.5.3 Facilitating digital government payments

CBK will play its complementary role to support increased use of digital channels in the payment of various government services. The government is the biggest payer and receiver of payments. Given the scale and size of government payments, gradual but full digitisation of government payments can act as a major catalyst for digitisation of payments

across the board. In this regard, CBK will work closely with National Treasury and other agencies in order to increase digitisation of payments to and from government.

5.5.4 Global influence and learning

To enhance learning and sharing of knowledge, CBK will continue to contribute and draw from payments developments on the global stage.

The aim for this will be to borrow best practices and influence global standards and practices. Through major activities such as the Afro-Asia Fintech Festival, and partnerships such as the cooperation between CBK and the Monetary Authority of Singapore, CBK will ensure that the industry keeps pace with global initiatives to enhance people-centred and value-adding innovation. This will also extend to continue to examine the potential benefits and risks of emerging new technologies (such as CBDCs, **Box 3.2**).

| 6 Regulatory Framework

The outcome:

A supportive policy, legal and regulatory framework that is firmly enforced across existing and emerging players.



In previous Sections, it was noted that the establishment of the CBK is anchored on the Constitution of Kenya (2010) and the CBK Act. The CBK Act empowers the CBK to establish, regulate and supervise the payment, clearing and settlement systems.

While the framework has allowed CBK to facilitate the developments that have taken place in the payments ecosystem, it will be important for the framework to keep pace with changes taking place in the payments landscape, locally and globally. Today, payments are being delivered by non-traditional players; bigtech firms are entering the payments space; new challenger institutions are disrupting traditional ways of delivering payments. In turn, customers are expecting faster payments, and as regulators, especially in the post COVID-19 world, security, resilience, stability and customer-centricity must remain at the front and centre of the payments ecosystem. Lastly, use of big data in payments will present both unique challenges and opportunities. Through this Strategy, CBK is positioning itself to adequately meet these challenges, supporting what is useful, relevant and value-adding, while mitigating the risks and vulnerabilities posed by new technologies.

Overall, the legal and regulatory framework that will be developed on the basis of this Strategy will seek to achieve key overarching principles. This will require striking a balance across multiple objectives. First, while CBK will seek to encourage payments market development (innovation), it will also put increasing emphasis on market discipline (compliance) and appropriate risk mitigation. The last few years have witnessed market developments that have led to inappropriate practices (by both new and incumbent players) that CBK deems harmful to the customer and wider public interest. CBK will focus on compliance not as a 'tick-box' exercise, but engendering a genuine commitment and business culture that delivers outcomes that meet customer needs and wider public interests.



Good policies & adherence to them will ensure the country achieves [this] vision”

– Microfinance Bank

“Super-platforms will have both opportunities and threats that will need to be managed for optimal benefit”

– Microfinance Bank

Similarly, while no regulatory framework can fully keep pace with rapid changes in the payments industry, CBK will develop a robust framework underpinned by key principles that will anchor the regulatory framework, ensure sufficient oversight over new and emerging payments providers, platforms (systems that in one way or another facilitate payments) and payments products (innovations that are not being provided by traditional PSPs and which constitute a store of value). This combination of seeking to effectively regulate providers, products and platforms will enable the framework to be agile and adaptable to different types of payments activities that CBK will judge as being necessary to come under its regulatory ambit. CBK will enhance its regulatory and supervisory framework by developing guidelines on a need basis, and implementing it in a proportionate basis to suit emerging regulatory needs. At the opportune time, the legal and regulatory framework will be updated to make it fit for purpose and fit for future, while at the same time making use of the regulatory tools at CBK's disposal.

Strategic Initiatives for the Regulatory Framework

6.1 Develop guidelines on key areas

CBK will develop a range of guidelines to enhance robustness of the NPS regulatory framework especially in areas that are best addressed through guidelines and regulatory tools such as directives and circulars. This will ensure that the overall regulatory framework is tiered sufficiently in order to avoid excessive reliance on statutes for dynamic payments issues that are best addressed through guidelines and other agile regulatory instruments.

This approach will enable the NPS framework to retain the required flexibility and proportionality to deal with rapidly evolving issues such as new technologies, data and future COVID-19 impact.

6.2 Review of the legal and regulatory framework

Over the Strategy period, CBK intends to review the NPS legal and regulatory framework. At the appropriate time, the NPS Act, 2011 and NPS Regulation, 2014 will be reviewed in order to update and strengthen the framework. This review will build on past gains, addressing current gaps in existing laws, borrowing best practices from relevant jurisdictions (tailored to suit Kenya's unique needs and context) and align to international standards and best practice.

