

HOW TO SUCCEED IN YOUR DIGITAL JOURNEY: A SERIES OF TOOLKITS FOR FINANCIAL SERVICE PROVIDERS

TOOLKIT #6: BECOME A DIGITAL PROVIDER

BECOME A PROVIDER OF DIGITAL CREDIT AND SAVINGS:

The case of Commercial Bank of Africa in Kenya, Rwanda, Uganda and the United Republic of Tanzania

OTHER INNOVATIVE PATHS AND PARTNERSHIPS:

- BECOME A MOBILE VIRTUAL NETWORK OPERATOR: THE CASE OF EQUITY BANK IN KENYA
- LEVERAGE AN E-MONEY ISSUER LICENCE TO DEVELOP A SHARED MOBILE BANKING PLATFORM: THE CASE OF MICROFINANCE INSTITUTIONS IN BENIN

By PHB ACADEMY and MICROLEAD



MoKash loan limit consultation via mobile phone
Courtesy of PHB Development
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TABLE OF CONTENTS

iv List of figures

v List of tables

vi List of boxes

vi List of tools

vii List of acronyms

viii Definitions

01 INTRODUCTION: OVERVIEW OF THE TOOLKIT PROJECT

05 SECTION 1: BECOMING A DIGITAL PROVIDER

05 Introduction to digital
credit and savings

18 The case of Commercial
Bank of Africa—**Executive
summary**

18 The case of Commercial
Bank of Africa—**Digital path
and results**

23 The case of Commercial
Bank of Africa—
Implementation

30 The case of Commercial
Bank of Africa—**Key success
factors, Challenges and
lessons learned, Next steps**

34 SECTION 2: TESTING AN INNOVATIVE MODEL— WHEN A BANK BECOMES A MOBILE VIRTUAL NETWORK OPERATOR

34 Introduction to mobile
virtual network operators

38 The case of Equity Bank—
**Digital path to become a
mobile virtual network
operator**

40 The case of Equity Bank—
Implementation

44 The case of Equity Bank—
Achievements

48 The case of Equity Bank—
**Key success factors,
Lessons learned, Next steps**

50 SECTION 3: TESTING AN INNOVATIVE PARTNERSHIP MODEL— SHARING A MOBILE BANKING PLATFORM

50 Introduction to shared
mobile banking platforms

55 The case of microfinance
institutions in Benin—
Executive summary

55 The case of microfinance
institutions in Benin—
Digital path and objectives

57 The case of microfinance
institutions in Benin—
**Approach to implementing
digital finance**

59 The case of microfinance
institutions in Benin—
**Results, Key influencing
factors, Lessons learned,
Foreseen challenges, Next
steps**

64 ANNEXES

64 Annex 1: Context of Kenya

66 Annex 2: Context of
Uganda

68 Annex 3: Context of
the United Republic
of Tanzania

70 Annex 4: Context of Benin

71 Annex 5: Details on
Commercial Bank of
Africa—Savings accounts

72 Annex 6: Details on
Commercial Bank
of Africa—Technical
integration of
M-Shwari

73 Annex 7: Details on
Commercial Bank of
Africa—Branding and
marketing strategies used
in different countries

74 About MicroLead

74 About PHB Academy

75 About UNCDF

75 About Mastercard
Foundation

LIST OF FIGURES

05 FIGURE I

Key digital credit and savings products

06 FIGURE II

Main partnerships observed involving a financial institution for a digital credit and savings product

21 FIGURE III

M-Pawa user demographics (percentage of M-Pawa users, n=80), 2014

23 FIGURE IV

M-Shwari registration steps

27 FIGURE V

Steps to access M-Shwari via M-Pesa SIM application toolkit menu

28 FIGURE VI

Steps to access MoKash Uganda via MTN Mobile Money USSD code

38 FIGURE VII

Digital journey taken by Equity Bank

41 FIGURE VIII

Equity Bank product and service offering

43 FIGURE IX

Equity Bank channel offering

43 FIGURE X

Equity Bank architecture

46 FIGURE XI

Equity Bank transaction number and volumes (May 2015 versus May 2016)

48 FIGURE XII

Equity Bank transaction number trends (2011–2016)

56 FIGURE XIII

Role of the different partners in the shared platform project in Benin

LIST OF TABLES

07 TABLE 1

Examples of partnerships involving a financial institution for a digital credit and savings product

09 TABLE 2

Digital credit and savings projects in the pipeline in Africa

13 TABLE 3

Types of financial risks identified in digital credit and savings

14 TABLE 4

Potential financial risk areas identified from digital credit and savings implementation

15 TABLE 5

Types of non-financial risks identified in digital credit and savings

16 TABLE 6

Potential non-financial risks identified from digital credit and savings implementation

19 TABLE 7

M-Pesa revenue and customer numbers in Kenya (FY2014–FY2017)

24 TABLE 8

Interest rates paid on savings for different Commercial Bank of Africa digital products

25 TABLE 9

Detailed comparison of Commercial Bank of Africa digital credit and savings products

32 TABLE 10

Key figures on the digital credit and savings products launched by Commercial Bank of Africa

45 TABLE 11

Equity Bank strategic objectives and achievements in becoming a mobile virtual network operator

53 TABLE 12

Examples of interoperable third-party platforms worldwide, 2017

LIST OF BOXES

38 BOX 1

Key figures on Equity Bank Limited

59 BOX 2

Example of Bim, a shared mobile platform in Peru

60 BOX 3

Lessons learned from Bim, a shared mobile platform in Peru

61 BOX 4

Bim in Peru and the challenge of agent network development

61 BOX 5

Bim in Peru and the challenge of service offering

61 BOX 6

Bim in Peru and the challenge of technical integration

62 BOX 7

Bim in Peru and the challenge of effective use of services by clients

LIST OF TOOLS

10 TOOL 1

Key adoption barriers and mitigation strategies for digital credit and savings

12 TOOL 2

Key success factors for the launch of a digital credit and savings product

13 TOOL 3

Risk management for digital credit and savings

17 TOOL 4

Checklist for the launch of a digital credit and savings product

37 TOOL 5

Key success factors or pre-requisites to become a mobile virtual network operator

37 TOOL 6

Checklist for establishing a mobile virtual network operator

54 TOOL 7

Key success factors for shared platforms

54 TOOL 8

Main challenges to anticipate for shared platforms

LIST OF ACRONYMS

ALIDé	Association de Lutte pour la promotion des Initiatives de Développement
API	application programming interface
ATM	automated teller machine
BCEAO	Banque Centrale des Etats de l'Afrique de l'Ouest
BOT	Bank of Tanzania
BOU	Bank of Uganda
CapEx	capital expenditures
CARMES	Carte Magnétique d'Épargne Sécurisée
CBA	Commercial Bank of Africa
CBS	core banking system
CFAF	CFA franc*
DC&S	digital credit and savings
DFS	digital finance service(s)
e-money	electronic money
FECECAM	Faîtière des Caisses d'Épargne et de Crédit Agricole Mutuel du Bénin
FI	financial institution
FSP	financial service provider
GSM	Global System (or Standard) for Mobile
ID	identification document

KSh	Kenya shilling*
KYC	know your customer
MDI	microfinance deposit-taking institution
MFI	microfinance institution
MIS	management information system
MM	mobile money
MNO	mobile network operator
MTN	Mobile Telephone Networks
MVNO	mobile virtual network operator
OpEx	operational expenditures
PIN	personal identification number
RF	Rwanda franc*
SMS	short message service
SOA	service oriented architecture
STK	SIM application toolkit
TSh	Tanzania shilling*
U Sh	Uganda shilling*
UNCDF	United Nations Capital Development Fund
US\$	United States dollar*
USSD	unstructured supplementary service data

*Currency symbols: UNCDF uses 'CFAF' for the CFA franc, 'KSh' for the Kenya shilling, 'RF' for the Rwanda franc, 'TSh' for the Tanzania shilling, 'U Sh' for the Uganda shilling and 'US\$' for the United States dollar. Currency conversions to United States dollars are provided based on the following rates, sources and dates:

CFAF 1	= US\$0.0016738687 (Source: www.xe.com , 15 May 2017)
KSh 1	= US\$0.0097 (Source: www.xe.com , 15 May 2017)
RF 1	= US\$0.0012124023 (Source: www.xe.com , 15 May 2017)

TSh 1	= US\$0.0004474324 (Source: www.xe.com , 15 May 2017)
U Sh 1	= US\$0.0002756292 (Source: www.xe.com , 15 May 2017)

DEFINITIONS

CONCEPTS	DEFINITIONS
AGENCY BANKING	Refers to when clients can transact on their mobile wallet and financial institution account either directly themselves to push and pull money between the mobile money wallet and financial institution account or through assistance from a third party (e.g., agent). Note that deposits (cash-in) and withdrawals (cash-out) always require an agent as intermediary. In Toolkits #3 and #4, the type of transactions and the interactions between the mobile money account and the bank account are detailed.
AGENT	Refers to 'any third party acting on behalf of a bank, mobile network operator or other financial service provider to deal directly with customers.' ^a
ALGORITHM	Is a procedure or function that includes a series of steps that are followed to solve a problem or complete a process.
ALTERNATIVE DELIVERY CHANNELS (ADCs)	Comprise new distribution channels that have developed over the past 10–15 years: Internet banking services, mobile banking services, agency banking services (as opposed to traditional distribution channels such as brick-and-mortar and automated teller machines).
CASH-IN/CASH-OUT (CICO)	'Cash-in is the exchange of cash for electronic value (e-money); cash-out is the exchange of electronic value (e-money) for cash.' ^b
CORE BANKING SYSTEM (CBS)	Is the back-end data processing application/software for processing all transactions [at a financial institution] that have occurred during the day and posting updated data on account balances. ^c
CREDIT SCORING	Automates the loan application approval process by predicting the likelihood that the applicant will develop repayment problems. ^d

CONCEPTS	DEFINITIONS
DIGITAL CREDIT OR MOBILE CREDIT	Is lending through a mobile phone and digital infrastructure that involves limited in-person contact (with the agent only). The client has both a mobile money account and a digital (bank) account with the financial provider. The client can apply for a loan directly on his/her mobile phone and is scored automatically and approved/denied. Disbursement is completed via the mobile money account of the client and can be cashed-out at the agent or used as mobile money to perform transactions such as person-to-person transfers, bill payments, merchant payments, etc. Reimbursement is performed via the mobile phone (and an agent to transform cash into e-money), pushing money from the mobile money account to the digital credit account. ^e These loans are also called nano loans since amounts typically range from US\$0.50 to US\$500.
DIGITAL FINANCIAL SERVICES (DFS)	Refer to financial services provided to clients through alternative distribution channels (e.g., mobile, Internet, agent) that have developed over the past 10–15 years.
DIGITAL FINANCIAL SERVICE PROVIDERS (DFSPs)	Can either be financial institutions or non-bank financial institutions, such as payment service providers, mobile network operators, etc. They offer a broad range of financial services that may be accessed through digital channels and/or over the counter. Usually they recruit their own agent network.

a Raksha Vasudevan with others, 'Market System Assessment of Digital Financial Services in WAEMU,' CGAP Working Paper, pp. xxi–xxiii (Washington DC, CGAP, 2016). Available from <http://www.cgap.org/publications/market-system-assessment-digital-financial-services-waemu>

b Ibid.

c Gartner, 'IT Glossary: Core Banking System.' Available from <http://www.gartner.com/it-glossary/core-banking-systems/> (accessed April 2017).

d Mark Schreiner, 'Scoring: The next breakthrough in microcredit?', CGAP Occasional Paper, No. 7 (Washington DC, CGAP, 2003). Available from <https://www.cgap.org/sites/default/files/CGAP-Occasional-Paper-Scoring-The-Next-Breakthrough-in-Microcredit-Jan-2003.pdf>

e Adapted from CGAP, 'An Introduction to Digital Credit: Resources to Plan a Deployment' (Washington DC, 3 June 2016). Available from <https://www.slideshare.net/CGAP/an-introduction-to-digital-credit-resources-to-plan-a-deployment>

DEFINITIONS (continued)

CONCEPTS	DEFINITIONS
DIGITAL SAVINGS OR MOBILE SAVINGS	Are savings performed through a mobile phone and digital infrastructure. The client has both a mobile money account and a digital (bank) account with the financial provider. The client can save in an interest-bearing account (usually sitting with a financial institution or with a provider with a banking licence) by pushing money from his/her mobile wallet to his/her digital savings account. The account can only be accessed via mobile phone (not at the financial institution's branches), and a deposit can be performed via an agent for transforming cash into e-money. There are basic savings accounts and target savings accounts (also called term savings or locked savings), where the customer can choose to save a certain amount for a designated duration and be rewarded for reaching the target. The account can be locked (either automatically by the provider or voluntarily by the customer) until the target is reached. Interest paid to the customer is in the range of 2%–6% per annum, a little higher for target savings accounts.
ELECTRONIC MONEY (E-MONEY)	Comprise 'banks, financial institutions specialized in payments (or payment institutions), authorized microfinance institutions and other authorized non-financial institutions, which have been authorized by their respective central banks to issue electronic money.' ^f
E-MONEY ISSUERS	Comprise 'banks, financial institutions specialized in payments (or payment institutions), authorized microfinance institutions and other authorized non-financial institutions, which have been authorized by their respective central banks to issue electronic money.' ^g
ELECTRONIC WALLETS (E-WALLETS)	Comprise 'electronic accounts that clients can manipulate directly to send payments to other e-wallets or merchants.' ^h
ENHANCED DATA RATES FOR GSM EVOLUTION (EDGE)	Is a technology that can provide up to three times the data capacity of general packet radio services. 'EDGE enables the delivery of more demanding mobile services, such as ... multimedia messaging, full web browsing and e-mail on the move.' ⁱ
FINANCIAL SERVICE PROVIDERS (FSPs)	Comprise banks, mobile network operators and financial institutions that provide financial services to clients. FSPs are broader than financial institutions because they include mobile network operators.

CONCEPTS	DEFINITIONS
FINANCIAL INSTITUTIONS (FIs)	Refer to banks, microfinance institutions and other forms of formal financial institutions that provide financial service to clients. They do not include mobile network operators or fintechs.
FLOAT	Is 'the balance of e-money, or physical cash, or money in a bank account that an agent can immediately access to meet customer demands to purchase (cash-in) or sell (cash-out) electronic money.' ^j
GENERAL PACKET RADIO SERVICES (GPRS)	Is a broadly deployed wireless data service, which 'enables people to enjoy advanced, feature-rich data services, such as e-mail on the move, multimedia messages, social networking and location-based services.' ^k The data system charges based on volume of data transferred, instead of billing per minute of connection time.
INTEROPERABLE PLATFORM	Permits customers of one service to send money to customers of another service. Interoperability can also be at agent level (permitting agents of one service to serve customers of another service) or customer level (permitting customers to access their account through any SIM). ^l
KNOW YOUR CUSTOMER (KYC)	Comprises 'a set of due diligence measures undertaken by a financial institution, including policies and procedures, to identify a customer and the motivations behind his/her financial activities. KYC is a key component of anti-money laundering/combating the financing of terrorism efforts.' ^m
MANAGEMENT INFORMATION SYSTEM (MIS)	Is the entire back-office system, including portfolio management and reporting. For FIs, it is broader than a core banking system, which is for capturing and processing data. As described by the World Bank, it is a system that helps management make, carry out and control decisions. They 'capture and store data, process data to produce meaningful and relevant reports, and support operations by enforcing defined processes and providing an audit trail.' ⁿ
MOBILE AS A SERVICE	Refers to financial transactions performed using mobile technologies (e.g., mobile phone, tablet) that impact the account of the financial service provider.

^f Vasudevan with others, 'Market System Assessment of Digital Financial Services in WAEMU.'

^g Ibid.

^h Ibid.

ⁱ GSMA, 'EDGE.' Available from <http://www.gsma.com/aboutus/gsm-technology/edge> (accessed April 2017).

^j Vasudevan with others, 'Market System Assessment of Digital Financial Services in WAEMU.'

^k GSMA, 'GPRS.' Available from <http://www.gsma.com/aboutus/gsm-technology/gprs> (accessed April 2017).

^l Neil Davidson and Paul Leishman, 'The case for interoperability: Assessing the value that the interconnection of mobile money services would create for customers and operators,' p. 2 (London, GSMA, 2012).

Kabir Kumar and Michael Tarazi, 'Interoperability in Branchless Banking and Mobile Money,' 9 January 2012. Available from <http://www.cgap.org/blog/interoperability-branchless-banking-and-mobile-money-0>

^m Vasudevan with others, 'Market System Assessment of Digital Financial Services in WAEMU.'

ⁿ Lauren Braniff and Xavier Faz, Information Systems: A Practical Guide to Implementing Microfinance Information Systems, p. 2 (Washington DC, CGAP/ The World Bank, January 2012).

DEFINITIONS (continued)

CONCEPTS DEFINITIONS

MOBILE BANKING	Comprises financial transactions performed via mobile technologies by the client him/herself, directly on the client's financial institution account (e.g., account balance check, loan reimbursement). Note that deposits (cashin) and withdrawals (cash-out) still require an agent as intermediary. In Toolkits #5 and #6, the type of transactions and the interactions between the mobile money and the bank account are detailed.
MOBILE FINANCIAL SERVICES (MFS)	Refer to financial services provided to clients through mobile phones and mobile devices (e.g., tablet). The term is gradually being replaced with digital financial services, which is a broader term that also covers other distribution channels.
MOBILE NETWORK OPERATORS (MNOs)	Refer to companies that have a government-issued licence to provide telecommunications services through mobile devices. Mobile penetration rate is measured by the number of subscriber identity module (SIM) cards in circulation as a percentage of the total national population. ^o
MOBILE POINT OF SALE (mPOS)	'Is a smartphone, tablet or dedicated wireless device that performs the functions of a cash register or electronic point of sale terminal.' ^p
MOBILE VIRTUAL NETWORK OPERATOR (MVNOs)	Provides mobile money services without having to build new cellular infrastructure. It 'leases wireless capacity (in effect, purchases "minutes") from a third-party MNO at wholesale prices and resells it to consumers at reduced retail prices under its own business brand.' In other words, an MVNO is paying to use the cellular infrastructure of an established MNO (and thus avoiding the cost and effort to install it).
NON-BANK FINANCIAL INSTITUTIONS (NBFIs)	Comprise microfinance institutions, savings and credit co-operatives and microfinance banks, as opposed to mobile network operators and traditional banks, that provide financial services to clients.
OVER-THE-COUNTER (OTC) TRANSACTIONS	'Occur when clients hand cash to or receive cash from agents, who execute transfers electronically on behalf of senders and receivers. In such transactions, clients do not need to have their own e-wallets.' ^q
POINT OF SALE (POS)	Is a device that interfaces with payment cards to make electronic fund transfers. It is also known as a payment terminal, POS terminal, credit card terminal, or electronic fund transfer at POS terminal.

CONCEPTS DEFINITIONS

SHARED MOBILE BANKING PLATFORM	Goes beyond an interoperable platform, by sharing resources (technical platform and most often agent network). As such, players form a partnership to share the cost of developing and maintaining a platform that they could not afford on an individual basis.
SUBSCRIBER IDENTITY MODULE (SIM card)	Is a smart card inside a mobile phone, carrying an identification number unique to the owner, storing personal data, and preventing operation if removed.
UNSTRUCTURED SUPPLEMENTARY SERVICE DATA (USSD)	Is a communications service controlled by mobile network operators. It is accessed from any mobile phone by dialing a number that starts with * and ends with #. It opens a session enabling the user to perform transactions such as mobile payments.
VALUE ADDED SERVICE (VAS)	Is 'a popular telecommunications industry term for non-core services of mobile network operators that add value to the customer. For example, location-based services, missed call alerts and mobile money are considered as VAS.' ^r
VIRTUAL PRIVATE NETWORK (VPN)	Is a network that is constructed using public wires—usually the Internet—to connect to a private network, such as a company's internal network. There are a number of systems that enable the creation of networks using the Internet as the medium for transporting data.
WIDE AREA NETWORK (WAN)	Is a telecommunications network or computer network that extends over a large geographical distance. The Internet is an example of a WAN.

To go further on digital credit:

- CGAP has developed an online course, 'An Introduction to Digital Credit: Resources to Plan a Deployment,' which is available from <https://www.slideshare.net/CGAP/an-introduction-to-digital-credit-resources-to-plan-a-deployment>
- CGAP has built the Excel-based 'Financial Model for Digital Credit,' which is available upon request by sending an email to cgap@worldbank.org with the subject 'Digital Credit Financial Model.'

^o Vasudevan with others, 'Market System Assessment of Digital Financial Services in WAEMU.'

^p Margaret Rouse, 'Definition: mPOS.' Available from <http://searchcio.techtarget.com/definition/mPOS-mobile-point-of-sale> (accessed April 2017).

^q Vasudevan with others, 'Market System Assessment of Digital Financial Services in WAEMU.'

^r Ibid.



MoKash
MY SAVINGS, MY LOANS

Nyiga *165*5# okutereka oba
okwewola ssente ng'okozesa **MoKash**
ku MTN **Mobile Money**.

It's possible. Kisoboka.






Other Transaction Types

xi —

- Do not pay the Mobile Money
- Do not have your account
- Please keep your PIN safe
- For any queries, please call 112

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INTRODUCTION: OVERVIEW OF THE TOOLKIT PROJECT

Delivery channels have evolved drastically over the past 10 years from traditional delivery channels that were mainly physical locations, such as bank branches or automated teller machines, towards alternative delivery channels, also often called digital channels. The latter encompass Internet banking, mobile banking and agent banking.

In the past, traditional channels could theoretically provide the full range of financial services to clients, whereas alternative delivery channels/digital channels could only provide limited services (cash-in/out in the case of mobile network operators, deposits/withdrawals in the case of financial institutions), balance enquiries, payments and transfers. This vision is less and less accurate as alternative delivery channels/digital channels evolve towards providing a full range of services, from client registration to savings collection through collectors or phones, and even credit scoring and loan requests, disbursements and repayments. Technology is facilitating the development of these new channels. Point of sale devices, mobile phones, tablets and netbooks are now enabling transactions anywhere, anytime. The technology is the means for transactions, whereas alternative delivery channels are the means of distribution. As pointed out in the 2015 International Finance Corporation *Handbook: Alternative Delivery Channels and Technology*, this distinction (technology versus channels) is fundamental.

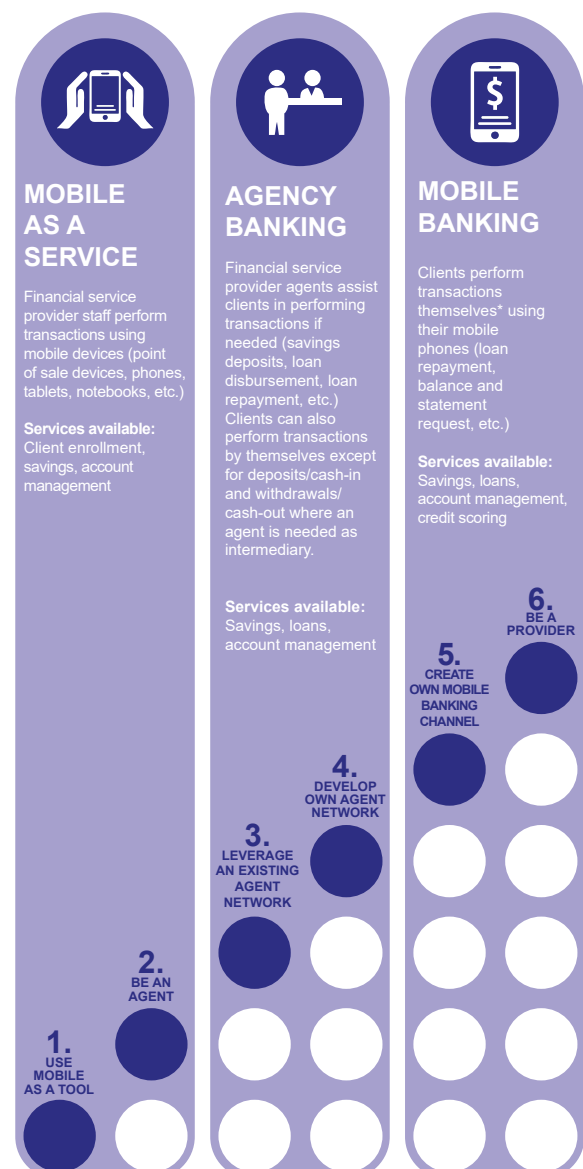
Another fundamental distinction is the critical difference between financial institutions and mobile network operators when it comes to digital finance transactions. Financial institutions 'own' the funds and hence prefer storing value (making money out of intermediation), while mobile network operators 'transact' the funds and hence prefer moving value (making money out of commissions). For the purpose of these toolkits, the authors refer to cash-in/out transactions when discussing mobile network operators and deposit/withdrawal transactions when discussing financial institutions.