6.3 Strengthen compliance and enforcement

CBK will enhance compliance and enforcement to ensure that regulation and supervision delivers the desired customer outcomes, resilience and stability. CBK views compliance not as a 'tick box' exercise, but a process that can and should increase value for both customers and PSPs in terms of ensuring that players do the right thing. Where necessary, CBK will ensure that the enforcement approach delivers appropriate deterrence and more importantly, engenders a culture of effective compliance across the board. Finally, CBK will utilise its capacity, data and tools for effective surveillance to ensure pro-active approach in identification of risks, promotion of market integrity and support for overall financial and payment system stability.

6.4 Regulatory reviews, dialogue and cooperation

CBK will engage industry stakeholders to ensure the NPS framework remains adaptive and relevant in view of emerging payments trends and regulatory debates. This dialogue will be undertaken locally, regionally and at global level, utilising various affiliations where CBK has representation.

This includes forums such as Kenya's Joint Financial Sector Regulators Forum, various EAC organs and international bodies such as the Alliance for Financial Inclusion (AFI) and other engagements that take place on a bilateral or multilateral basis.



| 7 Implementation Approach

Over the past several years, CBK alongside industry players have implemented various initiatives to improve payment services to customers. More recently, the CBK has sought to improve the efficiency and operation of settlement operations through a recent upgrade of the RTGS system (**Box 4.1**). Additionally, CBK has implemented a range of measures to mitigate the impact of the COVID-19 pandemic (**Box 3.3**). Given the rapid changes taking place in the payments sector locally, regionally and globally, and the need to support the industry on various initiatives, CBK seeks to fast-track implementation of priority initiatives in order to support achievement of the Strategic Objectives outlined in this Strategy. Overall, implementation will be guided and underpinned by the following considerations.

Prioritisation – the number of Strategic Initiatives (and the corresponding activities) is relatively large. This means that CBK and industry stakeholders in general will need to prioritise key initiatives and implement others in a phased approach. The Prioritisation will be based on urgency, need to complete on-going

activities, resourcing requirements, and effective sequencing. For example, focus needs to be put on engagements to improve interoperability (need and urgency), which in turn will mean putting significant focus on improving payments infrastructure, framework for digital payments customer protection

and development of standards to support initiatives such as data security and sharing. Similarly, there could also be low-hanging fruits in terms of activities that can be completed within a short period of time and with limited resources.

Clustered approach – the Strategic Initiatives in the Strategy have been organised around each of the five Strategy principles. At this stage, the Strategic Initiatives have been outlined at a broader level in order to provide a clear direction of travel in terms of what each strategic initiative seeks to achieve, and allow flexibility in choice and design of implementation activities. Therefore, the approach CBK will follow is to have these Strategic Initiatives broken down further to strategic activities, including key performance indicators (KPIs). Implementation Groups will be mobilised for each vision principle, and to act as the main forum for delivering respective Strategic Initiatives, activities and reporting against the corresponding KPIs. This clustered approach is aimed at ensuring flexibility, synergy, participation and accountability.

Collaboration – CBK will take a collaborative approach by engaging various domestic stakeholders and global partners during the design and implementation of the planned activities. In taking this approach, the CBK will seek to ensure there is strong leadership to underpin and guide the roll out of Strategic Initiatives and activities.

Phased approach – The matrix below highlights the high-level implementation approach for the defined Strategic Initiatives. Short-term activities are those that need to be completed in year one (2022), medium-term activities (2023 - 2024), and long-term activities, to be concluded in the fourth and final year of implementation (2025).

The high-level implementation plan detailed below outlines the overall timeframe for implementing activities. Detailed work plans for the Strategic Initiatives and corresponding activities will be developed by respective technical implementation groups.