MicroLead toolkit project

PHB Academy is supporting MicroLead, a United Nations Capital Development Fund global initiative, in releasing a series of toolkits designed for financial service providers to succeed on their digital journey, with a focus on financial institutions in particular. These toolkits capitalize on and complement existing research, publications and documentation and have been developed based on the experience of MicroLead and PHB with over 100 digital financial service implementations.

Six-step business framework

Six possible business models have been defined for financial service providers eager to go digital (see the figure). The business models are conceived as different steps financial service providers can take on their digital journey. Financial service providers are free to start anywhere in this framework but should be conscious that, the higher up they decide to start in the journey, the greater the efforts to bear.



* Except for cash-in and cash-out transactions performed at agents

The first two business models of this framework consist of using mobile as a service, where basic transactions are performed by staff of the financial service provider using mobile devices. They are described in 'Toolkit #1: Use mobile as a tool' and '#2: Be an agent.' Models 3 and 4 describe agency banking, where agents (of a mobile network operator, payment service provider or financial institution) assist clients with the transactions if needed. Clients can also perform transactions by

themselves except for cash-in/out where an agent is needed as intermediary. They are described in 'Toolkit #3: Leverage an existing agent network' and '#4: Develop own agent network.' Models 5 and 6 describe mobile banking, where clients transact directly on their financial institution account, performing the operations themselves using their mobile phones. They are described in 'Toolkit #5: Create own mobile banking channel' and '#6: Be a provider.'

2 —



Overview of Toolkit 6

This toolkit is the **sixth and final** in a series of toolkits aimed at supporting financial service providers (FSPs) to go digital.

This toolkit describes different paths for an FSP to **become a provider of mobile banking services** that clients can access from their mobile phone. In this model, the ultimate objective is to **digitize all operations**, from collection of client data and credit applications to disbursement and repayment of loans and collection of savings, which implies having the client perform all of these operations on his/her mobile phone (with the support of an agent to transform physical cash into electronic money [e-money] and vice versa); in other words, the FSP aims to become a 'digital provider.'

The shared characteristic of financial institutions (FIs) that deploy this model is that the FIs have a **provider licence**—whether it be a banking licence, which can benefit a mobile network operator (MNO) for mobile savings and loans (e.g., Commercial Bank of Africa [CBA] in multiple countries); a licence to be a mobile virtual network operator (MVNO) to provide mobile services (e.g., Equity Bank in Kenya); or an e-money issuer licence that can benefit other FIs (e.g., ASMAB in Benin). In this model, the **FI becomes a distributor of digital financial services** (DFS) and its clients (other FIs, MNOs, etc.) form partnerships with the FI to leverage its provider licence.

There are many different means or models in which providers are digitizing. The authors have chosen to present three different paths in this toolkit.

The main focus is on digital credit and savings (DC&S), representing one of the most advanced forms of mobile banking services at this time, which have gained traction in the industry over the past five years. In this model, an FI is aiming to digitize its operations from end to end. There are successful examples of FIs forming win-win partnerships with MNOs, in which the FI provides its banking licence while the MNO provides the channel, clients and e-money licence.

The authors also present other innovations such as a bank becoming an MVNO, which still remains an exception in the area of DFS rather than a trend at the time of writing this toolkit, as well as innovative partnerships such as FIs in Benin (and Peru) pooling resources to share a mobile banking platform.

Being that this toolkit is the final instalment in the series, it is intended to serve as **food for thought and a source of inspiration** for FIs willing to engage further in mobile banking, at a time when new players are entering their traditional markets to compete directly with them (MNOs, fintechs, etc.). Several options are being explored by FIs willing to remain at the forefront of financial inclusion and financial services, and this toolkit presents three examples for inspiration.

For each path, the authors provide an overview of the business model as an introduction, explain the digital path and the rationale for engaging in it, describe the implementation efforts, discuss the results achieved, and finally identify the key success factors and lessons learned for other providers to replicate and/or to avoid pitfalls.

Tools have been developed to guide providers on these paths. The **audience** of this toolkit comprises mostly FIs, **either small FIs** that have thus far discarded the idea of offering mobile banking services to their clients as they consider themselves too small but might now find inspiration in the shared model; **larger FIs** that have successfully developed agency banking and/or mobile banking and would like to offer 'second-generation DFS' such as DC&S, leveraging their assets and licence while tapping into the large client base of an MNO to expand quickly; **or, very large FIs** (banks) that want to explore new paths more independently from MNOs and offer their own mobile services with a view, for instance, to ultimately provide DC&S on their own (without a partner MNO since the FI becomes an MVNO).

FIs should be aware that these paths to becoming a digital provider are among the most complicated to follow in DFS and that they will need to invest considerable time, effort and financial resources as well as face substantial risks, in particular for the MVNO and DC&S paths.

This toolkit is centred on the **DC&S path** that has developed tremendously over the past five years. It describes the case of mid-size FIs that partner with MNOs as providers of financial services, with the FI leveraging its banking licence that the MNO needs to be able to provide financial services. In these cases, DC&S (also called mobile savings and loans by many providers, yet the broader term DC&S will be used in this toolkit) are discussed, whereby customers can apply for a loan directly on their mobile phone, be instantly scored and receive their loan disbursement on their mobile phone. In these examples, the MNO provides the customer base and the telecommunication channel, while the FI provides credit and a bank account for savings to the customers. The authors **feature the case study of CBA**, which has formed partnerships to develop DC&S with MNOs in Kenya (with Safaricom to launch M-Shwari), Rwanda and Uganda (with Mobile Telephone Networks [MTN] to launch MoKash) and the United Republic of Tanzania (with Vodacom to launch M-Pawa). Many more DC&S projects involving FIs and MNOs are on their way throughout Africa.¹

This toolkit also features two innovative paths:

- The **MVNO path** that Equity Bank Kenya has embraced and that other (very large) FIs are considering at a time when MNOs are getting their own licence to become an e-money issuer and/or their own licence to become a bank. Equity Bank Kenya is featured along with its MVNO, Equitel. For most FIs, this path is very unlikely due to the effort required to implement it, in terms of cost involved (Equity Bank Kenya did not disclose the costs involved with setting up an MVNO, but the costs are estimated to be several hundred thousand dollars to even several million), staff capacity required and time needed (Equitel required a process of several years).
- The **shared platform path**, in the pipeline in many African countries, with a successful example in Peru and potentially soon in Benin. On this path, (smaller) FIs join forces to provide mobile banking services to their clients, leveraging a shared e-money licence and platform or using that of an FI that has succeeded in its mobile banking venture and now wishes to share the opportunity with smaller FIs that do not have the resources to do so on their own.² The authors feature the path that FIs are currently following in Benin. With the help of the microfinance network in Benin (Consortium Alafia), microfinance institutions (MFIs) in the country will be able to access a shared platform by early 2018 through a yearly subscription. By doing so, they will avoid the investment associated with developing their own DFS platform.

For these two paths, it is still early to conclude whether they will be successful models or not. They are interesting experiments worth watching to assess the replicability in other contexts.

¹ Refer to the 'Introduction to digital credit and savings' in this toolkit for a list of FIs and MNOs following this path.

² For instance, Fidelity Bank in Ghana is considering opening up its platform to smaller MFIs in 2018, as mentioned in MicroLead DFS Toolkit #5, as a way to leverage the investment it made.

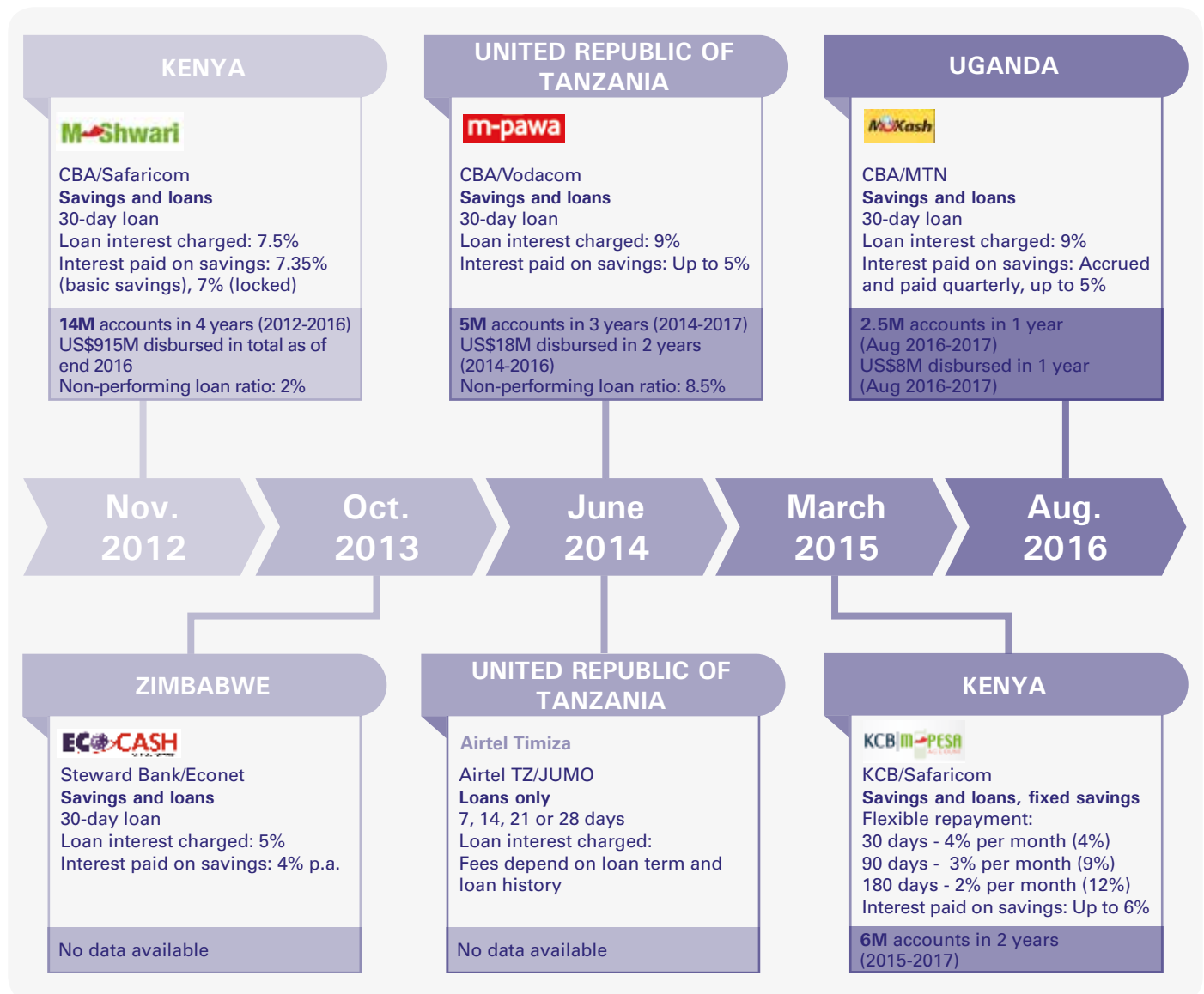
SECTION 1: BECOMING A DIGITAL PROVIDER

INTRODUCTION TO DIGITAL CREDIT AND SAVINGS

As of mid-2017, over 60 mobile loan or digital credit products have been launched in the market, using different partnership models and involving either an MNO, a bank, a credit scoring provider, a fintech or an MFI. The first product of the kind was M-Shwari, which was launched in Kenya in 2012 as a partnership

between an MNO (Vodacom) and a bank (CBA). In three years, M-Shwari captured 10 million clients. Five products in total have experienced similar growth rates of 2.5 million to 3.0 million clients per year, including M-Shwari in Kenya, M-Pawa in the United Republic of Tanzania, MoKash in Uganda and KCB M-PESA in Kenya. Three of these products have been launched by CBA in partnership with an MNO (see figure I for an analysis by the authors of these key products).

Figure I: Key digital credit and savings products



Key characteristics of digital credit and savings

Digital credit and savings (DC&S) products (also called mobile savings and loans by many providers), enable customers to access savings and loans directly from their mobile phone. They pertain to mobile banking and go a step further, as customers can apply for a loan directly on their mobile phone, be instantly scored and receive their loan disbursement on their mobile phone. As such, they are sometimes referred to as 'second-generation DFS.'

The purpose for providers on this path is to become a digital provider, from the loan application to the disbursement and repayment. The MNO provides the customer base and the telecommunication channel, while the FI provides the credit and a bank account for savings to the customers.

With DC&S, the customer has both a mobile money (MM) wallet from the MNO and a bank account with the FI. The money can be pushed and pulled between the two accounts in order to send savings to the interest-bearing account of the FI, repay a loan or make a withdrawal by transferring money from the bank account to the MM wallet with a view to cash the money out with an MM agent. The ultimate goal of these services is to only have push transactions from the MM wallet to the bank account, and not the other way around, once the payment ecosystem has developed and use cases have increased, allowing customers to perform all the transactions they require via MM without needing to transform it back into physical cash.

Regulation of digital credit and savings

This field remains relatively unregulated for the time being. Many central banks have adopted a 'wait-and-see approach.' Kenya is starting to regulate DC&S, imposing a maximum interest rate cap and an obligation to report defaulting customers to the central risk bureau. Ghana has no interest rate cap. BCEAO (Banque Centrale

des Etats de l'Afrique de l'Ouest) is currently tackling the topic of whether to apply the same interest cap as traditional lending (15% annually for banks and 24% annually for other FSPs). As of December 2017, no DC&S product has been launched in West Africa, as providers are waiting to see how the regulation of such products will unfold.

Partnerships in digital credit and savings

In this business model, the non-FSP (e.g., an MNO) needs a partner with a banking licence to provide financial services. A non-MNO (e.g., an MFI, bank or fintech) requires a partner with an e-money licence. Under this model, the FI has a competitive advantage over the MNO and can leverage it to establish a more favourable partnership. Contrary to the previous business models discussed in this series of toolkits in which the FI was dependent on an MNO, in this particular model the MNO becomes dependent on the FI for its banking licence. The FI has an opportunity to leverage, yet must do so quickly, before MNOs get their own banking licence and no longer need an FI. The latter is going to be the case quite soon in a few West African countries, in particular where some MNOs (e.g., Orange) have obtained their banking licence and will be able to provide financial services without the intermediary of a bank.

A credit scoring provider is also usually in the picture in order to perform the client credit scoring based on algorithms. Some FIs (e.g., CBA) have this capacity in-house and as such are not resorting to a credit scoring provider. The main credit scoring providers at this time for DC&S are Cignifi, First Access, JUMO, Paretix and Tiixa.

Figure II summarizes the main partnerships involved in DC&S when an FI is involved, while table 1 provides real-world examples of these different partnerships.

Figure II: Main partnerships observed involving a financial institution for a digital credit and savings product

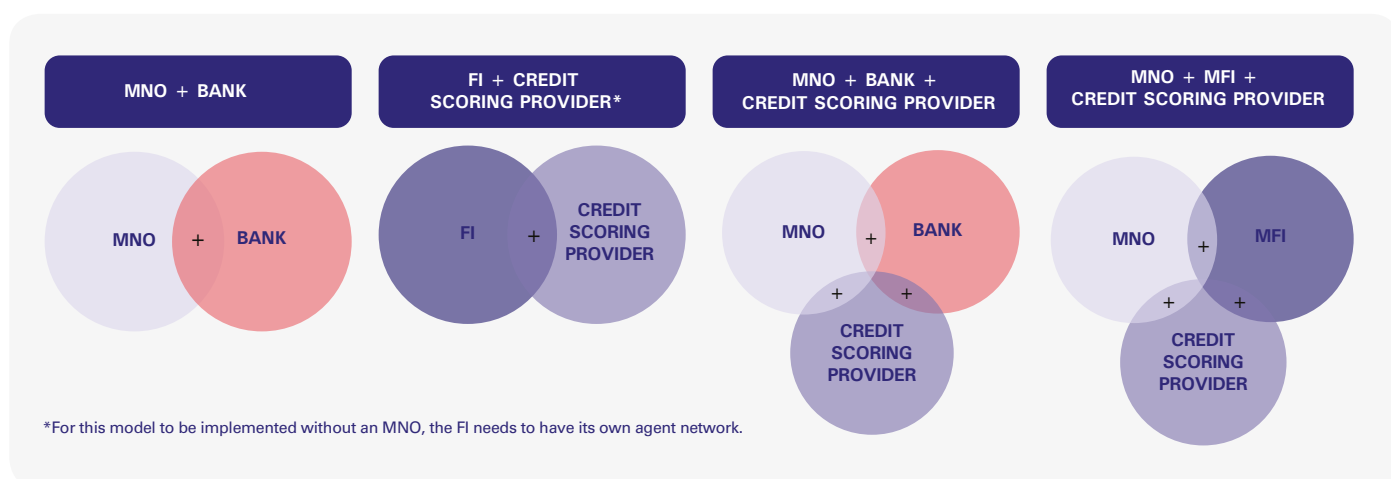


Table 1: Examples of partnerships involving a financial institution for a digital credit and savings product

Partnership type	Partners	Country	Product	Launch	Product type
Bank(s) + MNO	CBA/Safaricom Kenya	Kenya	M-Shwari	Nov-2012	DC&S
	CBA/Vodacom Tanzania	United Republic of Tanzania	M-Pawa	June-2014	DC&S
	CBA/MTN Uganda	Uganda	MoKash	Aug-2016	DC&S
	Steward Bank/Econet Wireless/ ZB Bank/CBZ Bank/Stanbic Bank/ NMB Bank/Agribank/BancABC	Zimbabwe	EcoCash	Oct-2013	DC&S
	Barclays Bank/Airtel	Uganda	Airtel Weza	Aug-2014	Digital savings for groups
	KCB Bank/Safaricom Kenya	Kenya	KCB M-PESA	March-2015	DC&S
	Premium Bank/Airtel	Ghana	Jara	2016	Digital savings
	United Bank for Africa/Airtel Money/Tiixa	Democratic Republic of the Congo	Airtel Libiki	May-2015; discontinued July-2017	Digital loans
MFI + MNO+ Credit scoring provider	Fidelity Bank/Airtel/Tiixa	Ghana	Airtel Money Bosea	May-2016	Digital loans
	FINCA/Halotel/Paretix	United Republic of Tanzania	HaloYako	Sept-2017	Digital savings (and soon loans)
Fintech + MNO	Branch Kenya/Safaricom Kenya	Kenya	Branch	May-2015	Digital loans (smartphones only)
	Tala/Safaricom	Kenya	Tala	Early-2014	Digital loans (and soon savings) – smartphones only

Note: Equity Bank in Kenya, which launched Equitel Eazzy Loan in August 2015 without a credit scoring provider or an MNO (being an MVNO itself), is an example of an FI going alone on digital loans, without any partner.

Products available through digital credit and savings and channels used

Digital loans are also called ‘nano loans’ since amounts typically range from US\$0.50 to US\$500. The Kenyan market has digital loans up to US\$30,000.

Mobile loans are usually short term (seven days to six months, though usually one month), charged a monthly interest rate of around 10% and repaid via mobile phone in one or several instalments.

Mobile savings usually carry an interest rate paid to customers in the range of 2%–6% per annum.³ Providers offer basic savings accounts, and some of them offer target savings accounts in which customers can ‘lock’ their money for a set amount of time of their choice (e.g., save for a target/objective for three months). Interest rates paid on target savings accounts are usually higher than on basic savings accounts.

Clients can self-register for the product using the mobile banking services menu of the FI or the MNO and can apply for the loan using their mobile phone. Customers no longer need to complete a paper appli-

cation form or come to a bank to apply for a loan. They are scored via algorithms that use mobile data consumption (GSM [Global System (or Standard) for Mobile], MM and data) and/or credit data from the FI. Savings behaviours can also be assessed in the case of DC&S. Loan approval or denial takes a few minutes, and the client can start using the money immediately. These easily accessible loans trigger customer protection issues that are discussed further in this toolkit.

Clients have both an MM account that usually sits with the MNO and DC&S accounts that sit with the FI. Savings are kept at the FI. Loans are disbursed by the FI. Clients can push and pull money between their MM wallet and DC&S accounts, without incurring a fee in most products.

Clients can use their digital loan by converting the amount received on their financial account into MM in their digital wallet and pay bills, pay merchants or make person-to-person transfers. When the ecosystem around these DC&S products is still in its infancy, customers may, at some point, transform the digital loan into physical cash. To do so, customers need to visit an MM agent. Clients also need to visit an MM agent in order to deposit into their digital savings account via a cash-in transaction; however, some clients have begun receiving their salary in MM and can save a portion of their salary by pushing funds into their digital savings account.

³ In some markets, interest is paid only if the balance remains above a certain threshold.

Technology used for digital credit and savings

DC&S use mobile phones as devices, mobile data to feed algorithms and unstructured supplementary service data (USSD) channels or applications as interfaces. DC&S are usually managed in the core banking system (CBS) of the FI, although some FIs have made the choice to keep DC&S separate from their other financial products to be able to track DC&S more easily or as a requirement from the central bank. This decision is one that the FI has to make depending on its objectives and the regulation. Currently most products are managed in the same CBS as other financial products for cost and efficiency purposes.

Financials involved with digital credit and savings

Implementing a DC&S product requires capital expenditures (CapEx) in the range of US\$300,000–US\$1,000,000, depending on the technical choices made by the partners (FI and MNO). CapEx cover hardware, licence fee from the mobile banking platform to have a DC&S module, implementation costs and credit scoring set-up costs. Operational expenditures (OpEx) are typically in the range of US\$1,000,000–US\$2,000,000 per year minimum, depending on the size of the client base. OpEx are usually split between the MNO (e.g., agent commissions, above-the-line marketing, call centre) and the FI (e.g., below-the-line marketing and client education, staff, annual software licence and credit scoring costs, impairment, depreciation).

Revenues are derived from the interest rate charged on loans paid by clients and the lower cost of funds from mobilizing deposits/savings (since the interest rate paid on savings is usually lower than the cost of funds for most FIs) as well as from fees paid by clients to agents. Revenues are usually shared between the MNO and the FI based on an agreement. The split depends on the respective bargaining power of each party. None of the providers featured in this toolkit agreed to disclose the split. Some partners also decide to share losses, although in most cases the FI is the one bearing them (non-repayment of loans).

It usually takes at least three to five years to breakeven with a DC&S product.

Digital credit and savings success stories

Initially, digital products focused mostly on credit; for example, according to GSMA, 45 digital credit services were live in 16 countries and 36 digital savings services were live in 18 countries as of December 2015.⁴ The vast majority of mobile credit products were in Africa (82% versus 9% for East Asia and the Pacific), while the geo-

graphical distribution of mobile savings products was a little wider (54% in sub-Saharan Africa, 23% in East Asia and the Pacific, and 20% in South Asia). The average mobile savings balance as of end-2015 was US\$16.18. MNOs have led on this path, especially when it comes to mobile credit (85% MNO-led with a partner FI). Recent launches tend to be DC&S products rather than just mobile credit. Yet, it should be noted that 13 new products were launched in 2016 and 6 were discontinued or merged for lack of results.