Table 7.1: High-level Implementation Framework

<i>Predominant Principle</i>	<i>Strategic Objective</i>	<i>#</i>	<i>Strategic Initiative</i>	<i>High-Level Key Performance Indicator (KPI)</i>	<i>Responsibility for implementation</i>	<i>Timeframe</i>
<i>1. TRUST</i>	Strategic Objective 2	5.1.1	Adoption of relevant common standards	Relevant standards identified and domesticated (e.g., security, QR, APIs, etc)	<i>CBK leading with industry participation</i>	<i>Medium term (2023-24)</i>
	Strategic Objective 3	5.1.2	Promote integration of digital identity	Guideline/standard for e-KYC in payments services completed and implemented	<i>CBK leading with industry participation</i>	<i>Medium term (2023-24)</i>
	Strategic Objective 1	5.1.3	Consumer protection framework tailored for digital payments	Consumer protection framework for digital payments completed, implemented with regular monitoring	<i>CBK leading with industry participation</i>	<i>Short term (2022)</i>
	Strategic Objective 2	5.1.4	Data protection framework tailored for digital payments	Guideline/approach for payments data protection developed and implemented	<i>CBK leading with industry participation</i>	<i>Short term (2022)</i>
	Strategic Objective 1	5.1.5	Enhance consumer awareness among digital payments users	Effective consumer capability approach/material designed, implemented and refreshed periodically	<i>CBK leading with industry participation</i>	<i>Medium term (2023-24)</i>
	Strategic Objective 1	5.1.6	Align tariff setting practices to the Pricing Principles	Rollout of Pricing Principles across digital and mobile banking services	<i>CBK leading with industry participation</i>	<i>Short term (2022)</i>
<i>2. SECURITY</i>	Strategic Objective 2	5.2.1	Adopt common security standards	Relevant standards identified and domesticated (e.g., security, QR, APIs, etc)	<i>CBK leading with industry implementing</i>	<i>Medium term (2023-24)</i>
	Strategic Objective 3	5.2.2	Create robust security data reporting and analytics	Enhanced internal capacity for robust monitoring of security and safety outcomes among PSPs	<i>CBK leading with industry implementing</i>	<i>Medium term (2023-24)</i>
	Strategic Objective 4	5.2.3	Facilitate capacity enhancement on complaints resolution	Timely resolution of incidents of payments fraud and crime	<i>CBK leading with industry implementing</i>	<i>Medium term (2023-24)</i>
<i>3. USEFULNESS</i>	Strategic Objective 1	5.3.1	Promote full-scale payments interoperability	Full interoperability across mobile wallets, channels and providers under a unified scheme	<i>CBK leading with industry implementing</i>	<i>Medium term (2023-24)</i>
	Strategic Objective 2	5.3.2	Facilitating efficient and effective clearing infrastructure	Common clearing infrastructure developed	<i>CBK leading with industry implementing</i>	<i>Short term (2022)</i>
	Strategic Objective 2	5.3.3	Common user experience standards	Interchange fee arrangements reviewed and aligned to Pricing Principles	<i>CBK leading with industry implementing</i>	<i>Short term (2022)</i>
	Strategic Objective 1	5.3.4	Continuing improvements of the RTGS platform	Growth in volume and value of RTGS system due to increased operational hours	<i>CBK leading with industry implementing</i>	<i>Medium term (2023-24)</i>
	Strategic Objective 2	5.3.5	Facilitate increased government digital payments	Adoption of digital channels at National and Devolved Government levels	<i>CBK/MDA with industry</i>	<i>Long term (2025)</i>
	Strategic Objective 3	5.3.6	Boosting regional and cross-border payments	Increased volume and speed of cross-border payments and remittances	<i>CBK/MDA with industry</i>	<i>Medium term (2023-24)</i>
	Strategic Objective 4	5.3.7	Promote accessibility among marginalised groups	Strategies to increase access and usage of digital payments by marginalized groups developed	<i>CBK/MDA with industry</i>	<i>Medium term (2023-24)</i>

Predominant Principle	Strategic Objective	#	Strategic Initiative	High-Level Key Performance Indicator (KPI)	Responsibility for implementation	Timeframe
4. CHOICE	Strategic Objective 5	5.4.1	Fostering effective competition	Competitive payments ecosystem through new products and authorised PSPs	CBK leading with industry implementing	Medium term (2023-24)
	Strategic Objective 6	5.4.2	Gradual rollout of the Pricing Principles	Rollout of Pricing Principles across digital and mobile banking services	CBK leading with industry implementing	Short term (2022)
	Strategic Objective 3	5.4.3	Standards for open Application Programming Interface	API standards developed/ domesticated and implemented	CBK leading with industry implementing	Medium term (2023-24)
	Strategic Objective 1	5.4.4	Promoting market entry	Service charter for payments related authorisation and approvals developed and adopted	CBK leading with industry implementing	Medium term (2023-24)
5. INNOVATION	Strategic Objective 3	5.5.1	Promoting of Application Programming Interface standards	Standards for open and secure APIs are developed/adopted and implemented	CBK leading with industry implementing	Medium term (2023-24)
	Strategic Objective 3	5.5.2	Regulatory support for innovation	Framework/approach for supporting testing and approval of innovative solutions developed and implemented	CBK leading with industry implementing	Medium term (2023-24)
	Strategic Objective 3	5.5.3	Facilitating digital government payments	Increased use of digital channels for payment of various public services	CBK/MDA with industry	Medium term (2023-24)
	Strategic Objective 3	5.5.4	Global influence and learning	Increased engagement of CBK at regional and global forums for collaboration, learning and partnerships	CBK leading with industry participation	Medium term (2023-24)
6. CROSS-CUTTING	Strategic Objective 3	6.1	Develop guidelines on key areas	Relevant payments guidelines completed	CBK leading with industry participation	Medium term (2023-24)
	Strategic Objective 3	6.2	Review of the legal and regulatory framework	Payments guidelines and revision of NPS Act and Regulations completed	CBK leading with industry participation	Long term (2025)
	Strategic Objective 3	6.3	Strengthening compliance and enforcement	Reduction in number and degree of non-compliance areas across all PSPs	CBK leading with industry participation	Medium term (2023-24)
	Strategic Objective 3	6.4	Regulatory reviews, dialogue and cooperation	Feasibility of an Annual Payments Report completed and recommendations implemented	CBK leading with industry participation	Short term (2022)
	Strategic Objective 3	6.4	Regulatory reviews, dialogue and cooperation	Feasibility of a payments apex body completed and recommendations implemented	CBK leading with industry participation	Medium term (2023-24)
	Strategic Objective 3	6.4	Regulatory reviews, dialogue and cooperation	Participation in key payments and fintech events locally, regionally and globally	CBK leading with industry participation	Medium term (2023-24)

Key for the Strategic Objectives:

Strategic Objective 1: To support a payments system that meets the diverse needs of customers, especially with respect to financial inclusion and shared prosperity.

Strategic Objective 2: To enhance the safety and security of the payments system through the adoption of relevant industry and global standards.

Strategic Objective 3: To support an ecosystem that is anchored on collaboration that produces customer-centric and world-leading innovations.

Strategic Objective 4: To create a supportive policy, legal and regulatory framework that is robustly enforced across existing and emerging players in the payments ecosystem.

8 Annexes

Annex 1: Summary of Stakeholder Engagement and Findings from the Market Analysis

As outlined in **Box 2.1**, the National Payments Strategy 2022 - 2025 was developed through a consultative process involving contribution and feedback from the payments industry and other stakeholders. The stakeholder engagement was facilitated by partners such as FSD Kenya, with technical and research support from Genesis Analytics. Based on this engagement, the CBK sifted through extensive amount of feedback, distilling it to initiatives that have been presented in this document. In particular, participation and feedback was obtained from various institutions during key stages of the process. In addition, a market survey was implemented in order to determine the key issues and challenges that players in the payments ecosystem faced, and ways of addressing them. The summary stakeholder engagement and market survey results are outlined in the tables below.

Table 8.1: Summary from Stakeholder Meetings

Activity	Participants
Data collection for market analysis	<p>Mobile money providers: Safaricom, Airtel and Telkom</p> <p>Banks: Bank of Baroda, Credit Bank, Dubai Islamic Bank, Ecobank, Guaranty Trust Bank, Gulf African Bank, I&M Bank, KCB Bank, Mayfair Bank, M-Oriental Bank, Standard Chartered Bank, Victoria Commercial Bank, Bank of Africa, Stanbic Bank, Co-operative Bank, Citi Bank, NCBA Bank (previously NIC Bank and CBA Bank)</p> <p>Microfinance banks: Caritas, Daraja, Faulu, Maisha, Rafiki, Remu, Sumac, U&I Microfinance bank</p>
Market analysis dissemination workshop	Commercial banks, industry associations, deposit taking micro-finance institutions, mobile money providers, payment switches, card schemes, payment aggregators, fintechs, retailers, academia, utility providers, Government Ministries Departments and Agencies, Money Remittance Providers