CGAP has published interesting analyses on the development of digital credit: very few such products have achieved success so far, except M-Shwari and M-Pawa, and rapid proliferation has triggered questions regarding [interest rate](#), [product usage](#), [consumer protection](#) and [borrower risks](#).

CBA has successfully partnered with three different MNOs in four East African countries: with Safaricom in Kenya to launch M-Shwari (2012), with Vodacom in the United Republic of Tanzania to launch M-Pawa (2014) and with MTN in Uganda and Rwanda to launch MoKash (2016 in Uganda, 2017 in Rwanda). CBA is providing the credit and client credit scoring and compensating clients for their savings, while the MNOs are providing the telecom infrastructure and a large customer base. The MNOs are the distribution channel, while CBA is the FSP. CBA is a successful example of a mid-size bank that has leveraged its partners' larger customer base. The lessons learned by CBA through its experience with DC&S may serve other FIs interested in partnering with an MNO to launch similar services.

Digital credit and savings products launched by financial institutions

Other FIs in Africa have launched similar services: several banks have partnered with the MNO Econet in Zimbabwe to launch EcoCash (2013); Barclays Bank has partnered with Airtel in Uganda to launch Airtel Weza (2013); KCB Bank has partnered with Safaricom in Kenya to launch KCB M-PESA (2015); Fidelity Bank has partnered with Airtel in Ghana to launch Airtel Money Bolea (2016); and United Bank for Africa has partnered with Airtel in the Democratic Republic of the Congo to launch Airtel Libiki (2015, discontinued in July 2017). Other services have been launched by fintechs such as Branch and Tala in Kenya (2015). Refer to table 1.

The first DC&S product involving an MFI and an MNO (and a credit scoring provider) was released in early September 2017 in East Africa: HaloYako by FINCA Tanzania (MFI) and Halotel (MNO). In the first month, 30,000 clients enrolled (whereas the FINCA Tanzania customer base is 900,000 clients, reached over 20 years).

⁴ GSMA, *2015 Mobile Insurance, Savings & Credit Report* (London, 2016). Note: All statistics/findings provided in this paragraph are from this source, unless otherwise noted.

Other projects involving FIs and MNOs are in the pipeline, as illustrated in table 2.

Table 2: Digital credit and savings projects in the pipeline in Africa

Area or country	Product type	Partnership type	Expected launch
West Africa	DC&S	MFI + MNO + Credit scoring provider	End 2017
West Africa	DC&S	Bank + MNO + Credit scoring provider	Q1 2018
Côte d'Ivoire	DC&S	CBA + MTN	None provided
Southern Africa	DC&S	MFI + MNO + Credit scoring provider	Q2 2018
East Africa	DC&S	MFI + MNO + Credit scoring provider	Q1 2018
East Africa	DC&S	MFI + MNO + Credit scoring provider	Q2 2018

Customer protection issues triggered by digital credit and savings

Facilitating access to digital credit that can be approved and disbursed in a few minutes triggers some major customer protection issues such as the following: **understanding of such products by customers** (do customers understand the interest rate, default consequences, etc.?); **transparency from the providers** (do the providers enable clients to really read the terms and conditions and not just provide a web-based link, when most customers have basic phones, not smartphones? do they transparently disclose interest rates and charges? do they clearly communicate the default process and consequences?); **high interest rate** (10% per month on average, meaning an annual percentage rate in the range of 90%–500%); **temptation** to borrow even when not needed; **non-productive loans**; **risk of over indebtedness**, as very few countries have credit bureaux that can be used to check whether customers already have similar loans or other types of loans; and, **risk of being blacklisted** for overdue loans of very small amounts.

CGAP has discussed some of these issues, specifically those around [product usage](#), [consumer protection](#) and [borrower risks](#).

Many consumer risks remain unknown, and industry stakeholders, such as CGAP,⁵ FSD Africa and UNCDF, are calling for enhanced customer protection and regulation of such products.

Recipe for success of digital credit and savings

The following tools are provided as guidance for FIs considering launching a DC&S product. These tools are meant to be an inspiration for providers and must be adapted to the local context and completed over time.

- Tool 1: Key adoption barriers and mitigation strategies for digital credit and savings.
- Tool 2: Key success factors for the launch of a digital credit and savings product.
- Tool 3: Risk management for digital credit and savings.
- Tool 4: Checklist for the launch of a digital credit and savings product.

⁵ Katharine McKee, Michelle Kaffenberger and Jamie M. Zimmerman, 'Doing Digital Finance Right: The Case for Stronger Mitigation of Customer Risks,' CGAP Focus Note, no. 103 (Washington DC, CGAP, June 2015). Available from <http://www.cgap.org/sites/default/files/Focus-Note-Doing-Digital-Finance-Right-Jun-2015.pdf>
Rafe Mazer and Alexandra Fiorillo, 'Digital Credit: Consumer Protection for M-Shwari and M-Pawa Users,' 21 April 2015. Available from <http://www.cgap.org/blog/digital-credit-consumer-protection-m-shwari-and-m-pawa-users>

TOOL 1: KEY ADOPTION BARRIERS AND MITIGATION STRATEGIES FOR DIGITAL CREDIT AND SAVINGS

Potential adoption barrier	Issue	Mitigation strategy
Registration	Self-registration might be an issue: in some markets, customers are not very fluent with mobile phone transactions and tend to ask agents to perform transactions for them	<ul style="list-style-type: none"> Provide support channels (call centre, agents, ‘foot soldiers,’ etc.) to support clients with registration, explaining how to do it (but not doing it for them) Consider registration through agents if regulation permits it
Know-your-customer (KYC) requirements	<p>Clients might not be able to meet the KYC requirements, such as having an official identification document (ID)</p> <p>Client might be self-registered, so the MNO does not have the ID details of the customer</p>	<ul style="list-style-type: none"> Find a balance between providing access to financial services to the unbanked and determining the level of risk that the FI is willing to take: decide which ID types to accept to be sure clients can be tracked in case of default, while not restricting it only to an official ID card and passport if most clients do not have them Ensure that client ID details are collected at registration, if they are not already in the system Ensure the ID is checked for every transaction with an agent in order to avoid fraud
Language	In countries where there is an official language (e.g., English or French) but where in practice most clients are more familiar with a second official or local language, understanding the product in the principal official language might be an issue	<ul style="list-style-type: none"> Develop products in more than one language if possible At least translate terms and conditions into the local language, particularly the information pertaining to fees, interest rates and loan recovery process Use pictorials and images (screenshots) in communications explaining the product
Customer education	Customers may have difficulties understanding the concept of interest rate, default process, target savings, etc., if their financial literacy level is low	<ul style="list-style-type: none"> Ensure the product matches the current financial literacy level of the target clientele: consider that there is no need to develop a product with advanced functionalities such as auto-savings, auto-repay, etc. in a market where MM is still nascent or developing, unless there is a clear customer request for it Ensure education is provided to clients, using their preferred channels (to be investigated during market research): short message service, ‘foot soldiers,’ agents, etc. Ensure education is a repeated process
Agent education	Agents might not understand the product if it is not explained to them, which can be an issue as they are the contact point for the clients for cash-in/cash-out	<ul style="list-style-type: none"> Plan for education of agents: explain how the product works and what the benefits are for them Devise a value proposition for agents, not just clients

TOOL 1: KEY ADOPTION BARRIERS AND MITIGATION STRATEGIES FOR DIGITAL CREDIT AND SAVINGS (continued)

Potential adoption barrier	Issue	Mitigation strategy
Customer protection	<p>Customers might not understand what they subscribe to or the consequences of defaulting on a loan</p> <p>Customers might lose their savings in case of bankruptcy of one of the providers or if the product is taken off the market</p>	<ul style="list-style-type: none"> • Ensure the product is explained in simple terms to clients • Ensure clients can have access to terms and conditions if they wish (not just a link to click on a smartphone, when they only have a basic phone) • Ensure product information is provided with the product • Ensure clients have an opt-out option for the product • Provide support channels and recourse mechanisms/channels • Disclose fees and terms transparently (especially the interest rate that will need to be repaid) • Be clear when informing customers about the consequences of default and the process in case of default (penalties, account sweeping, blacklisting, etc.) • Ensure clients understand the use of their data for credit scoring and consent to it • Avoid tempting clients by sending messages about loan amounts for which borrowers could qualify and/or including the upper-most loan limit in the product information (depending on the market, if clients know the loan amount eligibility, it can create temptation to request a larger loan than initially planned)
Unsecured personal identification number (PIN)	Customers may either forget their PIN (save it in their contact list) or give it to the agent when performing a transaction	<ul style="list-style-type: none"> • Educate customers about the importance of keeping their PIN secure and secret • Ensure their PIN is the same for the MM account and DC&S in order for customers to remember it more easily • Consider biometrics in markets where customers use smartphones
Switch from MM to DC&S	Customers might not see the added value of digital savings compared to MM if they are used to saving on their MM account already	<ul style="list-style-type: none"> • Ensure the value proposition is compelling enough (i.e., it addresses the customers' needs and pain points with current options) • Test several value propositions to identify the main triggers for clients (interest rate, cash back, convenience, etc.)

TOOL 2: KEY SUCCESS FACTORS FOR THE LAUNCH OF A DIGITAL CREDIT AND SAVINGS PRODUCT

- **Find the right partner(s) and establish a clear split of responsibilities.** The initial conversations between the FI and the MNO are crucial to ensure alignment of vision, mission and approach. Discussing the characteristics of the product and the intended value proposition is of essence. Discussing the split of roles and responsibilities—especially for revenue sharing, loss sharing and risk sharing—is crucial.
- **Ensure the product addresses pain points/unmet needs.** An approach using human-centric design should be leveraged to identify customers' pain points and how to address them during an initial market research phase. Understanding the triggers and barriers to adoption is key.
- **Incorporate user testing into the design process.** Prototyping the product even before it is fully developed is crucial to gather customers' feedback and adjust the product accordingly.
- **Adapt product features to the MM development stage of the country.** In countries where customers are very familiar and fluent with MM and where other DC&S products have already been launched, providers can consider more advanced functionalities than the basic savings and credit products, such as target savings, auto-savings, auto-repay, etc. Such functionalities might be too complex for less advanced MM markets (to be assessed during market research and product testing).
- **Ensure sufficient financial education is provided for these products.** These products are complex to understand (e.g., target savings versus basic savings, default process) and extensive education is required. Adoption might be low in markets where clients are not yet ready for these types of products (e.g., lack of understanding of the credit concept, saving concept).
- **Have dedicated teams and project management structure.** These projects are time consuming to implement and require dedicated resources, in particular technical teams, operational teams and marketing teams at least for the launch. Ensuring collaboration among the various teams inside the MNO and the FI, as well as between the FI and MNO, is key. Forming a project team with a project manager and director, holding regular meetings, and establishing a steering committee to make decisions and arbitrate is highly recommended.
- **Invest in client education and support, and consider it a regular process and not a one-off event.** Educating customers is key to ensuring that awareness of the product transforms into registration and actual usage and adoption. It is important to invest in below-the-line resources such as field officers/'foot soldiers' to support the launch and to explain the product but also to provide support on an ongoing basis to help facilitate regular usage.
- **Learn lessons from previous launches.** The purpose of this toolkit is to identify challenges and derive lessons from a successful launch, yet it is also interesting to understand lessons from failed attempts or launches. It is helpful for an FSP interested in this path to talk to providers that have followed a similar path before it.
- **Create feedback loops.** It is critical to ensure that feedback from customers and agents is regularly gathered to improve the product and to make necessary adjustments.
- **Plan sufficient time before the launch for market research and product design, development and testing (pilot).** It takes at least nine months to take such a product to market, from the initial discussion between partners to the actual product launch. Once partners have aligned and defined the product and responsibilities, they need five to six months: research takes two weeks to one month; a go2market strategy/design takes at least six weeks but most often two to three months; prototyping takes at least one month; and the pilot should last at least two to three months. The time needed for bringing such a product to the market should not be underestimated.

TOOL 3: RISK MANAGEMENT FOR DIGITAL CREDIT AND SAVINGS

Table 3: Types of financial risks identified in digital credit and savings^a

Financial risk type	Definition	Example	Responsible party	Mitigation strategy
Credit and credit scoring risk	<p>It is the risk of default on a debt that may arise from a borrower failing to make required payments</p> <p>Concentration risk can also be considered part of credit risk</p>	<p>At the client level: client does not repay his/her loan</p> <p>At the institution level: there is not enough capital to meet requirements, too much concentration risk on some clients, or share of DC&S portfolio in the overall portfolio is too high</p>	FI	<ul style="list-style-type: none"> Limit loans to one per customer at a time Check customer history with credit bureau, where existing Ensure credit scoring captures enough data, enabling the FI to make an informed decision on the credit worthiness of a borrower Ensure credit scoring process leads to adequate decision-making (following clear rules for decision-making and abiding by them) Anticipate losses through impairment and provisions (10% is a good conservative ratio in most markets, yet depending on the repayment habits observed by the FI in its country of operations, a larger provision might be needed) Limit share of DC&S in FI portfolio Monitor non-performing loans, especially for longer durations Implement a clear process in case of default and communicate it to clients (loan extensions, penalties charged, chasing procedures, account sweeping, information to credit bureau, etc.)
Liquidity risk	It is the risk that the institution or its agents are unable to meet cash flow obligations and become insolvent	Agents do not have the needed cash to disburse loans to clients or to complete cash-out as requested by clients	MNO agents and MNO	<ul style="list-style-type: none"> Help agents anticipate liquidity shocks by informing them when clients will cash out their loans or repay them Develop an agent loan or overdraft to help agents face liquidity shocks Direct clients to liquid agents, if MNO has the capacity to know the liquidity level of its agents
Portfolio balance risk	It is the risk that the split between savings and loans becomes unbalanced	The loan portfolio is higher than the savings portfolio as customers borrow more than they save (the loan product is usually more attractive than the savings product)	FI	<ul style="list-style-type: none"> Implement a cap for the loan portfolio versus the saving portfolio Make savings a requirement to borrow for customers Work on different scenarios for uptake of loan and savings products

^a This list is not exhaustive and can be completed over time by the providers, depending on risks they identify in their own activities.

TOOL 3: RISK MANAGEMENT FOR DIGITAL CREDIT AND SAVINGS

(continued)

Table 3: Types of financial risks identified in digital credit and savings (continued)

Financial risk type	Definition	Example	Responsible party	Mitigation strategy
Interest rate risk	It is the risk of the interest rates on borrowed funds increasing, while at the same time, being unable to increase the interest rate charged to customers due to locked-in long-term loan rates	The FI needs to borrow to fund its digital loan portfolio and the interest rate on borrowed funds becomes higher than the interest rate charged to customers	FI	<ul style="list-style-type: none"> Decide on the percentage of loans funded through savings collected to ensure the FI will not have to borrow too much to lend Have different scenarios for interest rate evolution (worst case, best case, average case)
Foreign exchange risk	It is the risk of losses when trading currency, or by having a mismatch of currencies in which loans and deposits are denominated	In countries with dual currencies, clients can choose to deposit in one currency (e.g., United States dollars, which are considered more stable) and borrow in the local currency	FI	<ul style="list-style-type: none"> Hedge the foreign exchange risk and anticipate it Limit customers' abilities to save in international currency if endangering the FI portfolio

Table 4: Potential financial risk areas identified from digital credit and savings implementation

Mapping of financial risks according to providers involved	Credit risk	Liquidity risk	Portfolio balance risk	Interest rate risk	Foreign exchange risk
Fintech	●	●	● ^a	●	●
MNO + Bank	●	●	●	●	●
MNO + MFI + CSP	●	●	●	●	●
MNO + Bank + CSP	●	●	●	●	●
MFI + CSP	●	●	●	●	●
MFI	●	●	●	●	●
MNO	●	●	● ^a	●	●
Fintech + MFI	●	●	●	●	●

- Severity and frequency of risks is high
- Severity or frequency of risks is high
- Severity and/or frequency of risks is low and/or medium

^a Risk is higher for fintechs and MNOs that tend to offer only digital credit whereas other providers offer both loans and savings, having a more balanced portfolio.

Acronym: CSP, credit scoring provider

TOOL 3: RISK MANAGEMENT FOR DIGITAL CREDIT AND SAVINGS

(continued)

Table 5: Types of non-financial risks identified in digital credit and savings^a

Risk type	Definition	Example	Responsible party	Mitigation strategy
Strategic risk	It is the risk due to pursuit of an unsuccessful business plan or the potential losses resulting from missed opportunities	An ineffective product is launched on the market that does not respond to client requirements There is a failure to respond to change in the business environment	Both FI and MNO	<ul style="list-style-type: none"> Ensure there is an unmet need from clients Ensure the product corresponds to customer needs using human-centric design for market research Plan for several scenarios, including pessimistic ones
Regulatory risk	It is the risk associated with not complying with regulatory guidelines and rules, such as AML/CFT, KYC, data privacy, account and transaction limits, etc.	There are regulation changes in terms of KYC Interest rate cap on loans may be an issue—if set too low, it might prevent providers from being able to provide such products since the cost of funds and the cost of risks need to be covered to make such products financially viable	Both FI and MNO	<ul style="list-style-type: none"> Have regular conversations with the regulator to ‘educate’ them on DC&S and inform them of the partners’ plan and development stage
Political risk	It is the risk linked to the possibility that political decisions, events or conditions will significantly affect the profitability of a business or the expected value of a given economic action	Corruption, slowed or retracted economic growth, and/or fiscal or monetary policy changes can force political figures to make new decisions or rules impacting DC&S	Both FI and MNO	<ul style="list-style-type: none"> Anticipate several scenarios Maintain good relationship and ongoing conversations with political figures to be warned of such risks
Partnership risk	It is the risk linked to the non-alignment between partners of expectations for outcomes and priorities	Divergent priorities between partners: for instance, the MNO has a priority to increase the number of clients while the FI has a priority to increase savings as a source for onlending	Both FI and MNO	<ul style="list-style-type: none"> Have in-depth alignment discussions at the start Have regular conversations to ensure alignment Have a contingency plan in case non-alignment cannot be resolved

^a This list is not exhaustive and can be completed over time by the providers, depending on risks they identify in their own activities.

TOOL 3: RISK MANAGEMENT FOR DIGITAL CREDIT AND SAVINGS

(continued)

Table 5: Types of non-financial risks identified in digital credit and savings (continued)

Risk type	Definition	Example	Responsible party	Mitigation strategy
Fraud risk (internal and external)	It is the risk due to internal and external fraud, such as counterfeit currency, SMS phishing and unauthorized password access	An agent makes several split withdrawals to gain more commissions PIN is hacked in order to make illegal transactions A client impersonates somebody else to withdraw their money on the DC&S product	MNO	<ul style="list-style-type: none"> Monitor fraud in the form of impersonation (some ID types can be acquired illegally) Monitor agents on a regular basis Perform mystery visits Educate both agents and customers on the risks associated with fraud and its penalties
Technical risk	It is the risk incurred for inadequate or failed internal processes, people and systems, or from external events	Access to the Internet is down due to a technical problem, servers become unavailable, or there is discrimination or an act of vandalism	MNO	<ul style="list-style-type: none"> Ensure there is a clear service-level agreement between the partners for system maintenance and down times Ensure there is a clear escalation process in case issues arise

Acronyms: AML/CFT, anti-money laundering/combating the financing of terrorism; KYC, know your customer; PIN, personal identification number; SMS, short message service

Table 6: Potential non-financial risks identified from digital credit and savings implementation

Mapping of non-financial risks according to providers involved	Strategic risk	Regulatory risk	Political risk	Partnership risk	Fraud risk (internal and external)	Technical risk
Fintech	●	●	●	●	●	●
MNO + Bank	●	●	●	●	●	●
MNO + MFI + CSP	●	●	●	●	●	●
MNO + Bank + CSP	●	●	●	●	●	●
MFI + CSP	●	●	●	●	●	●
MFI	●	●	●	●	●	●
MNO	●	●	●	●	●	●
Fintech + MFI	●	●	●	●	●	●

- Severity and frequency of risks is high
- Severity or frequency of risks is high
- Severity and/or frequency of risks is low and/or medium

Acronym: CSP, credit scoring provider

TOOL 4: CHECKLIST FOR THE LAUNCH OF A DIGITAL CREDIT AND SAVINGS PRODUCT

- ☑ Have in place strong technical and financial structures, and ensure an adequate level of investment to support the product until it reaches breakeven.
- ☑ Check the country regulation, and obtain authorization from the central bank before launching a DC&S product, even if the bank/MFI already has a banking/microfinance licence.
- ☑ Define clearly the type of product to be delivered, including the target market, specific product features, interest rates and credit scoring strategy.
- ☑ Secure budget and project funding.
- ☑ Choose a reliable partner to help throughout the process. In the case of a bank/MFI, an MNO that is technically prepared with a strong customer base and a wide agent network is the ideal option.
- ☑ Ensure strategic alignment of the partners through partnership agreements and regular conversations, and make sure there is governance support from top management.
- ☑ Make sure that contracts and terms of reference are well defined from the start and that all stakeholders have access to them.

- ☑ Define key performance indicators, and have a clear split of responsibilities between bank/MFI and MNO.
- ☑ Have dedicated business, marketing and technical teams.
- ☑ Perform market research to analyse existing competitors in the market (formal and informal).
- ☑ Perform a robust risk assessment and plan mitigation strategies.
- ☑ Provide agent training, and make sure agents are ready to support the product and are able to answer customers' queries.
- ☑ Gather constant customer feedback before and after the launch, to help deliver valuable products and also to keep improving.
- ☑ Have an adapted marketing strategy, and conduct constant promotional campaigns to attract customers.
- ☑ Have in place a dedicated customer care line and service centres ready to assist with issue resolution.

THE CASE OF COMMERCIAL BANK OF AFRICA—EXECUTIVE SUMMARY

Commercial Bank of Africa (CBA) was founded in the United Republic of Tanzania in 1962, and today is one of the largest privately-owned banks in East Africa. It has branches in four East African countries: United Republic of Tanzania, Kenya (since 1967), Uganda (since 2014) and Rwanda (since 2016). CBA Rwanda operates under an MFI licence and not a commercial bank licence.⁶

CBA provides a wide range of services to its customers, starting with small and medium enterprise banking (business savings accounts and business loans), personal banking (transaction accounts; lending solutions, such as CBA property financing, home loans, construction loans and plot purchase loans; savings solutions, like term deposits and the Nufaika Savings Account), insurance (car, personal property, travel, education, life, credit protection, personal accident), Internet banking, mobile banking and DC&S, international money transfer, and foreign exchange services.

CBA started its digital journey in November 2012: in partnership with the biggest MNO in Kenya, Safaricom, it launched M-Shwari—the first mobile micro saving and lending product. M-Shwari belongs to the second generation of DFS, deepening financial inclusion. Built upon an MM infrastructure, it enables clients to access formal savings and loan accounts through their mobile phone without having to visit a bank branch.

After M-Shwari, CBA continued with its plan to bring mobile financial services closer to people by launching similar products in the other three countries. CBA launched M-Pawa in the United Republic of Tanzania in 2014 in partnership with Vodacom, followed by MoKash in Uganda in 2016 in partnership with MTN Uganda and, most recently, MoKash in Rwanda in early 2017 in partnership with MTN Rwanda. Within these partnerships, CBA provides the banking licence and the MNO provides the e-money licence.

The MNO is the distribution channel, while CBA is the service provider. The client has both a bank account and an MM wallet. The bank account is with CBA and is linked to the MNO MM wallet. These DC&S are co-branded as products of CBA and the MNO.

The savings accounts usually bear an interest rate that depends on the amount saved. Short-term loans (maximum 30 days) are granted by CBA after credit scoring is completed, which is performed by CBA using a proprietary algorithm, based on clients' usage of voice, data and MM and clients' savings behaviour on the savings account. Paying loans on time can also increase loan limits. An interest rate, called a 'facility fee,' of 7.5% in the case of M-Shwari and 9% for M-Pawa and MoKash is applied on the amount borrowed. The facility fee is paid at the end of the loan period, being added to the loan amount to be repaid. CBA bears and manages the risk of non-performing loans.