<p>Strategy development questionnaire</p>	<p>Banks: National Bank of Kenya, NCBA Bank, Co-operative Bank, Bank of Baroda, Credit Bank, Dubai Islamic Bank, Gulf African Bank, Habib Bank, Stanbic and Citi Bank</p> <p>Fintechs: Craft Silicon, Data Integrated Limited, Imaginarium, Interswitch, Mkopa, Raise Impact</p> <p>Government: National Drought Management Authority (NDMA)</p> <p>Microfinance banks: Caritas, Daraja, Faulu, Rafiki, Remu, U&I Microfinance bank</p> <p>Mobile money providers: Safaricom, Airtel and Telkom</p> <p>Money remittance providers: Dahabshill, Flex, Iftin, Mobex, Real Value, Kendy, Juba</p> <p>Payment experts: 5 global payment consultants</p>
<p>Customer Focus Group Discussions (FGDs)</p>	<p>9 focus groups based on the following criteria: income level, occupation and age FGDs were conducted in Nairobi City County and Machakos County</p>
<p>Stakeholder meetings and interviews</p>	<p>National Treasury and Planning, Government Digital Payments (eCitizen), Ministry of Labour and Social Protection, Ministry of Information and Communication Technology, Interswitch, Central Depository and Settlement Corporation, Communications Authority, Tangaza, Kenya Power and Lighting Company, Integrated Payments Service Limited, Kenya Bankers Association, VISA, Airtel, Standard Chartered Bank, Stima Sacco, Equity Bank, Kenya Women Microfinance Bank, Kenswitch, National Transport and Safety Authority, Safaricom, KCB Bank, Telkom, Diamond Trust Bank, Cellulant and others</p>
<p>Sub-sector specific mini-workshops</p>	<p>Retailers: Retail Trade Association of Kenya (RETRAK, Naivas, Food Plus)</p> <p>Government agencies: Nairobi Water & Sewerage, Kenya Power and Lighting Company, State Department of Social Protection, Nairobi City County, Association of Micro Finance Institutions (AMFI) and Money Remittance Providers</p> <p>Fintechs: Art of Learning, Circle, DIL, MKopa, Tala, Twiga Foods</p> <p>Payment processors and aggregators: Integrated Payments Service Limited, Interswitch, Web Tribe, Kenswitch, Kopo Kopo</p> <p>Academia: Strathmore Business School, University of Nairobi, Daystar University, Technical University of Kenya, Jomo Kenyatta University of Agriculture and Technology</p> <p>Industry bodies: Kenya Credit and Debit Card Association (KCDCA) and its members</p>
<p>Technical working groups</p>	<p>Stakeholder engagements were conducted in a number of working groups on</p> <ul style="list-style-type: none"> • Innovation • Cyber security • Infrastructure • Policy and regulation

<p>Final public participation and consultation</p>	<p>Government/public institutions: Communications Authority of Kenya (CA), Capital Market Authority (CMA), Competition Authority Kenya (CAK), Sacco Societies Regulatory Authority (SASRA), National Cyber Command Centre, The National Treasury and Planning, Ministry of ICT Innovation and Youth Affairs</p> <p>Payments industry: Safaricom PLC, Telkom Kenya Limited, Airtel Networks Kenya Limited, Integrated Payment Services Limited, Kenswitch Limited, Interswitch East Africa (K) Limited, Webtribe/Jambo Pay, World Remittance, Master Card, Visa, Kenya Credit & Debit Card Association (KCDCA)</p> <p>Banks and Micro Finance: Sidian Bank, NCBA Bank, Gulf African Bank, Rafiki Microfinance Bank, KCB Bank, Citi Bank, Faulu Microfinance Bank, SBM Bank, Equity Bank, Absa, Diamond Trust Bank, I&M Bank, Ecobank, Bank of Baroda, Stima Sacco</p> <p>International Organisations: World Bank, Bill and Melinda Gates Foundation, Consultative Group to Assist the Poor (CGAP), Financial Sector Deepening (FSD) Kenya, International Fund for Agricultural Development (IFAD)</p> <p>Others: Appruve Innovations Limited, Alternative Circle, The SW7 Group, Oracle, Financial Services Consultant, Fintech-group, KUEQ, Global System for Mobile Communications (GSMA), Cybele International Services Ltd (Brian Kibet Sang, CDFP), Luno, Payment experts that were surveyed earlier as part of the development of the strategy</p> <p>Four individual contributors</p>
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Table 8.2: Summary from the Market Analysis

Trust	
Definition	Refers to the confidence customers have that they can effect payments in a correct and secure manner
Hypothesis	Whereas customers seem to trust mobile money, there is limited trust in bank and e-payments
Key research findings	<ol style="list-style-type: none"> 1. Cybercrime and counterfeit notes, coins and cheque fraud have seen a rise in recent years 2. Some customers harbour fears of using e-payments due to past experiences
Recommendations	<ol style="list-style-type: none"> 1. Reporting of actual and attempted fraud should be enhanced to identify and communicate adverse trends, and develop tailored solutions 2. Enhance regulator visibility in identifying and addressing cases of fraud
Accessibility	
Definition	The degree to which current payment instruments and channels meet the payment related needs of end users.
Hypothesis	Customers have a growing number of options of electronic forms of payments
Key research findings	<ol style="list-style-type: none"> 1. Some e-payments have experienced significant growth, while others have stagnated 2. Paper based payments usage (i.e. cash and cheques) remains high, despite a slight decline
Recommendations	<ol style="list-style-type: none"> 1. Adopt more dynamic monitoring and evaluation approaches 2. Continued efforts are required to encourage increased usage of digital payment instruments to discourage the use of cash
Affordability	
Definition	This relates to the cost taken to effect payments by end users
Hypothesis	Costs of financial services remain high for low income individuals
Key research findings	<ol style="list-style-type: none"> 1. Customers have more cost options due to the introduction of new payment instruments 2. Nevertheless, costs remain high for low income groups, which is further affected by low transparency of pricing
Recommendations	<ol style="list-style-type: none"> 1. Continued efforts are required to expand interoperability thereby bring down the costs for both service providers and customers 2. Increased competition should be encouraged to bring down the costs to end customers
Stability	
Definition	This relates to the reliability of the payment instruments and channels from system failures or channel downtime, and the redressal mechanisms available to customers
Hypothesis	Stability of PSP instruments varies widely
Key research findings	<ol style="list-style-type: none"> 1. There is a general decline in the average reported downtime of payment channels. However, each instance is likely to impact customers negatively 2. There are no industry wide standards for uptime and failed transactions
Recommendations	<ol style="list-style-type: none"> 1. There is a need to enhance industry wide standards in relation to uptimes and failed transactions, with a mechanism for enforcement