CBA has launched very successful DC&S products, having so far in 2017 reached around 20–25 million subscribers in Kenya, Uganda and the United Republic of Tanzania, of whom an estimated 14 million are M-Shwari users.⁷ M-Pawa in the United Republic of Tanzania had 5 million registered users as of March 2017, while MoKash in Uganda had 2.5 million registered users as of August 2017.

CBA has managed to provide its services to a larger base of customers, including in remote rural areas, and to promote financial inclusion by using the MNOs as distribution channels, thanks to their large customer base and extended MM agent networks, as well as by leveraging the success of different MM services in each country.⁸

These DC&S services ride on the success of MM and mobile banking. They require clients to have an MM wallet and to be familiar with MM transactions.

THE CASE OF COMMERCIAL BANK OF AFRICA—DIGITAL PATH AND RESULTS

M-Pesa (or how it all began)

M-Shwari was built on the success of M-Pesa, the MM service launched by Vodafone in Kenya through Safaricom in March 2007. One of the world's pioneer MM services and the first such service in Africa, M-Pesa is considered a global success story, being used by two thirds of Kenyan adults,⁹ counting more than 80,000 agents and processing nearly US\$20 million in daily payment transactions.¹⁰ Refer to annex 1 for more information on the Kenyan context.

The original idea of M-Pesa was to have an MM service that would help people repay their microfinance loans. A 2006 pilot in Thika, an industrial town 42 km northeast of Nairobi, revealed that people were actually using the service to send money to one another, as the system allowed that option. Building upon this finding, the concept of M-Pesa as a transfer service came to life. After all approvals were obtained from the Central Bank of Kenya,¹¹ the next step was to start building a network of agents.

In 2016, M-Pesa had over 100,000 agents countrywide.¹² M-Pesa is a service that continues to deepen financial inclusion, as shown by an increase in active users (in the last 30 days) of 19.80%,

⁷ The figure includes both active and inactive users.

⁸ These MM services include M-Pesa in Kenya, M-Pesa in the United Republic of Tanzania, and MTN Mobile Money in Rwanda and Uganda.

⁹ According to 2016 Kenyan demographic data, adults (15–64) number 26,397,113. Source: CountryMeters, 'Kenya population.' Available from http://countrymeters.info/en/Kenya#age_structure (accessed June 2017).

¹⁰ Tamara Cook and Claudia McKay, 'How M-Shwari Works: The Story So Far', Forum 10 (Washington DC, CGAP and FSD Kenya, 2015). Licence: Creative Commons Attribution CC BY 3.0.

¹¹ Safaricom, 'Regulators,' in *Sustainability Report 2015: Transforming Lives* (Nairobi, n.d.).

¹² Safaricom, *Sustainability Report 2016: Widening our vision, Sharpening our focus* (Nairobi, n.d.).

⁶ National Bank of Rwanda, 'List of licenced banks' (Kigali, June 2017).

19

from 13.9 million¹³ to 16.6 million in March 2016¹⁴ (see table 7). In 2017, the number of agents reached 130,000 and the number of

users 27 million, from which 19 million are 30-days active M-Pesa customers.¹⁵

Table 7: M-Pesa revenue and customer numbers in Kenya (FY2014–FY2017)

	FY2017	FY2016	FY2015	FY2014
M-Pesa revenue (KSh billion)	55.08 (US\$534.28 million)	41.50 (US\$402.55 million)	32.63 (US\$316.51 million)	26.56 (US\$257.63 million)
M-Pesa customers active in last 30 days (million)	19.80	16.60	13.86	12.16

Sources: Safaricom, *Sustainability Report 2016: Widening our vision, Sharpening our focus*, p.45 (Nairobi, n.d.); Safaricom, *Safaricom Annual Report and Financial Statements 2017: Where we will go next?* (Nairobi, 2017).

Conversion rate: KSh 1 = US\$0.0097 (Source: www.xe.com, 15 May 2017).

The success of mobile or nano savings and loan products was primarily due to existing MM services that were established years prior (and whose clients were already familiar with the utilization process). Vodafone launched M-Pesa in the United Republic of Tanzania in April 2008 through its subsidiary Vodacom. MTN launched MTN Mobile Money in Uganda in March 2009 and in Rwanda in February 2010.

Objectives of becoming a digital financial service provider

Main objectives

The DC&S products offered by CBA not only promote financial inclusion by bringing financial services closer to people through the agent networks of the MNOs, they also encourage a savings culture. By offering MNO clients and other customers the option of saving in a secure and private manner and by giving them the opportunity to take out loans, these products provide new opportunities to the poor and rural unbanked, while also offering a way to empower women.

On one hand, CBA is leveraging its banking licence, which enables it to collect savings from customers and grant loans. On the other hand, the MNO is providing what CBA lacks: access to a large customer base (from 1 million to 15 million customers, depending on the country)¹⁶ through its MM services. In addition, by offering a new product to its customers, the MNO aims to improve customer retention and loyalty and to attract new customers.

CBA also intended to ride on existing MM services, as customers were already accustomed to and educated about these services and thus could adopt the new DC&S products without all the education efforts associated with launching new products.

CBA has managed to position itself as a provider of DC&S services, and thanks to partnerships with reputable MNOs with large customer bases and large agent networks, it has gained credibility and size and captured additional customers.

M-Shwari in Kenya: Objectives and results achieved

When M-Shwari launched in November 2012, it was the first DC&S product in the DFS market—not only in Kenya but worldwide. The revolutionary product had a very positive initial response, as demonstrated by results in its first 21 days on the market: 645,000 Kenyan adults signed up for the service and a total of KSh 150 million (US\$1,455,000) was saved.¹⁷ Figures escalated quickly as, by the end of December 2012, savings reached KSh 976 million (US\$9,467,200) and loans amounted to KSh 123 million (US\$1,193,100).¹⁸ The dominant age group was 26–30 years old, representing 24% of customers, followed by 31–35, representing 18%.¹⁹

The story of M-Shwari is directly tied to the story of M-Pesa in Kenya, representing the natural development of M-Pesa from being just a money transfer mechanism to offering new services. M-Shwari launched in a favourable context, which propelled its success, as M-Pesa customers were already accustomed to transacting via MM and found value in a product that could help them earn interest on their savings and also obtain loans.

¹³ Ibid.

¹⁴ Safaricom, *Safaricom Annual Report and Financial Statements 2017: Where we will go next?* (Nairobi, 2017).

¹⁵ Ibid.

¹⁶ M-Pesa in Kenya had nearly 15 million clients at the time of launch, M-Pesa in the United Republic of Tanzania had 7 million, MTN Mobile Money in Uganda had 4 million and MTN Mobile Money in Rwanda had 1 million.

¹⁷ CIO East Africa, '21 days of M-Shwari: 645,000 clients, KSh. 150 million saved,' 18 December 2012.

¹⁸ Safaricom, 'M-Shwari,' info sheet (Nairobi, n.d.). Available from https://www.safaricom.co.ke/images/Downloads/m-shwari_info.pdf (accessed October 2017).

¹⁹ Ibid.

M-Shwari is a bank account that promotes financial inclusion among low-income earners who did not have access to formal banking services (savings and credit). It is subject to the regulatory requirements of a bank account in Kenya. In this case, CBA provides the loan portfolio capital, covers the losses from non-performing loans, reports to the credit reference bureau and keeps a data structure in compliance with regulations.

M-Shwari addresses the key pain points of people who previously had difficulty opening a bank account. Two of the main reasons for not having a bank account are usually the distance to travel to the bank and the minimum balance required to open an account, which is typically too high for low-income earners. M-Shwari tackles these two pain points: to open an account, M-Pesa customers can register for the service conveniently from home using their phone and face no required minimum balance. In addition, there are no charges for moving money from M-Pesa to M-Shwari and vice versa.

The expectation of CBA for M-Shwari was thus to be able to reduce the financial gap even further, as it is easy to access, is available all the time and has the same benefits as a bank account. At the November 2012 launch of M-Shwari, CBA Group Managing Director Isaac Awuondo described the reason for the partnership with Safaricom: 'With this mobile banking product, we will leverage on Safaricom's customer base of over 19.2 million subscribers—15 million of whom are already M-PESA users—so that we can maximise on the reach of its extensive distribution network comprising of 47,000 agents.'²⁰

Besides promoting financial inclusion, CBA had an additional objective for M-Shwari: to diversify the usage of M-Pesa by providing clients with another tool to save and to receive credit, beyond the traditional methods such as family and friends. Case in point: in 2016, the M-Shwari banking service grew from 3 million to 4 million active users (last 30 days) and had KSh 8.1 billion (US\$78,570,000) in deposits and KSh 7.4 billion (US\$71,780,000) in loans.²¹

In March 2015, a few years after M-Shwari launched, Safaricom together with KCB Bank introduced KCB M-PESA in the pioneering Kenyan market. With success similar to M-Shwari, KCB M-PESA registered 640,000 subscribers in three weeks (40,000 average new registrations per day), KSh 36 million (US\$349,200) in savings and over KSh 380 million (US\$3,686,000) in loans.²² The average loan amount was KSh 3,500 (US\$34). In the same

period, a total of KSh 90 million (US\$873,000) moved from M-Pesa to KCB M-PESA in 97,680 transactions, while transfers from KCB M-PESA to M-Pesa were KSh 380 million (US\$3,686,000) conducted in 156,851 transactions.

Having the same main objective as M-Shwari, to promote and scale up financial inclusion, KCB M-PESA shares features with M-Shwari, though it has a few differences: more savings options with different interest rates for savings accounts based on savings duration, larger loan amounts, and different interest rates for loans based on loan amount, loan duration and repayment structure.

Eazzy Loan by Equitel Kenya is the third DC&S product in Kenya involving an FI. Refer to the Equitel case study in this toolkit for more details.

M-Pawa in United Republic of Tanzania: Objectives and results achieved

After the success of M-Shwari in Kenya, CBA decided to enter a new country with a similar product. A result of a partnership between CBA and Vodacom Tanzania, M-Pawa launched in May 2014 as the first DC&S product in the country. Refer to annex 3 for more information on the Tanzanian context.

Having as its main objective to transform banking by allowing Tanzanians to access affordable financial services through their mobile phone, M-Pawa offered people who typically do not meet the requirements of the formal banking sector an opportunity to securely save and grow their money and also to take out loans. Another objective of M-Pawa was to enhance the Tanzanian financial inclusion agenda and fulfil the strong need of Tanzanians for secure saving services.²³

Similar to the path followed by M-Shwari, M-Pawa had a route to market paved by the Tanzanian M-Pesa variant. Launched in 2008, Vodacom M-Pesa was the second MM service in Africa and had 7 million users in 2013—one year before the launch of M-Pawa. Its success contributed to the rapid growth of M-Pawa, which six months after launch had already reached 1 million subscribers.

20 Charles Gichane, 'M-Shwari makes saving, borrowing easier,' 27 November 2012. Available from <http://www.capitalfm.co.ke/business/2012/11/m-shwari-makes-saving-borrowing-easier/>

21 Safaricom, *Sustainability Report 2016*.

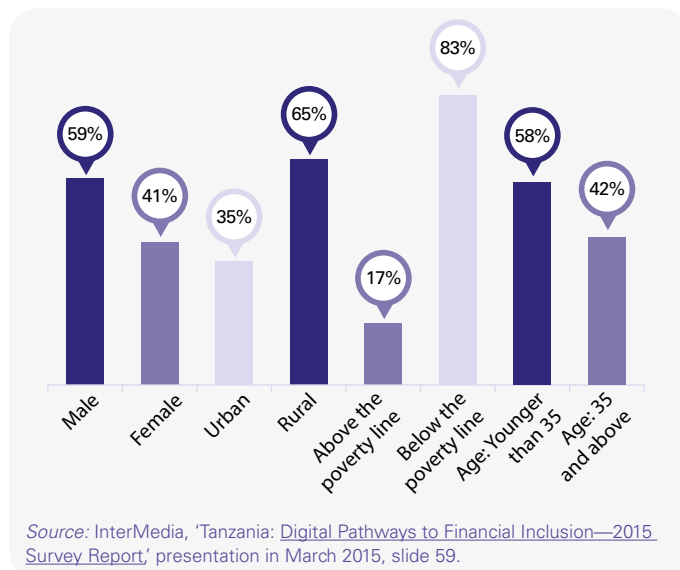
22 KCB, 'M-PESA Account,' investor presentation (Nairobi, n.d.). Available from https://ke.kcbbankgroup.com/media/presentations_and_webcasts/KCB_M-PESA_Account_Investor_Presentation_2.pdf (accessed October 2017). Note: All the rest of the figures provided in this paragraph are also from this source.

23 Vodacom, 'Vodacom and CBA launch revolutionary banking product,' 14 May 2014.

M-Pawa provided a new opportunity for financial inclusion to the rural Tanzanian population, 93% of whom had never used a formal banking product.²⁴ If Vodacom M-Pesa allowed many more Tanzanians to become financially active, M-Pawa offered the following advantages: (1) save money securely, (2) gain interest on savings and (3) access small loans in a fast, efficient, convenient manner.

Three months after launch, 3% of the population had tried M-Pawa; these individuals were mostly men, rural, below the poverty line and younger than 35 years old (see figure III).²⁵

Figure III: M-Pawa user demographics (percentage of M-Pawa users, n=80), 2014



To understand how M-Pawa was being used in rural areas, members of The Connected Farmers Alliance interviewed more than 400 rural Tanzanians one year after the launch. Findings revealed the positive perceptions of M-Pawa and M-Pesa, the reasons for taking out loans (mostly business and investment reasons) and that women felt financially empowered by M-Pawa. The study also revealed the challenges M-Pawa had to face in rural areas: low financial literacy and low customer education related to the different product features.²⁶

By May 2016, CBA had 4.8 million accounts, with TSh 39 billion (US\$17,449,864)²⁷ in loans disbursed to entrepreneurs, most of

whom were women or youth interested in increasing income or business capital.²⁸ As of the end of June 2016, 63% of users had saved some TSh 20 billion (US\$8,948,648).²⁹ By the end of 2016, M-Pawa had 5 million registered clients, of whom 1 million were actively using the product. CBA was disbursing an average 350,000 loans per month and had collected TSh 200 billion (US\$89,486,480) in deposits since launch.³⁰

The Tanzanian market is strongly populated by MM services that provide various DC&S options for MM users. In September 2014, Tigo launched Tigo Wekeza, the first-ever MM service that pays users interest on their Tigo Pesa balance at a rate between 7% and 9% per annum.³¹ Two years after the launch of M-Pawa, two new DC&S products were introduced on the Tanzanian market: Airtel Timiza and Tigo Nivushe. Unlike M-Pawa, both Timiza and Nivushe offer only the loan option, for flexible durations (7, 14, 21 days for both and also 28 days for Tigo Nivushe) at different interest rates. Both products have been developed by MNOs with credit scoring provider Jumo and without banks involved (the credit scoring provider is managing the credit risk). The average Timiza loan size is US\$10.

Most recently (September 2017), HaloYako, the fourth DC&S product in the Tanzanian market, was launched by FINCA (an MFI) and Halotel (MNO). The product was launched with only the savings component to start and encourage savings behaviors; loans will be added later.³²

MoKash in Uganda: Objectives and results achieved

Launched in August 2016 by CBA in partnership with MTN Uganda in a favourable country context (high usage of MM, dominant market position of MTN, high understanding of how MM works), MoKash was a success from the start, with over 80,000 clients registered in the first 48 hours and 650,000 clients in the first month. By November 2016, three months after launch, MoKash had approximately 1.5 million customers. By August 2017, one year after launch, it had 2.5 million registered customers. Thanks to MoKash, the MTN Mobile Money active customer base increased by 12.4% in one year, reaching 4.1 million.³³ Refer to annex 2 for more information on the Ugandan context.

24 Financial Sector Deepening Trust, 'FinScope Tanzania 2013' (Dar es Salaam, n.d.). Available from <http://www.fsd.or.tz/wp-content/uploads/2016/05/FinScope-Brochure-2013-Summary-2.pdf>

25 InterMedia, 'Tanzania: Digital Pathways to Financial Inclusion—2015 Survey Report,' presentation in March 2015. Available from <http://finclusion.org/uploads/file/reports/InterMedia-FII-Wave-2-Tanzania-Wave-Report.pdf>

26 CGAP, 'Connected Farmer Alliance: M-Pawa Research Findings,' presentation. Available from <http://www.cgap.org/blog/m-pawa-1-year-mobile-banking-perceptions-use-tanzania> (accessed via link in this post in May 2017).

27 Conversion rate: TSh 1 = US\$0.0004474324 (Source: www.xe.com, 15 May 2017). Note: This rate is used throughout this document when United States dollar equivalents are provided for Tanzania shillings.

28 GSMA, *State of the Industry Report on Mobile Money*, Decade Edition: 2006–2016 (London, 2017).

29 Mark Keith Muhumuza and Jonathan Adengo, 'Groundbreaking: When the mobile phone became a bank,' 16 August 2016. Available from <http://mobile.monitor.co.ug/Business/Business/Groundbreaking-When-the-mobile-phone-became-a-bank/2471012-3345460-format-xhtml-95wevyv/index.html>

30 Vodacom Tanzania, *Vodacom Tanzania PLC Prospectus* (Dar es Salaam, 2017).

31 Tigo is the brand from Millicom. Source: Millicom, launches the world's first mobile money service with automatic returns to users,' press release from 10 September 2014.

32 FINCA International, 'FINCA accelerating financial inclusion through FinTech innovation in Tanzania!' 18 October 2017. Available from <http://www.finca.co.tz/news/finca-accelerating-financial-inclusion-through-fintech-innovation-in-tanzania/>

33 MTN Uganda, Twitter message, 2 March 2017. Available from https://twitter.com/mtnug/status/837232674917990400?ref_src=twsrc%5Etfw&ref_url=http%3A%2F%2Fwww.techjaja.com%2Fmtn-uganda-results-mobile-money-rise-voice-revenue%2F

The objective of MoKash was to reduce the struggle of rural customers to access formal financial services from the conventional banking system. Using MM as a distribution channel was the most logical option to reach this objective, as MM was already a crucial part of Ugandans' daily lives: in June 2016, the number of registered MM users in Uganda was 19.6 million (>50% of the total population).³⁴

The main competition for MoKash in Uganda comprised semi-formal and informal saving and credit options, such as keeping money in a box at home, participating in a saving group and borrowing from family members, friends or moneylenders. Each of these methods had its own disadvantages, such as providing no interest for savings or charging too high an interest rate for loans and posing significant risks in terms of security, which often discouraged people from saving for the future and resulted in them taking out loans in emergency situations.

One of the favourable factors for MoKash, however, was that MM customers were already using the service as a saving method. They quickly embraced the new saving service, as it not only offered interest on savings but also the option of taking out a loan based on how much one saved.

Many can benefit from MoKash, as a UNCDF article explains: 'The benefits of MoKash extend across all socioeconomic spheres: to the rural woman who wishes to incrementally save small amounts of money for her family's monthly expenses [and for school fees], to micro-entrepreneurs who aspire to [start or] grow their business, to students who must pay their school fees and to farmers who need capital to boost their crop inputs.'³⁵

As of December 2016, net deposits stood at U Sh 3.37 billion (US\$1,019,828) and net loans disbursed at U Sh 3.43 billion (US\$945,408).³⁶ In August 2017, one year after launch, MoKash counted 2.5 million customers, of whom 1.2 million were actively saving,³⁷ and over 1 million loans issued with a value of approximately U Sh 30 billion³⁸ (US\$8,268,876).³⁹

MoKash in Rwanda: Objectives and results achieved

Launched in February 2017, MoKash in Rwanda is the latest DC&S product brought to market by CBA. As a new entrant to the Rwandan market, CBA chose MTN Rwanda as a distribution channel because MTN had been in the market since 1998, had over 4 million customers (of whom 1 million were active MM users, as of December 2016)⁴⁰ and boasted an agent network of 300 agents countrywide.⁴¹

MoKash in Rwanda represents the next step towards a cashless transactional economy and offers security and convenience to Rwandans, while enhancing the financial inclusion agenda and encouraging a saving culture.

CBA Group Managing Director Isaac Awuondo shared these remarks at the MoKash launch in Rwanda:

We are delighted to build on the success of MTN's Mobile Money service to offer a digitally delivered Savings and Loans solution. Savings and Loans solutions are especially critical to lowering the vulnerability of households to financial shocks and motivating productive investments. When saving and lending solutions are delivered digitally, we greatly lower the access barriers for households that are typically underserved by formal financial services providers. This is particularly relevant for women and youth. Through this innovative service, CBA is proud to serve 26 million customers in Kenya, [United Republic of] Tanzania, Uganda and now in Rwanda.⁴²

System improvements were required soon after launch, as the overwhelming subscription rate surpassed the initial system capacity and caused a glitch. Some subscribers encountered challenges in accessing their DC&S accounts, which caused them to fear that they might lose their savings or would not be able to repay their loans on time. The product is still under ongoing development to add more product features.

As of the end of April 2017, two months after launch, MoKash had reached 300,000 subscribers in Rwanda.⁴³

34 Bank of Uganda, *Annual Report FY2015/2016* (Kampala, n.d.). Available from https://www.bou.or.ug/bou-downloads/publications/Annual_Reports/Rprts/All/Annual-Report-2015-2016.pdf

35 UNCDF, 'Three months down the road in Uganda: The story of MoKash,' 15 November 2016. Available from <http://mm4p.uncdf.org/three-months-down-road-uganda>

36 Conversion rate: U Sh 1 = US\$0.0002756292 (Source: www.xe.com, 15 May 2017). Note: This rate is used throughout this document when United States dollar equivalents are provided for Uganda shillings.

37 Total amount saved was not disclosed by MTN Uganda or CBA.

38 Outstanding loans in volume and value were not disclosed by MTN or CBA.

39 MTN, 'MoKash Marks One Year,' media release on 15 August 2017.

40 MTN Rwanda, 'MTN Rwanda celebrates one million active Mobile Money users,' media release. Available from http://www.mtn.co.rw/Content/Pages/431/MTN_Rwanda_celebrates_1_million_active_Mobile_Money_users (accessed October 2017).

41 MTN Rwanda, 'Mobile Money Agents List' (Kigali, n.d.). Available from http://www.mtn.co.rw/Content/doc_1406306044MMAgents.pdf (accessed October 2017).

42 MTN Rwanda, 'MTN, CBA Bank Launch MoKash; a Mobile Loans & Savings Product,' media release. Available from http://www.mtn.co.rw/Content/Pages/457/MTN%2C_CBA_Bank_Launch_MoKash%3B_a_Mobile_Loans_%26_Savings_Product (accessed October 2017).

43 Collins Mwai, 'Rwanda: MoKash Proprietors Reassure Clients of Savings Safety After System Hitches,' 27 April 2017. Available from <http://allafrica.com/stories/201704270069.html>

THE CASE OF COMMERCIAL BANK OF AFRICA—IMPLEMENTATION

Regulation and partnerships

To launch a DC&S product, authorization from the central bank is needed. Depending on the country regulation, different providers may be allowed to offer DC&S products. Most often, a banking licence is required, making it compulsory for MNOs to find a partner bank or MFI. This situation represents an opportunity for banks (and MFIs), an opportunity which CBA understood and seized by forming partnerships with three different MNOs in four different countries.

The different partners involved in the DC&S products launched with CBA in different countries required authorization from their respective central bank to operate DC&S products, even though CBA already had a banking licence. As digital credit is new, the regulation is usually quite blurred; thus, CBA and its partner MNOs have worked closely with regulators to educate them on DC&S.

Within the CBA partnerships, contracts and terms of reference were defined from day one and all key stakeholders had access to the documents. At the same time, goals/objectives were well defined and quite clear to everyone who was involved in product development. Budgets and project funding were secured at least two years in advance.