Efficiency	
Definition	Refers to the time and level of effort required to transact using a payment instrument for end-users, as well as the ability of PSPs to leverage existing infrastructures thereby reducing the cost to serve existing and new customers
Hypothesis	Interoperability of physical channels and across different payment instruments remains limited
Key research findings	<ol style="list-style-type: none"> 1. Interoperability remains limited 2. Approval and authorisation of applications needs to be streamlined
Recommendations	<ol style="list-style-type: none"> 1. Continue efforts to expand interoperability within the market 2. Where possible, fast-track authorisation and approval of PSP and product applications 3. There is a need to develop and enforce payment standards such as messaging and APIs

Annex 2: Summary of Findings from Global Scan

United Kingdom

Vision: Our Vision is for the future architecture of the UK retail interbank payment systems to enable; i) simpler access; ii) ongoing stability and resilience; iii) greater innovation and competition; and iv) increased adaptability and better security. This serves to meet the needs of current and future generations of payments service users.

India

Vision: Building best of class payment and settlement systems for a 'less-cash. 'India through responsive regulation, robust infrastructure, effective supervision and customer centricity.

Vision objective: To facilitate provision of a payment system for the future that combines the much-valued attributes of safety, security and universal reach with technological solutions which enable faster processing, enhanced convenience, and the extraction and use of valuable information that accompanies payments.

South Africa

Vision: Enhance the safety, efficiency and accessibility of the national payment system in a manner that promotes competition and minimises risk to the payments ecosystem by leveraging technological developments to extend the availability of digital payment services to all sectors of society while meeting domestic, regional and international requirements for the benefit of all members of South African society.

Canada

Vision: A modern payment system that is fast, flexible and secure, promotes innovation and strengthens Canada's competitive position.

Singapore

Vision Statement: Creating payment solutions that are swift, simple, secure, accessible to all and accepted by all, the MAS will help achieve the Smart Nation Vision. An evaluation of the country NPS vision identified a number of cross-cutting themes. These themes and findings were incorporated in the Strategy, but tailored to suit Kenya's unique context, needs and applicability. These themes include:

- Simple, open and risk-based access and participation to the payment system (United Kingdom, South Africa, Canada, Singapore)
- Activity based oversight and emergence of institution-agnostic oversight, applied consistently based on activity (United Kingdom, South Africa, Canada, Singapore)
- Adoption of the ISO20022 messaging standard to reduce complexities around innovation, enable ongoing interoperability and ensure data richness (United Kingdom, India, South Africa, Canada)
- Industry (transaction and fraud) data sharing and analytics to identify fraudulent and criminal payment activities and inform policy action using emerging trends (United Kingdom, India, South Africa)
- Potential use of Legal Entity Identifiers (LEI) to enhance monitoring of institutions by uniquely identifying them (United Kingdom, India)
- Explore the use of application programming interface (APIs) to promote innovation and competition in payment services (United Kingdom, South Africa)
- Appropriate customer protection/redress across all PSPs and a more joined up approach to customer awareness and education (United Kingdom, India, South Africa, Singapore)
- Infrastructure improvements by upgrading existing systems or building new systems (United Kingdom, India, South Africa, Canada, Singapore)

Annex 3: Principles on the Pricing of Mobile Money Services, December 2020

Purpose

To facilitate the development of an efficient, safe and stable electronic payments ecosystem where the customer and public interests are adequately protected.

Specific objectives

- (a) To increase access, usage and equity in provision of digital payments services;
- (b) To improve transparency and disclosure in provision of digital payments services;
- (c) To foster a business culture underpinned by the primacy of customer's interest;
- (d) To promote competitiveness and sustainable growth of digital payment services.

Basis

These principles are issued by the Central Bank of Kenya (CBK) based on its mandate of promoting an efficient and effective payment system, and to issue advice and direction while paying due regard to, among other things, efficiency, integrity and public interest.