Products and services

All DC&S products launched by CBA share common features, such as the basic savings account and the short-term loan; however, they offer additional savings options in Kenya (Lock Savings Account) as well as in Rwanda and Uganda (Auto Savings). Refer to annex 5 for details.

CBA DC&S provides the client with the ability to move money in and out of the DC&S account to the MM account at no charge, while the client is able to cash-in/cash-out only his/her MM balance at an MNO MM agent. For the convenience of the client, CBA DC&S uses the same personal identification number (PIN) as the MM PIN.

Subscription requirements and registration

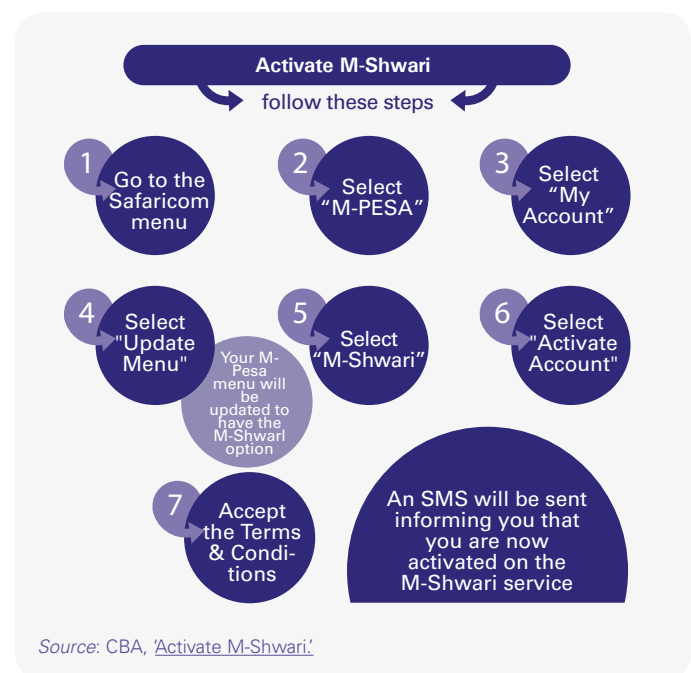
As a paperless banking service, CBA DC&S allows the client to open and operate a bank account simply using his/her mobile phone, through the MM account of the partner MNO, without having to visit any bank to fill out bank account-opening forms. The client can register for the service using his/her mobile phone, provided he/she already has an MM account. Registration only requires the client to read and accept the terms and conditions of the service, provided the customer is eligible for the service (see figure IV for an example of the registration process, that of M-Shwari in Kenya).

Eligibility criteria are the following:

- Be over 18 years old.
- For savings, be an active⁴⁴ MNO and MM subscriber and have a valid identification document (ID).
- For loans, be an active MM user for at least six months, have a valid ID, save on DC&S and actively use other MNO services such as voice and data.

Operated entirely from the mobile phone and not accessible through a branch, CBA DC&S is a separate bank account and is not linked to an existing CBA account, which a client may have if he/she is a CBA client, or any other bank account.

Figure IV: M-Shwari registration steps



⁴⁴ Active user frequency is not defined by the MNO in any of the countries, since each country has its own rule and the definition may change over time. MNOs have chosen to keep it broad on purpose.

Savings

In addition to MM functions such as person-to-person transfer, deposit and withdrawal, DC&S has additional facilities such as bank deposits and loans. There is no minimum balance for opening an account, and it gives the client the opportunity to save small amounts⁴⁵ and earn interest on his/her savings balance. The cash is moved into the savings account by the client using the MM menu, pushing money from his/her MM wallet to his/her DC&S bank account. The bank account is both a savings and loan disbursement/repayment account. This account sits with CBA (whereas the MM accounts sits with the MNO).

For deposits, the interest paid is progressive, according to amount saved, for all products except M-Shwari in Kenya, as shown in table 8. For M-Shwari, Savings Account deposits earn

interest of 7.35% p.a.⁴⁶ and Lock Savings Account deposits (term account) earn 7% p.a.⁴⁷ being 70% of the Central bank Rate and in line with the Banking (Amendment) Act, 2016.⁴⁸ For MoKash Rwanda, the interest for deposits is progressive up to 7%⁴⁹ (versus 5% maximum for Uganda and the United Republic of Tanzania).^{50,51} An exact interest split per amount saved is not provided for Rwanda.

The savings product also enables the client to have lock savings (i.e., term savings), if desired, and/or to implement an auto-saving option, enabling the client to save automatically from his/her MM wallet to the bank account at a frequency and amount the client defines. Again, please refer to annex 5 for more details.

Table 8: Interest rates paid on savings for different Commercial Bank of Africa digital products

Interest rate	M-Pawa savings amounts (TSh)		MoKash Uganda savings amounts (U Sh)		M-Shwari Kenya	MoKash Rwanda
	Min.	Max.	Min.	Max.		
2%	1 (<US\$0.01)	200 000 (US\$89)	50 (US\$0.01)	300 000 (US\$83)	Interest rates are not progressive Savings Account deposits earn interest of 7.35% p.a. ^a and Lock Savings Account deposits (term account) earn 7% p.a.	Progressive up to 7% No more detailed information available
3%	200 001 (US\$89)	500 000 (US\$224)	300 001 (US\$83)	800 000 (US\$221)		
4%	500 001 (US\$224)	1 000 000 (US\$447)	800 001 (US\$221)	1 600 000 (US\$441)		
5%	1 000 001 (US\$447)	and above	1 600 001 (US\$441)	and above		

^a Although interest rates paid on term/fixed/lock accounts are typically higher than on basic savings accounts, M-Shwari has decided to proceed otherwise.

Interest rate payment

Interest is calculated daily and paid out at maturity for lock savings accounts. For basic savings accounts, interest rate is accrued

daily and paid quarterly. Customers do not really understand how interest rates on savings work and further education is needed.

46 CBA, 'M-Shwari FAQs.' Available from <http://cbagroup.com/m-shwari/faqs/> (accessed October 2017).

47 CBA, 'M-Shwari Lock Savings Account.' Available from <http://cbagroup.com/m-shwari/lock-savings-account/> (accessed October 2017).

48 Central Bank of Kenya, *The Banking (Amendment) Act, 2016*, Banking Circular No. 4 of 2016. Available from https://www.centralbank.go.ke/uploads/banking_circulars/1456582762_Banking%20Circular%20No%204%20of%202016%20-%20The%20Banking%20Amendment%20Act%202016.pdf

49 MTN Rwanda, 'MoKash FAQs.' Available from http://www.mtn.co.rw/Content/Pages/452/MoKash_FAQs (accessed October 2017).

50 CBA Uganda, 'MoKash FAQs.' Available from <http://cbagroup.com/uganda/mo-kash/faqs/> (accessed October 2017).

45 Amounts start at the following for each product: M-Shwari – KSh 1, M-Pawa – TSh 1, MoKash Uganda – U Sh 50 and MoKash Rwanda – RF 1.

51 CBA Tanzania, 'M-Pawa FAQs.' Available from <http://cba.co.tz/m-Pawa/faqs/> (accessed October 2017).

Loans





The most appealing feature for most clients is the instant access to **unsecured micro-loans**.⁵² These loans do not require collateral or a visit to a CBA branch. Once approved by CBA, the loan is instantly disbursed into the customer's MM account.

Eligibility for a digital micro-loan is assessed depending on usage of MNO services, including data, voice and regular DC&S usage for savings. The DC&S system enables real-time know-your-customer

(KYC) verification and uses a credit scoring algorithm based on the customer's credit history together with usage of MNO products to determine loan eligibility and maximum loan amounts. The first credit limit review is done 60 days after registration and 30 days thereafter.





Table 9 provides a closer look at DC&S services offered by CBA in the four countries.

Table 9: Detailed comparison of Commercial Bank of Africa digital credit and savings products^a

					
		Kenya	United Republic of Tanzania	Uganda	Rwanda
Identification needed for registration		One of the following ID types is required: <ul style="list-style-type: none"> National ID National passport Any other passport Alien ID (resident permit) registered by the Government 	One of the following ID types is required: <ul style="list-style-type: none"> National ID National passport Any other passport Voter ID Driver licence Company ID Local government letter^b 	One of the following ID types is required: <ul style="list-style-type: none"> National ID National passport Any other passport 	One of the following ID types is required: <ul style="list-style-type: none"> National ID National passport Any other passport
Savings	Account-opening balance	No minimum balance	No minimum balance	No minimum balance	No minimum balance
	Charges	No charges	No charges	No charges	No charges
	Interest paid	<ul style="list-style-type: none"> All deposits on M-Shwari Savings Account earn 7.35% p.a. (70% of Central Bank Rate for basic accounts)^c All deposits on M-Shwari Lock Savings Account earn 7% p.a. (70% of Central Bank Rate for target accounts)^d 	<ul style="list-style-type: none"> Interest up to 5% is earned based on amount saved Interest on savings is accrued and paid quarterly 	<ul style="list-style-type: none"> Interest up to 5% is earned based on amount saved Interest on savings is accrued and paid quarterly 	<ul style="list-style-type: none"> Interest up to 7% is earned based on amount saved Interest on savings is accrued and paid quarterly
	Options to save	<ul style="list-style-type: none"> Basic savings Lock Savings Account (maturity date of 1 to 6 months) 	<ul style="list-style-type: none"> Basic savings 	<ul style="list-style-type: none"> Basic savings Auto Savings (option to implement an automatic savings feature from the MM account at a date determined by the customer) 	<ul style="list-style-type: none"> Basic savings Auto Savings

⁵² This finding is according to research performed by PHB in the different countries of operations of these DC&S products.

Table 9: Detailed comparison of Commercial Bank of Africa digital credit and savings products^a (continued)

									
		Kenya		United Republic of Tanzania		Uganda		Rwanda	
Loans	Decision-making criteria ^e	<ul style="list-style-type: none"> Have been a Safaricom M-Pesa subscriber for six month minimum Save on M-Shwari and actively use other Safaricom services such as voice, mobile Internet and M-Pesa 		<ul style="list-style-type: none"> Have been a Vodacom M-Pesa subscriber for six month minimum Save on M-Pawa and actively use other Vodacom services such as voice, mobile Internet and M-Pesa 		<ul style="list-style-type: none"> Have been an MTN Mobile Money subscriber for six month minimum Save on MoKash and actively use other MTN services such as voice, mobile Internet and MTN Mobile Money 		<ul style="list-style-type: none"> Have been an MTN Mobile Money subscriber for six month minimum Save on MoKash and actively use other MTN services such as voice, mobile Internet and MTN Mobile Money 	
	Min.–Max. amounts	KSh 100 (US\$1)	KSh 20 000 (US\$194)	TSh 1 000 (US\$0.45)	TSh 500 000 (US\$224)	U Sh 3 000 (US\$0.83)	U Sh 1 000 000 (US\$276)	RF 1 000 (US\$1)	RF 300 000 (US\$364)
	Interest charged	7.5% facility fee on amount borrowed		9% facility fee on amount borrowed		9% facility fee on amount borrowed		9% facility fee on amount borrowed	
	Re-payment	<ul style="list-style-type: none"> Initial duration is 30 days If not repaid within 30 days, loan can be extended for another 30 days; a 7.5% rollover fee is applied on outstanding balance 		<ul style="list-style-type: none"> Initial duration is 30 days If not repaid within 30 days, loan can be extended for another 30 days; a 9% rollover fee is applied on outstanding balance 		<ul style="list-style-type: none"> Initial duration is 30 days If not repaid within 30 days, loan can be extended for another 30 days; a 9% rollover fee is applied on outstanding balance 		<ul style="list-style-type: none"> Initial duration is 30 days If not repaid within 30 days, loan can be extended for another 30 days; a 9% rollover fee is applied on outstanding balance 	

^a Source of table data, unless otherwise noted: <http://cbagroup.com>

^b Vodacom Tanzania, 'M-Pawa Frequent Asked Questions.'

^c CBA, 'M-Shwari FAQs.'

^d CBA, 'M-Shwari Lock Savings Account.'

^e Descriptions of criteria in this row based on this source: MTN Uganda, 'MoKash FAQs.'

Distribution channels

To distribute DC&S products, CBA does not use CBA agents or CBA staff; the products are distributed through the MM service of the MNO and the agent network of the MNO. The services can be accessed by clients either through an MM SIM application toolkit (STK) menu or through an MM USSD code. A customer registers by him/herself, following the prompts, and performs operations from his/her mobile phone.

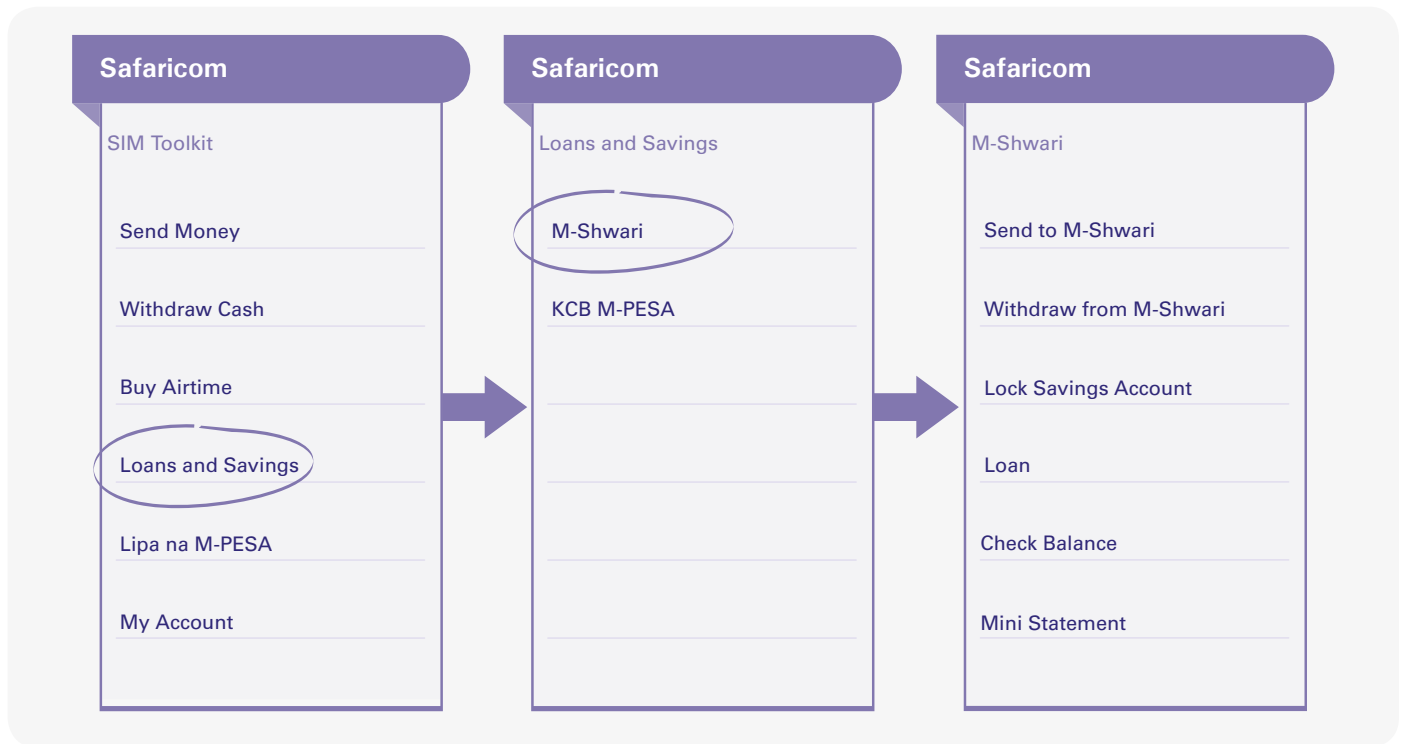
As MM is the only access point for DC&S, in order to be able to save, a customer must first visit an MM agent to make a deposit to the MM account. Then, the customer can easily transfer money

from the MM account to the DC&S account. The same goes for a savings withdrawal: the customer must first transfer money from the DC&S account to the MM account and then visit an agent for cash-out. Cash-in and transfer between the DC&S account and the MM account are free of charge. Only on cash-out transactions are fees applied, as with regular cash-out with an MNO agent.

For issue resolution, a customer can either call the MNO customer care service number or visit an MNO service centre.

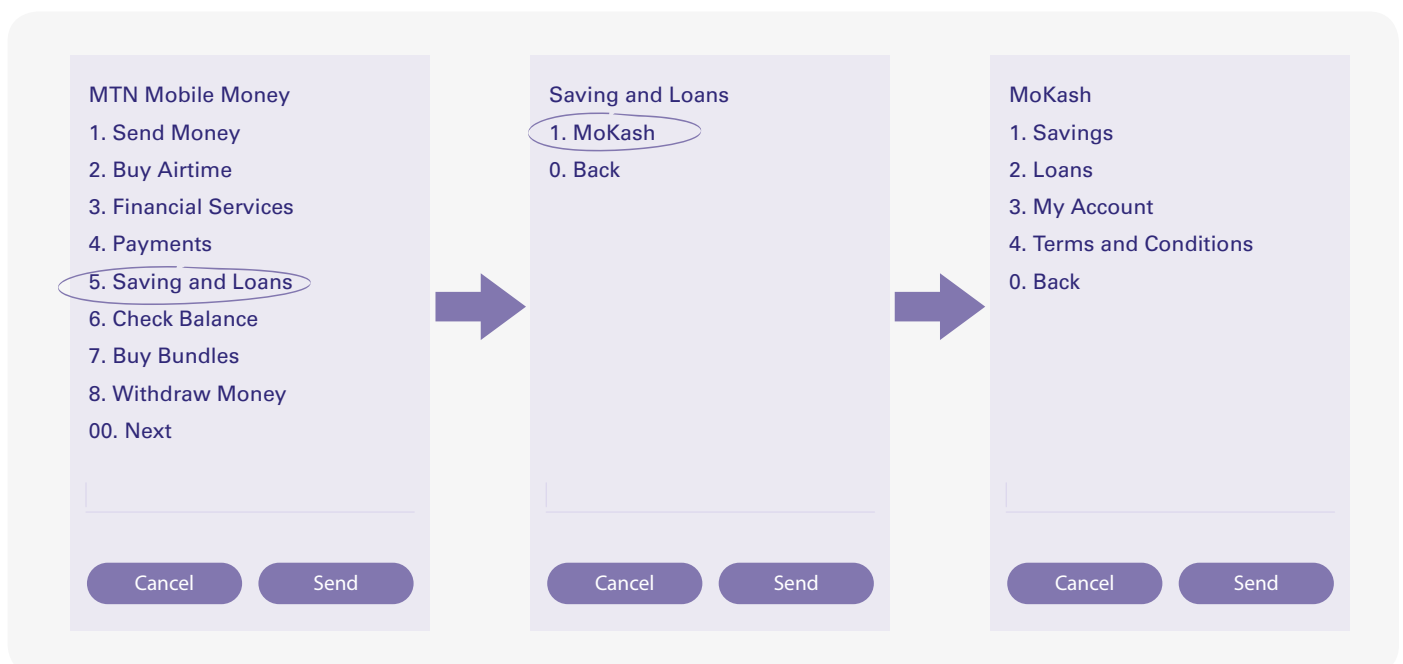
In the case of M-Shwari in Kenya, the service can be accessed only through the M-Pesa STK menu (installed on the Safaricom SIM card), as shown in figure V.

Figure V: Steps to access M-Shwari via M-Pesa SIM application toolkit menu



In the case of MoKash in Uganda, the service can be accessed through the MTN Mobile Money USSD code (*165#), as shown in figure VI. It is the same for MoKash in Rwanda and Vodacom M-Pawa in the United Republic of Tanzania.

Figure VI: Steps to access MoKash Uganda via MTN Mobile Money USSD code



Internal organization and operations

Revenue-sharing

A product run by CBA but built on the Safaricom M-Pesa platform, M-Shwari was created thanks to the different contributions of both partners: CBA owns the banking licence and is the service provider, while Safaricom owns the MM licence and is the distribution channel, bringing its broad reach to more than 68% of the population.⁵³ The revenue generated is shared by the two partners. The split was not disclosed.

Liquidity management

Liquidity management is handled by the agents, as they are the only access point for customers to deposit or withdraw money. It seems that none of the MNOs so far are helping agents anticipate liquidity shocks by informing them when clients will cash out their loans or repay them (i.e., there is no such process in place as assigning clients to an agent or warning agents). Yet, several MNOs are in the process of developing an agent loan or overdraft that should help agents better manage liquidity.

Risk management

Within the partnerships, risk management is split between CBA and the MNOs. CBA takes care of the savings risk, as well as the credit risk and default risk, which means the bank handles the products' financials and absorbs all losses. The MNOs are responsible for handling customer-related operations, which include managing agent risk (agents being the touchpoint for customers), liquidity management risk and fraud management risk. CBA and the MNOs handle together the risks involved with KYC, anti-money laundering/combating the financing of terrorism and technology.

For the risks for which CBA is solely responsible, the bank organized itself as follows:

- Financial risk: CBA has a Financial Risk Management Team in charge of credit risk for mobile products only, which is responsible for all countries where CBA operates these products (Kenya, Rwanda, Uganda and the United Republic of Tanzania to date).
- Credit risk: CBA makes the final decision to grant or not grant a loan to a client, based on a proprietary algorithm using data from the MNO. Depending on the country and maturity of the respective credit bureau, CBA can rely on data available from the credit bureau (clients already listed).
- Default risk: CBA is responsible for following up with clients with overdue loans. It is also responsible for writing off digital

loans (no rule defined yet by regulators on this matter). Depending on the country, CBA may be allowed to sweep the MM account (i.e., every time money comes into the MM account, it is automatically deducted to repay the overdue loan). In Kenya, clients who have defaulted more than 61 days are listed with the credit bureau.

- Other risks: CBA has a Risk Management Department that handles other risk types (KYC, savings, anti-money laundering/combating the financing of terrorism, technology).

The risk for non-performing loans is carried and absorbed by CBA.⁵⁴ An article by the Daily Monitor (the leading independent daily newspaper in Uganda) describes it thus: 'In Kenya, the level of Non-Performing Loans (NPLs) on the M-Shwari platform is 1.92%, yet the interest rate is 7.2%. The overall NPL rate in Kenya's banking sector is 5.3%. In [the United Republic of] Tanzania, the M-Pawa platform has an NPL rate of 8.52%, slightly higher than the 8.3% for the entire banking sector. The one-off charge on M-Pawa loans is at 9%.⁵⁵

Loan recovery process and default rates

In the case of default, the loan is first rolled over (extended) for an extra 30 days and an additional facility fee (interest rate) is charged (see table 9 earlier). The MTN Uganda website explains what happens from there, this time in the case of MoKash: 'If a customer repays their loan when it is greater than 61 days past due, then they are restricted from accessing the service for one month. After 63 days of the MoKash loan, the credit limit is reduced to 80% of the current limit or the previous limit, whichever is lower. When a MoKash loan is 90 days overdue, the customer loan limit is reduced to 0 and therefore they will not be able to access a loan for a certain period of time (time-frame not clearly determined). The customer must save to grow their limit.'⁵⁶ There is also the possibility that the account will be closed, with all funds in the savings account held as collateral, and the customer will be blacklisted. CBA reserves the right to disclose, respond, advise, exchange and communicate the details or information pertaining to the account to credit reference bureaux, as required under banking acts in the country, or any other regulatory body.

If repayment for a loan exceeds the loan amount, the extra amount is moved to the savings account.

⁵⁴ Ibid.

⁵⁵ Muhumuza and Adengo, 'Groundbreaking: When the mobile phone became a bank.'

⁵⁶ MTN Uganda, 'MoKash FAQs.' Available from <https://www.mtn.co.ug/en-mobile-money/banking/Pages/mokash.aspx> (accessed October 2017).

⁵³ Cook and McKay, 'How M-Shwari Works.'

Technical implications of setting up the channel

For a customer to be able to push and pull money between his/her CBA account and MM account, the bank's CBS and the MM platform of the MNO need to be interfaced in real time, which implies an integration between the two back-office systems.

In Kenya, the initial CBS (based on Temenos T24) that CBA had in place before M-Shwari did not allow effective integration of mobile services. Therefore, CBA needed a solution to integrate the core banking application with the Safaricom MM platform, as the various M-Shwari banking options⁵⁷ are all mobile-initiated transactions that first hit the Safaricom server (hosted by Vodafone) and then are directed to the CBA server.

Since the CBA information technology team understood that integration with multiple systems would require huge investments in hardware, software and consultant time, which could represent a project drawback and delay proposed timelines, the team recognized that a quicker solution was needed that also maintained essential standards.

For such a solution, CBA chose the Fiorano SOA (service oriented architecture) platform in order to achieve an effective integration between CBA CBS with Safaricom MM platform. The SOA platform acted as an intermediary between the two systems. The integration allows CBA to expose its core banking transactions as web service flows while ensuring scalability and guaranteed message delivery to a large number of users. The Fiorano SOA integration was implemented in less than five weeks, enabling CBA to reach its goal and deliver M-Shwari to market by the deadline set. Refer to annex 6 for details on how the technical integration worked.

In the case of MoKash (Rwanda and Uganda), integrations were completed via application programming interfaces (APIs). In Uganda, the latest integration was also done with the National Identification and Registration Authority to check customer identity in real time.

Financial requirements and results

Neither CBA nor the partner MNOs disclosed data on the financial costs and the revenue split between the partners.

CBA products have reached high numbers in terms of customer uptake (2.5–3.0 million customers per year per country), yet active usage remains an issue⁵⁸ (between 20% and 30%, depending on the country where CBA has launched DC&S products)⁵⁹ to be constantly addressed through education and engagement.

⁵⁷ These banking options include customer registration, deposits, withdrawals, account statements, loan requests and repayments.

⁵⁸ Neither CBA nor the MNOs wanted to disclose active usage rates.

⁵⁹ Refer to 'Key figures on the digital credit and savings products launched by Commercial Bank of Africa' for more details.

It is estimated that breakeven should take three to five years (estimate based on PHB analysis from its experience working with these providers and analysis of the current and planned DC&S products launched in the market).

Marketing the new product

The launch and the promotion of its DC&S product in multiple countries necessitated that CBA apply various methods to ensure a high level of awareness and success from the beginning. These methods started with general above-the-line and mass media promotion (i.e., television, radio, billboards, newspapers, leaflets) and extended to below-the-line direct engagement with customers through market activations and product ambassadors in the field. Success was guaranteed by the high customer reach from the side of the MNOs and by the MM precursor services.

Most of the marketing was done by the MNOs, including promoting the products through the MM services and the agent networks. Short message service (SMS) proved to be the most effective awareness-raising channel, reaching the most customers.

Indeed the products in all four markets are branded under the MNO name and most often the MM name since customer awareness of these companies and their products is high. The CBA logo and branding is discrete, yet present on all communications. Refer to annex 7 for example marketing strategies by country.

Educating customers and encouraging further usage

The next important step in a successful journey for the CBA products was educating customers. Even if the above-the-line promotion proved to be very effective for generating countrywide awareness of each product, there were still gaps to fill in terms of product education. In fact, a lack of product understanding was identified as a main barrier for registration and also as a primary reason for drop-out.

Therefore, additional communication was needed regarding the onboarding process and the registration requirements, the different options for savings and the interest rates, and especially the eligibility criteria for loans, the ways to increase the loan limit and the consequences for not paying back a loan on time.

If SMS was an effective first call to action, creating awareness and enticing customers to check out the product, the next issue to tackle was ensuring further usage. Direct engagement with customers was identified as the most effective method to ensure that awareness transformed into registration and trial and then on to regular usage. Education and training were provided either through trained agents, as they were found to be the first point of contact regarding the product for rural customers, or through product ambassadors.

In the case of MoKash in Uganda, education was provided by MTN in the form of organized trainings. The two locations that had the highest percentage of registered users (75% and 55%) were the ones where product ambassadors were continuously present, compared to 20%–30% registration rates in other areas with no intervention. In conclusion, it was found that the areas with the highest levels of customer understanding and usage were the ones where special training was organized.

THE CASE OF COMMERCIAL BANK OF AFRICA— KEY SUCCESS FACTORS, CHALLENGES AND LESSONS LEARNED, NEXT STEPS

Key success factors

The following factors were identified as contributors to the success of CBA DC&S products among clients:

1. Tapping into existing knowledge and usage of MM

- MM was already present in the four countries, which paved the way for the DC&S products.
- Customers were already accustomed to MM procedures.

2. Adapting to customer language and literacy

- Products were delivered in English and in the primary language spoken in the country.
- Comparably high literacy rates (Kenya – 78.0%, Rwanda – 70.5%, Uganda – 78.4%, United Republic of Tanzania – 77.9%) played a favourable role in product adoption.⁶⁰
- Adult financial literacy rates were also comparable in two of the countries: the highest was in 2015 in the United Republic of Tanzania at 40%, followed closely by Kenya at 38%.⁶¹ In Uganda and Rwanda, these rates were 34% and 26% respectively.

3. Addressing an unmet demand

- There was a lack of other formal saving and lending options accessible to the vast majority of customers (banks were perceived as too expensive and far from where people live, saving groups were popular but not always a safe option, and moneylenders or family members were a regular source for borrowing money but the former were expensive and the latter sometimes carried the feeling of shame).

- Market research and customer satisfaction campaigns continued even after the products were launched. The rationale was to collect feedback and keep improving the products. Feedback collected from customers enabled adaptation of existing product features, addition of new ones, and review of the engagement strategy.

4. Clearly defining the partnership, ensuring strategic alignment and collaborating between the partners

- Partnership with MNOs that offered a large customer base and effective communication means and channels was key.
- There was a clear split of responsibilities between CBA and the MNOs.
- There was significant collaboration between the business and technical teams during implementation and post-live period of the project.

5. Putting in place adequate internal resources

- In Rwanda and Uganda, MTN had a robust technical team that was fully dedicated to this project and only focused on developing and delivering this product.
- MTN had an enterprise data warehouse already set up. As a result, credit scoring data was readily available, unlike for other MNOs that needed to set up a data warehouse during the project phase.
- In the case of MoKash (Rwanda and Uganda), it was important that members of the CBA team were able to share their prior experience and lessons learned from a similar project in Kenya (launch of M-Shwari).

Challenges and lessons learned

The following challenges were tackled and, where appropriate, mitigation strategies applied:

1. System glitches after the products were launched in the market resulted in customer distrust (e.g., registration issues, services not keeping up with the load of customers/transactions due to higher uptake than planned). All glitches and issues after launch were fixed using **customer feedback**.
2. Lower financial literacy rates in Uganda and Rwanda, 34% and 26% respectively, were the main challenge for **customer education** regarding the different product features and interest rates.⁶² CBA and its partner MNOs addressed these challenges by using simple terms in the marketing materials (e.g., save money), having product information embedded in the product (e.g., the customer can access information on how the product works from the USSD session) and using pictograms/visuals in the communication (flyers, billboards, etc.).

⁶⁰ United States, Central Intelligence Agency, 'The World Factbook: Literacy.' Available from <https://www.cia.gov/library/publications/the-world-factbook/fields/2103.html#ke> (accessed October 2017).

⁶¹ Leora Klapper, Annamaria Lusardi and Peter van Oudheusden, 'Financial Literacy Around the World: Insights from the Standard & Poor's Ratings Services Global Financial Literacy Survey' (n.p., n.d.) Available from http://gflec.org/wp-content/uploads/2015/11/Finlit_paper_16_F2_singles.pdf (accessed October 2017).

⁶² Ibid.

3. To tackle the language barrier, **communication was provided in the different spoken languages** of the countries. For example, in Uganda, the product was delivered in English and Luganda (the two main languages spoken countrywide, even though there are also many other languages spoken). It was found that one of the registration barriers was the language in which the first SMS communication about the product was sent.
4. To achieve the goal of sending a durable product to market, the business and technical teams were willing to spend time to complete **comprehensive user acceptance testing and a pilot**.
5. In Rwanda, the product launch was very delayed, due to the fact that MTN was in the process of **upgrading its MM system**. The lesson learned from this challenge was that system upgrades need to be carefully assessed ahead of time and integrated into the launch plan and list of potential risks that can impact the launch date.
6. There were **regulation challenges**, especially in Rwanda where applications for central bank approval to launch the product should have been done earlier.
7. Transforming customers into **regular users** and decreasing inactivity rates are the next challenges that CBA and its MNO partners must tackle. Three years after launch, 20% of M-Pawa customers are active, while one year after launch, 50% of MoKash Uganda customers are active. Regular and direct engagement with the client is currently being tested to increase the activity rate of these services.
8. Define key performance indicators to follow on a daily and then weekly basis (e.g., number of clients for the savings and loan feature [separate], amount saved and borrowed, activity rate of clients), and have a clear split of responsibilities between bank/MFI and MNO.
9. Have dedicated business, marketing and technical teams.
10. Perform market research to analyse existing competitors in the market (formal and informal).
11. Perform a robust risk assessment and plan mitigation strategies.
12. Provide agent training, and make sure agents are ready to support the product and are able to answer customers' queries.
13. Gather constant customer feedback before and after the launch, to help deliver valuable products and also to keep improving.
14. Have an adapted marketing strategy, and conduct constant promotional campaigns to attract customers.
15. Have in place a dedicated customer care line and service centres ready to assist with issue resolution.

In conclusion, the following steps should be followed when launching a new DC&S product:

1. Have in place strong technical and financial structures, and ensure an adequate level of investment to support the product until it reaches breakeven.
2. Check the country regulation, and obtain authorization from the central bank before launching a DC&S product, even if the bank/MFI already has a banking/microfinance licence.
3. Define clearly the type of product to be delivered, including the target market, specific product features, interest rates and credit scoring strategy.
4. Secure budget and project funding.
5. Choose a reliable partner to help throughout the process. In the case of a bank/MFI, an MNO that is technically prepared with a strong customer base and a wide agent network is the ideal option.
6. Ensure strategic alignment of the partners through partnership agreements and regular conversations, and make sure there is governance support from top management.
7. Make sure that contracts and terms of reference are well defined from the start and that all stakeholders have access to them.

Next steps

One of the most important next steps for CBA is launching the next product version in Côte d'Ivoire, making it the fifth country with a CBA DC&S service available. In an interview, CBA Head of Marketing and Communications Chris Pasha said, "Our feasibility studies conducted on Côte d'Ivoire show that it is a very promising market" and that "the bank's strategic plan is that M-Shwari should be available in 10 countries by 2020."⁶³

CBA also intends to further improve and update the products based on customers' demands and needs, while ensuring customers do not encounter issues. Together with the MNOs, CBA plans to have periodic promotions to keep users interested in and motivated to regularly use the products but also to attract more customers. With its revolutionary and market-driven DC&S products, CBA today 'serves over 27 million customers within East Africa in partnership with MM operators.'⁶⁴ See table 10 for key figures by product. CBA had 10 million clients in 2015 before the launch of DC&S products in the United Republic of Tanzania, Uganda and Rwanda.

The long-term strategic vision of CBA is to expand its market share across the region by creating new innovative products and by providing specific solutions that help customers reach their financial goals and in the long run grow their wealth.⁶⁵ The practicalities of how CBA will implement this vision was not disclosed for confidentiality purposes.

⁶³ Muthoki Mumo, 'CBA to launch M-Shwari loan service in Ivory Coast next year', 29 November 2016. Available from <http://www.nation.co.ke/business/CBA-to-launch-M-Shwari-loan-service/996-3468334-7tq5usz/index.html>

⁶⁴ CBA, 'CBA to Acquire Crane Bank Rwanda Limited', 15 June 2017. Available from <http://cbagroup.com/newsroom/cba-to-acquire-crane-bank-rwanda-limited/>

⁶⁵ Ibid.

Key figures on Commercial Bank of Africa (2016)⁶⁶

- Founded: 1962
- Gross loan portfolio: KSh 117 billion (US\$1.1 billion)
- Deposits: KSh 189 billion (US\$1.8 billion)
- Assets: KSh 227 billion (US\$2.2 billion)
- Shareholder funds: KSh 26 billion (US\$252.2 million)
- Customers: 27 million (within East Africa)

Table 10: Key figures on the digital credit and savings products launched by Commercial Bank of Africa

	M-Shwari in Kenya (2016) ^a	M-Pawa in Tanzania (2017) ^b	MoKash in Uganda (August 2017) ^c	MoKash in Rwanda (April 2017) ^d
Launch date	November 2012	May 2014	August 2016	February 2017
Clients registered for the DC&S product	14 million	Over 5 million	2.5 million	300,000
Active clients	4 million (~30%)	1 million (20%)	1.2 million (48%)	Not disclosed
Total MM customer base of MNO	22 million GSM customers: 27 million	8 million GSM customers: 12 million	8.8 million (of whom 4 million active) GSM customers: 11.5 million	1 million GSM customers: 4 million
Average amount saved per client	US\$5.78	US\$17.90	Not disclosed	Not available
Total value of savings collected since launch	US\$81 million (in four years)	US\$89.5 million (in three years)	US\$1 million (in first five months) Not disclosed afterwards	Not available
Total number of loans disbursed since launch	29.5 million (in four years)	350,000 per month	Over 1 million (in one year)	Not available
Total value of loans disbursed since launch	US\$915 million	US\$17.5 million	US\$8.3 million	Not available
Average loan amount per client	US\$31 (was US\$13 after two years)	US\$6.30	US\$8.30	Not available
Default rate on loans (non-performing loans)	1.92% Kenyan average: 5.3%	8.52% Tanzanian average: 8.3%	Not disclosed	Not available

^a CBA, 'M-Shwari,' infographic. Available from <http://pubdocs.worldbank.org/en/669641476811886656/Session-3-Arthur-Gichuru-CBA-Group-Mshwari-Infograph-USD.pdf> (accessed October 2017).

^b Vodacom Tanzania, *Annual Report, for the year ended 31 March 2017* (Dar es Salaam, n.d.). Available from <https://vodacom.co.tz/investor-relations/financial-information.php> (accessed October 2017). Note: This document is the source for all M-Pawa data listed below, unless otherwise noted.

^c MTN, 'MoKash Marks One Year,' media release on 15 August 2017.

^d Mwai, 'Rwanda: Mokash Proprietors Reassure Clients of Savings Safety After System Hitches.'

Our future is here.

We deserve even more freedom, choice, and control to manage our businesses, our money, and our lives with ease. The freedom plan for our dreams. The control to save and get loans for the goals we have. The choice to stay in touch with those that matter to us. Welcome to Equitel.



Bank in your hand

You can now do your banking at the comfort of your phone. Check your bank balance, transfer money, send and receive money, withdraw cash, apply for a loan, repay your loan, request a statement, and save for specific goals.



Send and receive cash

Sending money to other Equitel members is FREE! It's so easy, and the money goes straight into their Equity Bank accounts. You can also send money to other mobile money networks - M-PESA, Airtel Money, and Orange Money.

Pay those bills

It's quick and easy to pay for utilities using Equitel. No long lines, no busy halls, no noise, no fuss. You can pay KPLC, Water bills, DSTV, Startimes, and many more, right on your phone.



Get that loan

Ask for a loan right on your phone. You don't have to fill in any forms. Just go to the Easy loan menu and follow the simple steps. It's easy!

Stay in control

Check your balance any time or day or night. It's free! Once you know how much you have, you can save for specific goals.



Easy shopping

You don't need cash to go shopping. You can pay for goods directly from your phone. Just send the money to their Equitel line and it will go straight into the seller's Equity account. And it's all free!



Cardless banking

You don't need your ATM card to bank. Just use your phone to withdraw money straight from the ATM. It's quick, safe, and easy.

Manage your chama

Keep track of your chama payments and investments, all on your phone.



Raise funds with ease

Supporting one another is a key part of our culture. Now you can organize fundraising efforts right on your phone!



Stay in touch

Make calls, send messages, and access the internet at all day or night, at affordable rates. Whenever your airtime is about to run out, we will send you a free reminder to top up.

Be informed

Equitel gives you access to useful and exciting information on your phone. Click on "My Life" and enjoy a variety of topics including maternal health, entrepreneurship, financial planning and agriculture.



Get well soon

Top up your Equitel line with Ksh 250 every month. Then, in case you are admitted in hospital for 2 nights or more, we will give you Ksh. 5,000 to help pay your bills. And it's free!

Karibu Member. Pick your Equitel SIM card today at any Equity branch. To become a member, dial *247# and open an Equity account instantly, hapo hapo.



SECTION 2:

TESTING AN INNOVATIVE MODEL—WHEN A BANK BECOMES A MOBILE VIRTUAL NETWORK OPERATOR

INTRODUCTION TO MOBILE VIRTUAL NETWORK OPERATORS

As of the end of 2015, there were 1,038 mobile virtual network operators (MVNOs) across the globe according to GSMA; of these, 599 were in Europe and just 13 in Africa.⁶⁷ Equitel in Kenya is the first and only MVNO in Africa that was created by a bank,⁶⁸ namely Equity Bank Kenya. It obtained its licence to operate as an MVNO in 2014 and launched in 2015. As of the end of 2016, Equitel had 1.2 million customers (far behind the MNO market leader, M-Pesa, with its 21.6 million clients).⁶⁹ Although only fourth in terms of number of mobile customers, Equitel ranked second behind M-Pesa in terms of value of transactions (KSh 251.6 billion as of end-2016, or US\$2.4 billion) versus KSh 892.9 billion for M-Pesa.^{70,71}

Key characteristics of mobile virtual network operators

An MVNO provides MM services without having to build new cellular infrastructure. It 'leases wireless capacity (in effect, purchases "minutes") from a third-party MNO at wholesale prices and resells it to consumers at reduced retail prices under its own business brand.'⁷² In other words, an MVNO is paying to use the cellular infrastructure of an established MNO (and thus avoiding the cost and effort to install it).

67 GSMA Intelligence, 'Segmenting the global MVNO footprint,' infographic from 22 February 2016. Available from <https://www.gsmainelligence.com/research/2016/02/infographic-segmenting-the-global-mvno-footprint/557/>.

68 Kenya granted MVNO licences to three companies in April 2014: Equity Bank, Tangaza Pesa, a mobile money transfer service, and Zioncell, a technology company.

69 Ranked first is M-Pesa with 21.6 million customers, second is Airtel with 6.7 million customers and third is MobiKash with 1.8 million customers. Source: Communications Authority of Kenya, *Second Quarter Sector Statistics Report for the Financial Year 2016/2017 (October-December 2016)*, p. 11 (Nairobi, March 2017).

70 Conversion rate: KSh 1 = US\$0.0097 (Source: www.xe.com, 15 May 2017).

Note: This rate is used throughout this document when United States dollar equivalents are provided for Kenya shillings.

71 Communications Authority of Kenya, *Second Quarter Sector Statistics Report for the Financial Year 2016/2017*.

72 TechTarget, 'Definition: mobile virtual network operator (MVNO).' Available from <http://searchmicroservices.techtarget.com/definition/mobile-virtual-network-operator-MVNO> (accessed October 2017).

Regulation of mobile virtual network operators

To become an MVNO, Equity Bank Kenya had to apply for a licence for Equitel with the Communications Authority of Kenya. Equitel is independent from any MNO for its DFS transactions, although it uses the Airtel network for its GSM transactions. Equitel is in a position to offer its clients financial services through its own technical platform, even its own communication channel (the MVNO) and its own agents. Clients can apply for a loan and get it disbursed instantly to their phone and repay it from their Equity account or save directly in their Equity account.

Partnerships in the mobile virtual network operator model

Some banks decide to become an MVNO because they see increasing competition from MNOs that are entering the financial services market. Adding new revenue streams, increasing their customer base, leveraging their assets, taking control of their DFS channels and strengthening their brand, are among the key motivations for banks to become an MVNO. In the case of Equity Bank Kenya, its 'only purpose in becoming an MVNO [was] to gain more direct control over the experience that its customers [would] have when they access Equity's mobile banking services.'⁷³ **Not all banks have the means and size to make such a move. Equity Bank Kenya had almost 9 million customers at the time it launched its MVNO Equitel and nearly 3 million mobile banking customers.** This move required significant investment in time, human resources and money.

Further, a bank needs an MNO to provide it with a GSM channel and must establish partnerships with merchants and providers (such as utility providers) to allow clients to access a wide range of services such as bill and merchant payments.

73 Ignacio Mas and John Staley, 'Why Equity Bank Felt It Had to Become a Telco – Reluctantly,' 18 June 2014. Available from <http://www.cgap.org/blog/why-equity-bank-felt-it-had-become-telco-%E2%80%93reluctantly>.

Products offered by financial institutions through mobile virtual network operators

Customers can perform all traditional banking activities when their bank account is integrated with their mobile phone (refer to MicroLead DFS Toolkit #5 for more details). They also have access to GSM services. Using their mobile phone, customers can do the following:

- Access GSM services: Make voice calls, send SMS messages, check airtime balances and buy airtime.
- Access data services: Use data to access the mobile Internet, and buy and check data bundles.
- Make payments (bills, merchants) and transfers (into and out of their bank accounts, to other GSM customers).
- Access financial services (apply for and manage savings accounts and loans).
- Manage their bank accounts (obtain account statements, check balances).

Technology needed for becoming a mobile virtual network operator

The MVNO provides customers with SIM cards. For the backend, the MVNO needs interfaces with the MNO providing it with the GSM channel as well as with each business and merchant it wants to link to its platform in order to enable customers to pay their bills, pay merchants, etc. These interfaces often go through APIs and payment switches.

Financials involved with becoming a mobile virtual network operator

The MVNO licence (around US\$1,000 in Kenya) is a fraction of the cost that an FI would face to set up the MVNO. Equitel did not disclose the amounts it spent to build the MVNO, yet its costs are estimated⁷⁴ to be in the millions of dollars in CapEx and thousands of dollars in OpEx every year.

Diving into the perks: Rationale for becoming a mobile virtual network operator

Central bank perspective

The MVNO model, from a central bank perspective, has the following objectives:

- Increase formal financial inclusion, which has economic and social benefits for the country.

⁷⁴ Estimations were made by PHB Development.

- Decrease systemic risks in the banking sector, as funds are held by a bank that is regulated by the central bank rather than an MNO that is not regulated by the central bank.
- Provide customers with added convenience, flexibility, accessibility and affordability of formal banking services,⁷⁵ since they can access funds from their phone at home or anywhere.
- Increase competition among FSPs, which should improve services and reduce costs for the customer.
- Transform non-digital MFIs with the objective to be more operationally and financially sustainable.
- Enact greater consumer protection, since there is closer regulatory inspection of banks' operational policies, processes and procedures than of MNOs.

Client perspective

- Significantly enhance convenience, flexibility, accessibility and affordability of banking services.⁷⁶
- Digitize and virtualize the bank (no need to come physically to the bank).
- Have all services available from one mobile phone and one single provider (bank and MNO at the same time).

Financial institution perspective

- Reduce operational costs and pass savings on to the customer.
- Be independent from existing MNO competitors and therefore gain greater control over the quality and reach of mobile banking services.
- Add revenue streams by providing money transfer service and other telco services.
- Prioritize mobile and Internet channels to decrease overcrowding in banking halls and lower cost of service.⁷⁷
- Encourage e-government and support it with e-payments.⁷⁸
- Have access to a telecommunication backbone network that is secure, reliable and widely available.⁷⁹

⁷⁵ Equity Bank, 'EQUITY MVNO Strategy & Roll-out Plan,' Investor Briefing, presentation on 26 May 2014, slides 14 and 15. Available from www.equitybankgroup.com/index.php/files/download/827

⁷⁶ Ibid.

⁷⁷ Ibid.

⁷⁸ Ibid.

⁷⁹ Ibid.

Examples of financial institutions that became a mobile virtual network operator

MVNOs formed by FIs remain an exception rather than a trend at this time.⁸⁰ Most MVNOs have been formed by fintechs or have been spin-offs of MNOs.