Principles

(a) Customer centricity

Adequate consideration of a customer's needs, preferences and circumstances in the design, pricing and roll out of mobile money services. The primacy of the customer interest must be evident in how services are developed, priced and marketed.

(b) Transparency and disclosure

Clear description of charges, fees and charges that a customer will incur at the point of sale, and during use

of the service. Terms and conditions should be in simple and legible language. Conflicts of interest ought to be disclosed, where there is a risk this will lead to mis-selling of inappropriate services to obtain commissions or fees.

(c) Fairness and equity

Provision and pricing of mobile money services
Provision and pricing of mobile money services in a manner that is proportional to the service provided and benefit obtained. Pricing policies and practices should pay due regard to the profile of customers and purpose of the underlying payment.

(d) Choice and competition

Customers should be presented with cost-effective options. Customers must be presented with mechanisms and channels that enable frictionless comparison, choice and switching, including resolution of complaints, particularly price-related ones, without undue delays.

(e) Affordability

Provision and pricing of services in a manner that is proportional to low-value and other "public good" related payments. Pricing policies need to strike a balance between short-term commercial targets and long-term sustainable growth.

Corporate and business tenets

To complement these principles, PSPs need to shift their corporate and business culture in line with the purpose and objectives above. In this regard, CBK expects that Boards of PSPs will ensure that corporate culture and practices are underpinned by the following tenets

(a) Care and diligence

Upholding the principle of duty of care and diligence in terms of how PSPs are run, and how they relate with customers and the public.

(b) Management control

Effective control of corporate structures, business partners and agents who interact with customers, in order to prevent excessive pricing, multiple charges and fraud.

(c) Financial prudence

Pricing practices underpinned by prudent financial policies, to avoid customers shouldering the burden of ineffective financial practices through excessive pricing.

(d) Safety of client assets

Ensuring that customer funds are adequately protected at all times, including the safety of customer mobile money deposits, data and other assets.

(e) Integrity of trust funds

Trust funds are sufficiently managed in line with the NPS regulatory framework, including adequate reporting to the regulator.

(f) Effective market conduct

Dealing with customers in a respectful manner, based on good market conduct practices and treating customers fairly.

(g) Robust management of conflicts of interest

Conflicts of interest to be avoided, and adequate safeguards applied to mitigate adverse impact on customers.

(h) Regulatory compliance

Effective and timely compliance with regulatory requirements, and maintaining a posture of cordial engagement with the regulator.

Responsibility

Responsibility for alignment and implementation of these principles rests on the Board of Directors of Payment Service Providers (PSPs). PSP Boards are required to

- (a) Champion these principles in their governance and oversight duties by setting the appropriate “tone from the top” that is aligned to the principles;
- (b) Ensure formulation of internal policies and procedures that actualise the principles across their entire business operations;
- (c) Hold management accountable for adherence to these principles by staff, business partners and agents associated with the PSP;
- (d) Ensure timely and accurate submission of information, data and returns to the CBK as required from time to time.

Implementation and monitoring

CBK has developed these principles as it embarks on the journey to anchor review of mobile money tariffs and charges based on the intended purpose and objectives above. Implementation will be carried on a gradual basis with the overall aim of rolling out the principles across the payments ecosystem. CBK will be periodically engaging PSPs to ensure alignment, identify and promote best practice in implementation.

Annex 4: Glossary of Terms

Term	Definition
Account-to-Account	These are account to account transfers or payments
Business Continuity	A state of uninterrupted business operations. This term also refers to all of the organizational, technical and staffing measures used to ensure the continuation of operations following a disruption to a service, including in the event of a wide-scale or major disruption.
Business-to-Business (B2B)	Local or international payments between businesses (e.g., supply chain payments to foreign suppliers)
Business-to-Government (B2G)	Local or international payments by businesses to government or government agencies (e.g., tariffs paid by exporters to authorities abroad)
Business-to-Person (B2P)	Local or international payments to individuals by businesses (e.g., salaries and pensions to employees working abroad, judicial resolutions)
Clearing House	A multilateral system or arrangement that provides its participants with clearing services for payment instructions, securities transactions, derivatives transactions, and in some cases, settlement services.
Cross Border Retail Payments	Funds transfers of relatively low value and urgency, where the parties to the payment are end users (i.e. individuals, businesses or government agencies) and the payer and the payee are located in different (national) jurisdictions. Typically, cross-border retail payments are remote payments and involve the national payment systems of at least two jurisdictions, specialised processes and different currencies.
Cryptoassets	Broadly defined as a type of digital asset that depends primarily on cryptography and distributed ledger or similar technology.
Delivery-versus-Payment	A securities settlement mechanism that links a securities transfer and a funds transfer in such a way as to ensure that delivery occurs if and only if the corresponding payment occurs.
Electronic Funds Transfer (EFT)	A formal arrangement based on a private contract or legislation, with multiple membership, common rules and standardised arrangements, for the transmission, clearing, netting and/or settlement of monetary obligations arising between its members
Electronic money (e-money) instruments	These instruments involve the payer maintaining a prefunded transaction account with a payment system provider, often a non-bank. Specific products include online money when the payment instruction is initiated via the internet, mobile money when initiated via mobile phones, and prepaid cards.
Electronic wallet (E-Wallet)	This is a monetary value, represented by a claim on the issuer, which is: 1) stored on an electronic device; 2) issued upon receipt of funds in an amount not less in value than the monetary value received; and 3) accepted as a means of payment by undertakings other than the issuer.
Financial Market infrastructure	A multilateral system among participating institutions, including the operator of the system, used for the purposes of clearing, settling or recording payments, securities, derivatives or other financial transactions.