As previously mentioned, Equitel is so far the first and only MVNO created by a bank in Africa. Equity Bank has applied for an MVNO licence in the United Republic of Tanzania, which it has not received yet, and claims it wants to apply for licences in other countries as well.

Other FIs are contemplating this path, yet have either not yet applied or not yet received their licence to operate.

The digital journey of Equity Bank Kenya is an interesting one. At a time when a number of MNOs (e.g., Orange) are doing the reverse (i.e., obtaining a banking licence or e-money issuer licence to compete directly with traditional FIs), it can be an inspiration for large banks that have the financial and human resource capacity to do so.

Recipe for success to become a mobile virtual network operator

Tool 5 lists the key success factors and pre-requisites for becoming an MVNO, while tool 6 contains a checklist of activities for launching an MVNO. These tools are meant to be an inspiration for providers and must be adapted to the local context and completed over time.



⁸⁰ Example of banks that have launched MVNOs include PosteMobile in Italy – BancoPosta (2007), Bankinter in Spain (2008), Sparkasse in Germany, First National Bank in South Africa (2015), BRE Bank in Poland (2006), Bancolombia in Colombia, Sberbank in the Russian Federation (2016) and La Poste in France (2015).

TOOL 5: KEY SUCCESS FACTORS OR PRE-REQUISITES TO BECOME A MOBILE VIRTUAL NETWORK OPERATOR

- **Ensure there is substantial need and latent demand from clients** for a more accessible and affordable delivery channel for financial services.
- **Build upon a strong brand.** The MVNO should build on an existing strong and well-respected brand, which can then expand into the mobile market. For instance, Equitel built on the image and customer knowledge of the Equity brand.
- **Leverage existing distribution channels.** It is important to maintain customer interaction. In the case of Equitel, such interaction was achieved by building on the extensive distribution network that had already been first established through Equity agency banking.
- **Tap into an existing customer base.** Having a large existing customer base is a big advantage. Equitel, for instance, was able to leverage existing Equity Bank customers (9 million at the time of the Equitel launch).
- **Align with an MNO.** Having a mutually beneficial partnership with an MNO is critical. In the case of Equitel, Airtel had excess GSM capacity on the one hand and was far from being a market leader in the MM space on the other. The partnership enabled Airtel to gain additional revenue, while not adversely affecting its core business.
- **Make sure there is an enabling regulatory environment,** which enhances competition for the benefit of customers.
- **Have a dense agent network.** Agents are needed to distribute the service. Equitel has 11,000 agents to serve its clients in a country with 28.5 million people over 15 years old.

TOOL 6: CHECKLIST FOR ESTABLISHING A MOBILE VIRTUAL NETWORK OPERATOR

- ☒ Check for regulatory compliance specific to becoming an MVNO.
- ☒ Develop a strong business plan.
- ☒ Identify which service(s) to offer.
- ☒ Ensure there is appropriate business infrastructure and leadership:
 - a. Human resources, marketing, sales, logistics, finance, etc.
 - b. Competitor analysis.
 - c. Customer research/Demand analysis.
- ☒ Identify who will be the host MNO.
- ☒ Identify which makes and models of phones will be able to access the service and which partner will supply them.
- ☒ Make sure to have appropriate technology infrastructure:
 - a. Core network systems.
 - b. Service delivery platforms.
 - c. Customer care and customer relationship management systems.
 - d. Network management systems.
- ☒ Determine whether the institution has, or can build, the following:
 - a. Strong brand.
 - b. Extensive distribution channels.
 - c. Existing customer base.
 - d. Alignment with an MNO.

THE CASE OF EQUITY BANK—DIGITAL PATH TO BECOME A MOBILE VIRTUAL NETWORK OPERATOR

Equity Bank at a glance

Equity Bank Limited in Kenya was founded in 1984, became a commercial bank in 2004 and started its digital path in 2010 with agency banking, leveraging its existing branch network to digitize

Box 1: Key figures on Equity Bank Limited

Launch: 1984 (bank licence in 2004)

Gross loan portfolio (March 2017)^a: KSh 213.8 billion (US\$2.1 billion)

Deposits (March 2017)^a: KSh 277.3 billion (US\$2.7 billion)

Clients (end-2015)^b: 10.1 million

Branches^c: 167

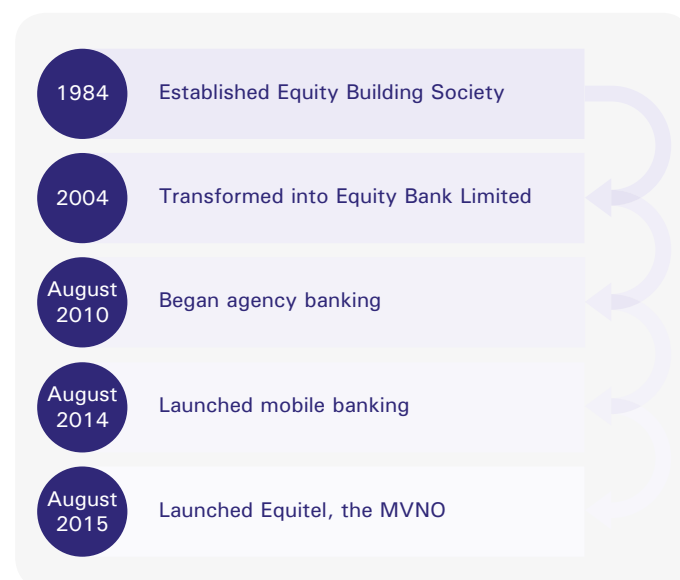
a Equity Group Holdings Limited, 'Investor Briefing & FY 2016 Performance,' presentation from March 2017.

b Equity Group Holdings Limited, *2015 Annual Report and Financial Statements* (Nairobi, n.d.).

c Central Bank of Kenya, 'Commercial banks' (accessed June 2017).

its operations. It introduced mobile banking in 2014 and launched its MVNO, Equitel, in 2015. See box 1 for key figures on the institution, figure VII for a summary of its digital journey and annex 1 for more information on the Kenyan context. The MicroLead DFS Toolkit #5 'Create own mobile banking channel' presents the agency and mobile banking offered by Equity Bank in detail.

Figure VII: Digital journey taken by Equity Bank



Rationale for becoming a mobile virtual network operator: Market need and progressively accommodating regulatory environment

The Central Bank of Kenya saw an opportunity for mobile financial services and followed a 'learn by experience' regulatory approach, while ensuring security for customers and providers through KYC requirements and deposits held in a trust account.

This approach led to two competing mobile financial service models in Kenya: telecom-led (i.e., M-Pesa by Safaricom) and bank-led mobile banking (e.g., Eazzy 24/7 by Equity Bank). From both a demand and supply side, the customer experience was not optimized.

There was a clear demand identified:

- Substantial need and latent demand among low-income households for a more accessible and affordable delivery channel for financial services.
- Political and economic stability, leading to steady economic growth and rising household income.
- Sufficient population density to exploit economies of scale.

On the supply side, the following was seen:

- Market dominance of Safaricom (73% market share when M-Pesa was launched),⁸¹ which meant it did not have to coordinate with other telecoms or provide system interoperability and indeed has fought such new regulation.
- Lack of competitively priced alternatives (M-Pesa was one third cheaper than Western Union and PostaPay and two thirds cheaper than using buses to 'send money').

For these reasons, the Central Bank of Kenya welcomed new players to provide competition to the market leader.

The MVNO model, from a central bank perspective, has the following objectives:

- Increase formal financial inclusion, which has economic and social benefits for the country.
- Decrease systemic risks in the banking sector, as funds are held by a bank that is regulated by the central bank rather than an MNO that is not regulated by the central bank.
- Provide customers with added convenience, flexibility, accessibility and affordability of formal banking services,⁸² since they can access funds from their phone at home or anywhere.
- Increase competition among FSPs, which should improve services and reduce costs.
- Transform non-digital MFIs with the objective to be more operationally and financially sustainable.
- Enact greater consumer protection, since there is closer regulatory inspection of banks' operational policies, processes and procedures than of MNOs.

To achieve these objectives, the Central Bank of Kenya undertook a number of measures:

- Adopted key regulations: National Payment System Act (2011) and National Payment System Regulations (2014), which clarified regulatory jurisdiction and established common standards for banks and MNOs.
- Issued three MVNO licences in 2014 (including the licence for Equity Bank), which permitted new entrants into a sector dominated by Safaricom M-Pesa.
- Ruled against agent exclusivity in 2014, meaning agents could serve more than one mobile FSP, which applies to both MNOs and banks.

Objectives of becoming a mobile virtual network operator

The MVNO path is part of the Equity 3.0 Strategy, which aims at it becoming the #1 or #2 bank in Kenya in terms of customers by leveraging technology to increase its outreach. The Chief Officer for Finance, Innovation and Payments at Equity Bank, John Staley, gave three reasons for the institution to embark on this expensive and risky initiative, namely (1) full security, (2) reliable speed and (3) fair price: 'By becoming a mobile virtual operator, Equity Bank can take control of its customers' SIM cards, and through that of the secure elements and banking menu on their phone. It has also secured favourable pricing on substantial volumes of mobile connectivity across all channels.'⁸³

81 International Finance Corporation, 'M-Money Channel Distribution Case – Kenya: SAFARICOM M-PESA' (n.p., n.d.). Available from <http://www.ifc.org/wps/wcm/connect/4e64a80049585fd9a13ab519583b6d16/tool+6.7+case+study+-+m-pesa+kenya+.pdf?mod=ajperes> (accessed October 2017).

82 Equity Bank, 'EQUITY MVNO Strategy & Roll-out Plan'.

83 Mas and Staley, 'Why Equity Bank Felt It Had to Become a Telco – Reluctantly'.

THE CASE OF EQUITY BANK— IMPLEMENTATION

Becoming an MVNO required building a commercial and technological partnership between Equity Bank Kenya and Airtel. This section addresses how it was implemented and what considerations had to be addressed.

Regulation and partnership

Partnering with Airtel

Equity Bank Kenya chose Airtel as host MNO-partner for the following reasons:

- It could leverage an existing partnership agreement (for mobile banking) and hence achieve speed to market on all services.
- It could access MNO infrastructure without incurring CapEx and financing costs since Airtel had 60% excess capacity.⁸⁴
- Airtel operated in many East African countries, offering a regional opportunity for Equity Bank.⁸⁵
- Airtel committed to invest in network coverage so as to ensure overlap of network availability across the geographic spread of Equity customers.
- Airtel had the opportunity, through the partnership, to fully utilize its infrastructure and significantly grow its revenue on its existing investment base, stating that the partnership would increase its revenue by up to 10%.⁸⁶

In Kenya, Airtel (a subsidiary of Indian telecom Bharti Airtel) provides network capacity to all five MVNOs: Equitel, Kenya Airways, Nakumatt, Tangaza and Zioncell. This centralization was opposed by the Consumers Federation of Kenya as well as Safaricom and Telkom Kenya (the two MNOs), but the challenge was rejected by the Communications Authority of Kenya.

Getting the licence: Setting up a company

Finserve Africa, which trades as Equitel and is the wholly owned subsidiary of Equity Group, received its MVNO licence on 11 April 2014, along with Tangaza and Zioncell (two other MVNOs). Operations for Equitel started in August 2015.

Finserve acts as a channel for other subsidiaries of Equity Group by providing mobile capabilities and, as a business in itself, offering full voice/SMS/data services to Equity customers.

This innovation made Equity Bank the first FI in Africa to offer a full banking suite through an MVNO. It is part of the Equity 3.0 strategy, which gives the institution the opportunity to continue its mission of furthering financial inclusion and innovative service offerings through a single platform.

The Equity Bank MVNO model meets regulatory objectives as it does the following:

- Increases efficiencies of core business (i.e., the bank offers financial products and the MNO provides its infrastructure).
- Converges financial banking channels (i.e., bank clients can access services through Internet, credit/debit cards, branches, automated teller machines (ATMs) and electronic delivery channels).
- Converges financial products on all channels (i.e., savings, credit, insurance, payments, transaction processing, brokerage services, and custodial and investment services).
- Removes the middleman (an MNO), reducing costs and increasing earnings and, in turn, passing on those benefits to customers.
- Removes virtual stored value accounts, helping to eliminate the cost and the risk of cash-handling and ensuring deposit protection insurance.

⁸⁴ IT Web Africa, 'Airtel Kenya lauds the licensing of MVNOs.' Available from <http://www.itwebafrica.com/mobile/309-kenya/232990-airtel-kenya-lauds-the-licensing-of-mvnos> (accessed May 2017).

⁸⁵ Airtel, 'Airtel Money.' Available from <http://africa.airtel.com/wps/wcm/connect/africa-carevamp/africa/home/about-us/airtel-money/airtel-money> (accessed October 2017).

⁸⁶ Airtel, 'Equity Bank Unveils MVNO strategy and rollout plan,' press release from 26 May 2014.

Products and services

Equitel mirrors all Equity Bank services on the mobile phone, by integrating the bank account with the mobile phone. Customers can perform payments and transfers as well as manage their bank accounts and loans through their mobile phone. Customers can also apply for loans, transfer money into and out of their bank accounts, and pay bills.

Equitel creates interoperability where money is transferable to any mobile phone (cash by code) or to any bank account at Equity Bank or any other bank (across mobile networks, banks and payment systems).

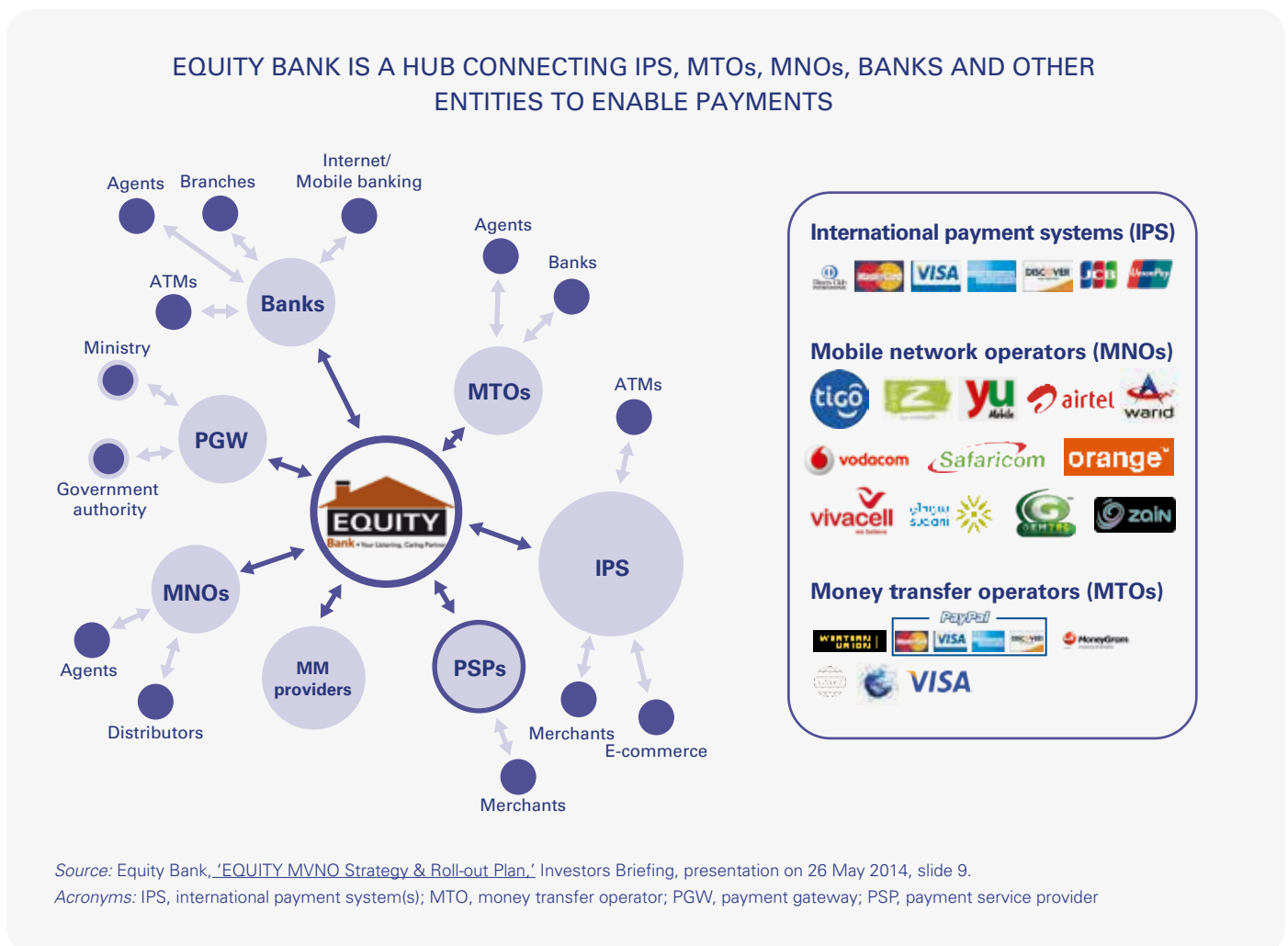
Equitel allows an interoperable payment gateway across mobile networks, banks and payment systems. Further, thanks to the regional expansion of Equity Bank, customers can conduct

cross-border transactions including international remittances as well as 'traditional' mobile phone services, such as the following:

- Make voice calls both locally and internationally.
- Send SMS messages both locally and internationally.
- Use data to access the mobile Internet.
- Check airtime balance.
- Buy and check data bundles.
- Buy airtime on the Equitel line, or any other phone on other networks.
- Contact customer care.

Figure VIII captures the products and services offered by Equity Bank.

Figure VIII: Equity Bank product and service offering



Anchor product: Eazzy loans

Equitel also allowed Equity Bank Kenya to launch its DC&S products, Eazzy Loan and Eazzy Loan Plus, in direct competition with the hugely popular M-Shwari, which is a partnership between CBA and Safaricom (see the earlier case study in this toolkit for more details).

Eazzy Loans are based on the following metrics:

- Psychometric scoring.
- Statistical financial scoring.
- Mobile payments and airtime use scoring.
- Existing credit score and rating.
- Liquid security based limits.

Loan amounts range from KSh 50,000 (US\$485) to KSh 200,000 (US\$1,940) for Eazzy Loan and up to KSh 3,000,000 (US\$29,100) for Eazzy Loan Plus. The annual interest rate charged is 14.5% for a 30-day loan.

Distribution channels

Equitel uses an STK menu, allowing the customer access to all the services mentioned above as well as interbank transfer through registration with PesaLink, an interbank money transfer solution provided by Kenya Bankers Association.⁸⁷ Customers perform their Equitel transactions using their STK menu installed on their SIM cards. The customer can cash out with an Equity agent or make a bank to e-wallet transfer and withdraw from any MM agent in the country.

Support channels

Equitel has a customer call centre with 300 people, fully integrated with voice and social media, that operates 24 hours a day, seven days a week. Staff members undergo intense training on effective customer service and experience in the country.

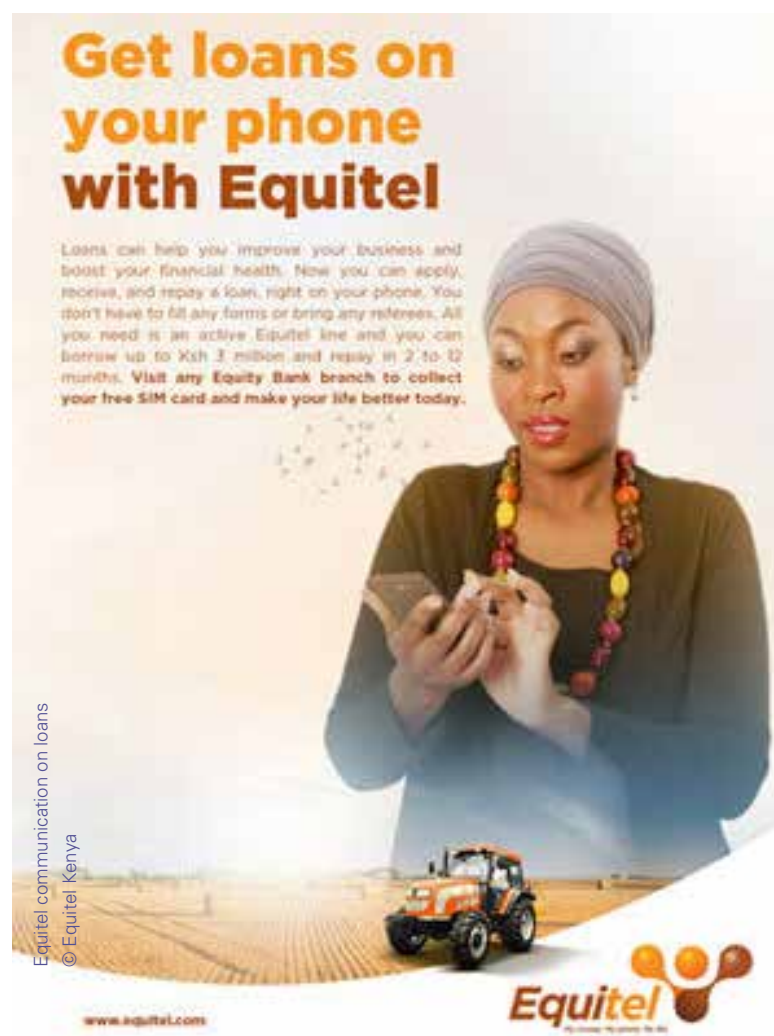
Internal management organization

Equitel has formed a partnership with the mobile virtual network technology platform Effortel to manage all technical and administrative aspects of its MVNO partnership with Equity Bank.

Technology

Front-end technology – SIM cards

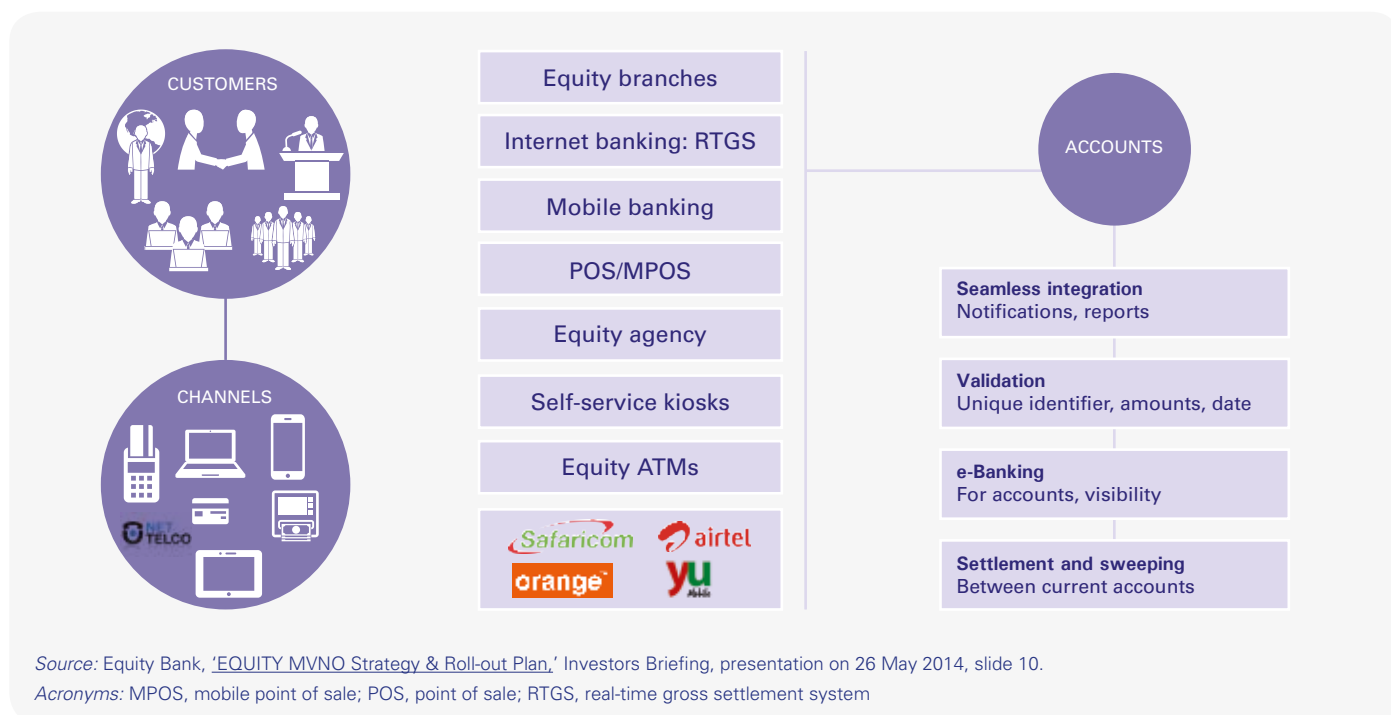
Equity Bank used an ultra slim SIM card from Taisys Solutions that can be placed on top of an existing SIM card to allow customers to use existing SIMs and not require customers to acquire a dual SIM phone or second phone to be able to use Equitel services. Equitel SIM cards have near-field communication capability, so clients can perform payment transactions with a point-of-sale device simply by putting their phone near the device.