Funds Transfer System	A formal arrangement based on private contract or statute law, with multiple membership, common rules and standardized arrangements, for the settlement of money obligations arising between the members.
Government-to-Business (G2B)	Local or international payments by governments or government agencies to businesses (e.g., payments for purchases from international suppliers)
Government-to-Government (G2G)	Local or international payments by governments or government agencies to other governments or government agencies (e.g., payments related to international aid)
Government-to-Government (G2P)	Local or international payments by governments or government agencies to individuals (e.g., pension payments to retirees or childhood support for children living abroad)
Gross Settlement	The settlement of transfer instructions or other obligations individually on a transaction-by-transaction basis for full value.
Gross Settlement System	Transfer system in which the settlement of payments, transfer instructions, or other obligations occurs individually on a transaction-by-transaction basis for full value.
Interoperability	The technical or legal compatibility that enables a system or mechanism to be used in conjunction with other systems or mechanisms. Interoperability allows participants in different systems to conduct clear and settle payments or financial transactions across systems without participating in multiple systems.
Multilateral Netting	The offsetting of obligations between or among multiple participants to result in a single net position per participant.
National Payments System	Encompasses all payment-related activities, processes, mechanisms, infrastructure, institutions and users in a country or a broader region (e.g., a common economic area). Also referred to as “payments system”
Payment System Operator	An entity that operates a payment network and/or other payment infrastructures.
Payment aggregator	A payment service provider through which e-commerce merchants can process their payment transactions. An aggregator allows merchants to accept different payment instruments such as credit card, bank transfers, e-money without having to setup a merchant account with a bank, card association etc. The aggregator provides the means for facilitating payment from the consumer to the merchant.
Payment Service Provider	An entity that provides payment services, including remittances. Payment service providers include banks and other deposit-taking institutions, as well as specialised entities such as money transfer operators and e-money issuers.
Payment Switch	Payment Switch is a system that can interface with any POS system, Automated Teller Machine (ATM), Mobile Payment System and Internet based commerce portals, consolidate all electronic transactions and then intelligently channel them to one or more payment processors for authorization and settlement.

Payment System	Set of instruments, procedures, and rules for the transfer of funds between or among participants; the system includes the participants and the entity operating the arrangement.
Payment-versus-Payment	A settlement mechanism that ensures that the final transfer of a payment in one currency occurs if and only if the final transfer of a payment in another currency or currencies takes place.
Person-to Business (P2B)	Local or international payments for e-commerce purchases by individuals
Person-to- Government (P2G)	Local or international payment of taxes and utility services to government or government agencies by individuals
Person-to-Person (P2P)	Local transfers or international remittances to family/friends by relatives and friends
Real Time Gross Settlement	The real-time settlement of payments, transfer instructions or other obligations individually on a transaction-by-transaction basis.
Retail Payment System	A funds transfer system that typically handles a large volume of relatively low-value payments in such forms as cheques, credit transfers, direct debits and card payment transactions.
Straight Through Processing	The automated end-to-end processing of trades and/or payment transfers, including the automated completion of confirmation, matching, generation, clearing and settlement of instructions, without the need for re-keying or reformatting data.
Systemic Risk	The risk that the inability of one or more participants to perform as expected will cause other participants to be unable to meet their obligations when due.

Note: The above definitions have been obtained from public sources, principally from glossaries of terms used in payments systems by the Bank for International Settlements (BIS) and European Central Bank (ECB). Therefore, the definitions in this glossary should not be taken as the final and definitive meaning of the terms from a legal understanding. The meaning and terminologies may be different from definitions that are set out in domestic and international laws.

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