⁸⁷ Equitel, 'PesaLink.' Available from <http://www.equitel.com/component/content/category/9-my-money> (accessed October 2017).

43 Figure IX captures the channel offering by Equity Bank.

Figure IX: Equity Bank channel offering



Back-end technology

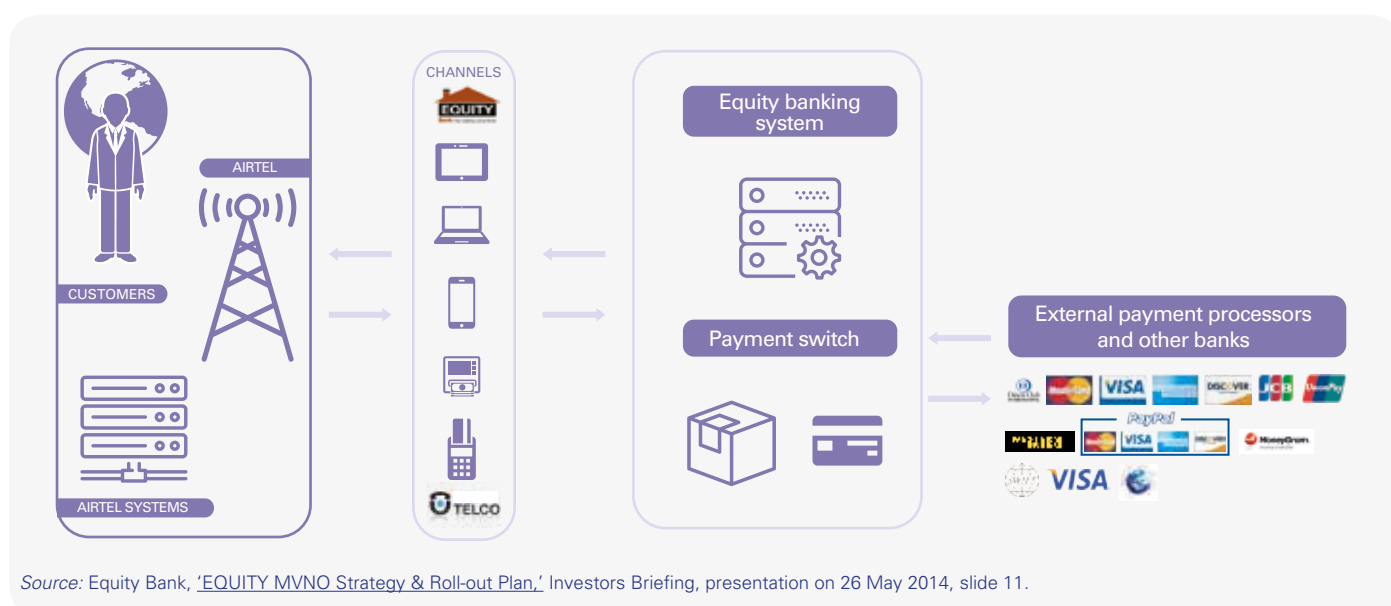
Equitel also has an API that allows merchants and/or other businesses to integrate directly with Equity Bank.⁸⁸

Roll-out

Equitel was piloted from October 2014 to July 2015. Equitel formally launched in August 2015.

Figure X captures the structure of the Equity system.

Figure X: Equity Bank architecture



⁸⁸ Equity Bank Group, 'Transaction API.' Available from <https://developers.equity-bankgroup.com/transaction-api/apis> (accessed October 2017).

THE CASE OF EQUITY BANK— ACHIEVEMENTS

Equitel has been a great success for Equity Bank Kenya when considering its strategic objectives and key performance indicators such as number and volume of transactions across Equitel (see table 11 and figures XI and XII).

Equitel is the second ex-aequo MM provider in Kenya in terms of registered customers, with 1.7 million customers as of March 2017, behind Safaricom and its customer base of 22 million. Airtel Money and MobiKash each have 1.7 million customers.

Equitel is now the second largest MM service in Kenya in terms of transactions. In the second quarter of 2016/2017, Equitel recorded KSh 251.6 billion (US\$2.4 billion) in transactions, which represented 22% of all MM transactions.⁸⁹ Equitel is second behind Safaricom M-Pesa that achieved KSh 892.9 billion (US\$8.7 billion) in transactions in the same 2016/2017 period⁹⁰ (from 19 million M-Pesa customers).⁹¹ Results published at the end of August 2017 claimed Equity had 'nearly a 25% [market share] of the value of mobile banking transactions in Kenya.'⁹²

**My Phone
My Bank**

Free money transfers

Apply and get a Loan

Make calls and send SMS

Manage your life
Health, Education,
Chamas, Agriculture

Pay your bills

Manage your Bank Account

Equitel
My money. My phone. My life.

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Make calls and send SMS

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Chamas, Agriculture

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Equitel
My money. My phone. My life.

www.equitel.com

Equitel informative print
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⁸⁹ Doreen Wainainah, 'Equity mobile cash platform cuts Safaricom market share,' 4 April 2017. Available from <http://www.nation.co.ke/business/Equity-mobile-cash-platform-cuts-Safaricom/996-3876680-lqybs4z/index.html>

⁹⁰ Ibid.

⁹¹ Lilian Ochieng, 'M-Pesa reports 27 pc jump in global users to 25 million,' 27 April 2016. Available from <http://www.nation.co.ke/business/M-Pesa-reports-27-pc-jump-in-global-users-to-25-million/996-3178018-5ykpjz/index.html>

⁹² Equity Bank Group, 'Equity Group assets grow by 14% to surpass the half a trillion mark and delivers KShs 13.3 billion in pre-tax profit,' 22 August 2017.

Fulfilment of objectives for becoming a mobile virtual network operator

Table 11: Equity Bank strategic objectives and achievements in becoming a mobile virtual network operator

Strategic objectives	Achievement
Transform Equity Group from a physical place that customers come to, to something they do ^a	Equitel growth has been phenomenal and now has 1.7 million subscribers (March 2017) ^b
Invent the future – ‘where banks may not be required, but banking services will still be necessary’	Equity Bank is known as an innovative bank and pioneer, while sustainably growing a range of banking services
Significantly enhance convenience, flexibility, accessibility and affordability of banking services	Achieved for customers
Digitize and virtualize the bank	Achieved
Prioritize mobile and Internet channels	Achieved
Create bridges to digitize cash to create an e-commerce world	Achieved
Seek to make the economy cash-lite by encouraging e-payments both for bills and retail payments	Achieved, though government policy and competitors are also very important parts of the shift
Encourage e-government and support it with e-payments	Equity Bank is handling government-related payments for a hunger safety net programme in north-eastern Kenya, through which beneficiaries can cash out with Equity agents
Have access to a telecommunication backbone network that is secure, reliable and highly available	Achieved, through partnership with Airtel
Reduce operational costs and pass savings on to the customer	Not disclosed
Be independent from existing MNO competitors and therefore gain greater control over the quality and reach of mobile banking services	Not disclosed
Add revenue streams by providing money transfer service and other telco services	Not disclosed
Tactical objectives	Achievement
Lower transaction costs by up to 47%: Mobile phone based cash transactions cost Equity Bank one third of ATM cash transactions and one tenth of branch cash transactions	Not disclosed
Target 96% cash market with cashless transactions for consumers, merchants and retail outlets	Not disclosed
Revolutionize and transform MM transfers through mobile banking, and make money transfers bank account based	Not disclosed
Remove or eliminate cost of depositing money and eliminate 50% of cost of transferring money	Not disclosed
Initiate a 1% transfer fee against current market rate of 16%	Not disclosed
Ensure a transfer fee range from KSh 1 (US\$0.01) for a transfer of KSh 100 (US\$1) to a maximum fee of KSh 25 (US\$0.24) irrespective of transfer amount	Not disclosed

a Equity Bank, ‘EQUITY MVNO Strategy & Roll-out Plan,’ Investors Briefing, presentation on 26 May 2014, slides 14 and 15. *Note:* The first nine strategic objectives and all tactical objectives are quoted from this source.

b Sector statistics from Communications Authority of Kenya, ‘Third quarter sector statistics report for the financial year 2016/2017, January–March 2017’ (Nairobi, June 2017). *Note:* M-Pesa had 22 million subscribers, Airtel Money 1.7 million, MobiKash 1.7 million, Orange Money 0.2 million and Mobile Pay 0.1 million.

Principal benefits for different stakeholders

- Equity Bank Kenya – Benefits include increasing customer numbers, improving agent sustainability and having a product that can compete directly with M-Pesa (by Safaricom) and M-Shwari (by CBA). The following are some key performance indicators of the respective Equity channels as of May 2016:⁹³
 - Equitel: 113.5 million transactions.
 - Agents: 24.8 million transactions.
 - ATMs: 10.7 million transactions (and decreasing).
 - Branches: 9.1 million transactions (and decreasing).
 - Merchants' transactions: 3.7 million.
 - Loans: 83% disbursed via mobile (Eazzy Loans) since MVNO as of June 2016 (vs 66% as of June 2015).

- M-banking: 247.9 million cumulative m-banking transactions and KSh 254.9 billion (US\$2.5 billion) cumulative m-banking value as of June 2016.
- Airtel – Benefits include using excess capacity to earn additional revenue and building a strategic partnership in a market that is dominated by Safaricom.
- Agents – Benefits include augmenting the number of cash-in/cash-out transactions, from which commission is earned, in an increasingly digitized national ecosystem.
- Customers – Benefits include increased access to affordable, convenient financial services; competition should help to further improve services while keeping prices reasonable.

Equitel was the source for 30% of the mobile commerce transaction revenues earned by Equity Bank (KSh 189 billion [US\$1.8 million] out of KSh 627 billion [US\$6.1 billion]), as of March 2017.⁹⁴

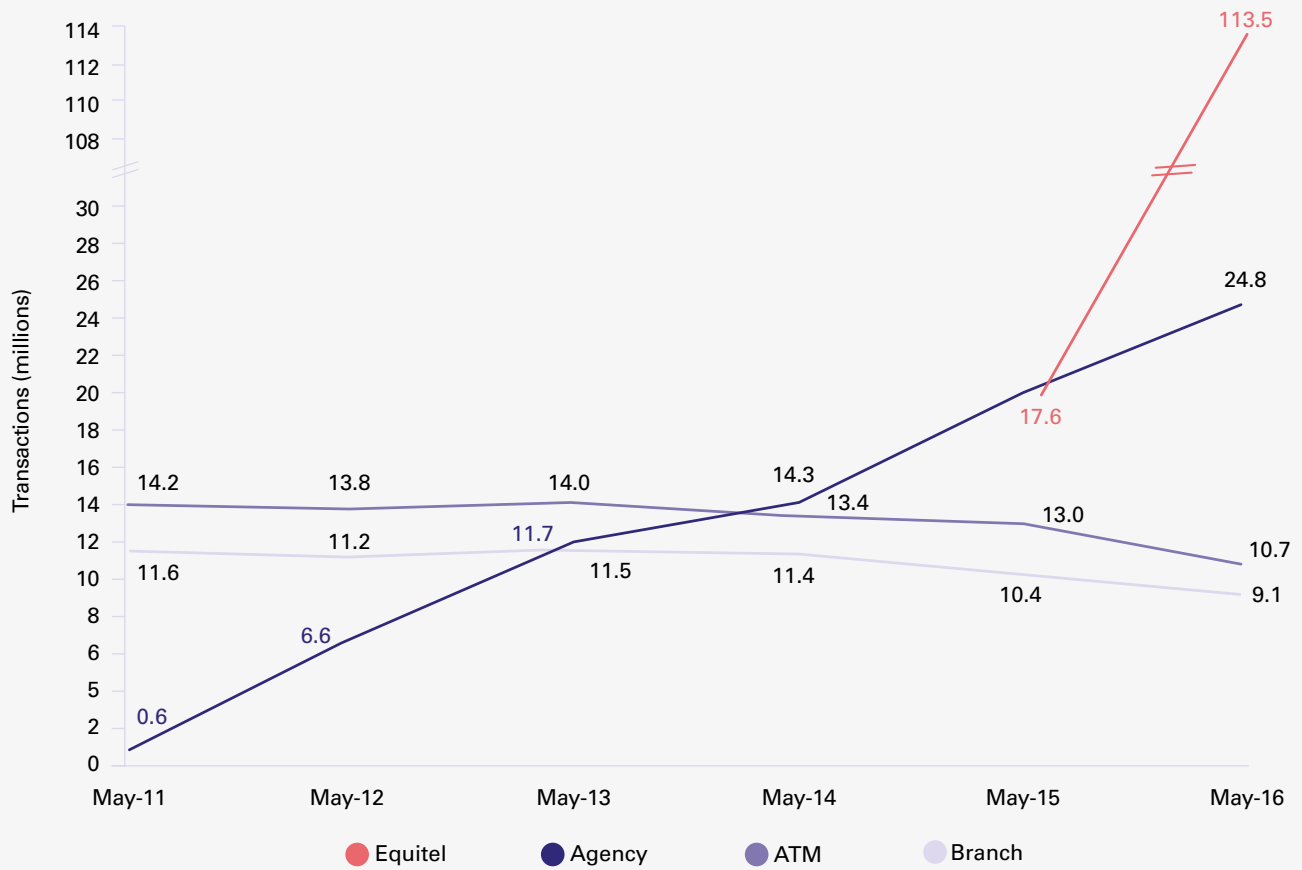
Figure XI: Equity Bank transaction number and volumes (May 2015 versus May 2016)



93 Equity Bank, 'Update on Execution of Digital Banking,' presentation from June 2016. Available from <http://ke.equitybankgroup.com/images/Update%20on%20Execution%20of%20Digital%20Banking-%20June%202016.pdf>

94 AptanTech, 'Equitel accounted for 30% of Equity Bank's mobile commerce transaction revenues,' 10 July 2017.

Figure XII : Equity Bank transaction number trends (2011–2016)



Source: Equity Bank, 'Update on Execution of Digital Banking' presentation from June 2016.

THE CASE OF EQUITY BANK—KEY SUCCESS FACTORS, LESSONS LEARNED, NEXT STEPS

To successfully launch Equitel as an MVNO, Equity Bank Kenya had to ensure that a range of internal and external factors were aligned. This section looks at some of the key success factors.

Key success factors

- **Favourable environment**
 - Stable economic and political context (unlike when M-Pesa reached scale).⁹⁵
 - Lack of direct competition for a mix of formal financial and mobile services.
 - Enabling regulatory environment, which enhanced competition for the benefit of customers.
 - Substantial need and latent demand among low-income households for a more accessible and affordable delivery channel for financial services.
 - Sufficient population density to exploit economies of scale.
- **Leveraging of strong internal capacities**
 - Strong, well-known and respected brand.
 - Large customer base of 9 million, which could be tapped for Equitel customers.
 - Existing network of 11,000 agents (Kenya nationwide has 174,000 agents as of March 2017).⁹⁶
 - Existing back-end infrastructure, such as customer call centre and data recovery centres.
 - Strong financial resources that supported the investment needed to become an MVNO.
- **Strategic alignment with existing activities**
 - Range of complimentary products and services.
- **Robust assessment of risks and plan for mitigation strategies**
- **Strong governance and support**

Lessons learned

There are four key ingredients that are necessary for an FI to be a successful MVNO:

1. **Build upon strong brand.** Equitel built on the image and customer knowledge of the Equity brand.
2. **Leverage existing distribution channels.** It is important to maintain customer interaction. In the case of Equitel, such interaction was achieved by building on the extensive distribution network that had already been established through agency banking.
3. **Tap into an existing customer base.** Having a large existing customer base is a big advantage. Equitel, for instance, was able to leverage the 9 million Equity Bank customers.
4. **Align with an MNO.** Having a mutually beneficial partnership with an MNO is critical. In the case of Equitel, Airtel had excess capacity on the one hand and was far from being a market leader in the MM space on the other. The partnership enabled Airtel to earn additional revenue, while not adversely affecting its core business.

Next steps

As mentioned in the introduction, Equity Group is expanding regionally. As was seen with the launch of Eazzy mobile banking (refer to Equity case study in MicroLead DFS Toolkit #5 for more details), Equity Bank has a strategy to develop platforms and software at the head office in Nairobi, which can then be customized and rolled out in each country of operations (currently, Democratic Republic of the Congo, Rwanda, South Sudan, Uganda and the United Republic of Tanzania). This approach includes applying for MVNO licences, a process in which Equity Bank Tanzania is currently engaged. The Equity Group Chief Executive Officer James Mwangi has declared that Equitel will be introduced in the Democratic Republic of the Congo, Rwanda, South Sudan, Uganda and the United Republic of Tanzania. However, Equity Group has not confirmed whether it has applied for an MVNO licence in all of these countries.

⁹⁵ M-Pesa was launched in Kenya in 2007. Kenya experienced a dramatic political, economic and humanitarian crisis in 2008 following the presidential election.

⁹⁶ As of 2016, 75% of the Kenyan population is now formally financially included, while 17.4% remain financially excluded and 7.2% use informal options. In 2006, 27% was formally included (a 50% increase).



Client performing mobile transactions in Benin
Courtesy of PHB Development

SECTION 3:

TESTING AN INNOVATIVE PARTNERSHIP MODEL—SHARING A MOBILE BANKING PLATFORM

INTRODUCTION TO SHARED MOBILE BANKING PLATFORMS

Interoperability is the ‘the next big thing’ that the mobile banking industry is aiming to achieve. Some even consider it the ‘silver bullet’ to greater financial inclusion.⁹⁷

Key characteristics of interoperability

As defined by CGAP⁹⁸ and GSMA,⁹⁹ interoperability can occur at different levels: platform level, agent level and customer level.

- **Platform-level interoperability** ‘permits customers of one MM service to send money to customers of another service.’¹⁰⁰ **Account-to-account interoperability** is interoperability between MM accounts from different providers and between MM accounts and bank accounts.¹⁰¹ It means enabling the customer to transfer between their MM accounts of different MM providers and/or between a bank account and an MM wallet (bank-to-wallet and wallet-to-bank). As of August 2016, account-to-account interoperability was live in Indonesia (since 2013), Jordan (early 2016), Madagascar (2015), Pakistan (2014), Peru (2016), Philippines (2016), Rwanda (2015), Sri Lanka (2014), Thailand (2015) and United Republic of Tanzania (2014). Ghana is on the list for November 2017. Platform sharing belongs to this form of interoperability. Platform-level interoperability helps facilitate transactions in a shared platform model.
- **Agent-level interoperability** means that agents can perform transactions for multiple MM operators. In other words, it ‘permits agents of one service [provider] to serve customers of another ser-

vice [provider].’¹⁰² Agent-level interoperability is already the case in many countries (e.g., Bangladesh, Chad, Côte d’Ivoire, Ghana, Kenya, Nigeria, Madagascar to name a few), yet there is still a high level of agent exclusivity to one provider in some countries (e.g., >85% of agents are exclusive to one provider in India, Kenya and Zambia).¹⁰³

- **Customer-level interoperability** allows users to access their account from any SIM card on the same MM network or to access multiple MM accounts on the same SIM card.

The following definition is provided by GlenBrook, an independent payments industry strategy consulting and research firm:

Arrangements that enable use cases to be interoperable can be broadly categorized into the three types: (1) multilateral agreements, (2) bilateral agreements, and (3) independent third-party solutions.

Arrangements can be:

- at the governance level (key decisions on arrangement design, decision-making rules)
- at business level (business model, contract, pricing, etc.)
- at the technical level (technical implementation of interoperability)¹⁰⁴

Account-to-account interoperability, in particular the case of United Republic of Tanzania that has implemented national interoperable MM services,¹⁰⁵ has been discussed by GSMA and the International Finance Corporation in very detailed terms; a summary of early lessons and insights is provided below:

- ‘A2A [account-to-account] interoperability between different mobile money schemes and between mobile money schemes and

97 Gunnar Camner, ‘Expanding the Ecosystem of Mobile Money: Considerations for Interoperability,’ p. 1 (London, GSMA, 2012).

98 Kabir Kumar and Michael Tarazi, ‘Interoperability in Branchless Banking and Mobile Money,’ 9 January 2012. Available from <http://www.cgap.org/blog/interoperability-branchless-banking-and-mobile-money-0>

99 Neil Davidson and Paul Leishman, ‘The case for interoperability: Assessing the value that the interconnection of mobile money services would create for customers and operators,’ p. 2 (London, GSMA, 2012).

100 Ibid.

101 Ibid.

102 Davidson and Leishman, ‘The case for interoperability,’ p. 2.

103 Mélissa Rousset, ‘Insights from Agent Network Accelerator Surveys and Opportunities for UNCDF programme MM4P countries,’ presentation from 14 March 2016. Available from http://www.helix-institute.com/sites/default/files/Presentation%20Downloads/MM4P%20Training%20Workshop_Helix%20Institute.pdf

104 Pablo Garcia Arabéhy and others, ‘Digital Finance Interoperability & Financial Inclusion: A 20-Country Scan,’ CGAP Working Paper, p. 2 (Washington DC, CGAP, 2016).

105 Madagascar and the United Republic of Tanzania are the only two countries in Africa with interoperable nationwide MM services.

banks should offer positive network effect benefits for all participants'; moreover, 'getting companies to work together successfully requires effective organisation and getting collaborations to deliver requires effective leadership and governance.'¹⁰⁶

- More especially, 'strategic considerations such as risk management, the complexity of implementation, the regulatory environment and others, are critical for mobile money service providers planning to launch A2A interoperability, and should be assessed when identifying the most appropriate technical model. Furthermore, maintaining open communication, designing a user-friendly service and then piloting it, were important lessons for mobile money service providers in [the United Republic of] Tanzania and Pakistan, and are relevant to the wider industry as well.'¹⁰⁷
- The Tanzanian example is especially interesting because '[the United Republic of] Tanzania has been able to debunk some of the myths or fears around lost market share or cannibalisation of on-net P2P [person-to-person] transactions due to A2A interoperability. [The United Republic of] Tanzania also yielded lessons on implementation, particularly the positive impact of the providers' decision to honour a consistent price for on-net P2P transfers and cross-net P2P transfers.'¹⁰⁸

Agent interoperability, also called parallel systems interoperability, 'offers some of the same benefits as A2A interoperability.'¹⁰⁹ 'Costs can be shared, which extends the reach of the service. Agents can serve customers from different providers using one float account, which also reduces the liquidity risk.'¹¹⁰ Interoperable agents can be found for example in Kenya, where Safaricom gave Airtel access to its network of 85,000 agents back in 2014.¹¹¹

Agent interoperability mostly implies having non-exclusive agents, who can expand financial access by providing more access points to a greater number of customers, while limiting the rise of a dominant actor that could ultimately reduce competition. The tendency of having non-exclusive agents is expanding in a number of countries, as pointed out by The *Helix* Institute of Digital Finance in its Agent Network Accelerator reports.¹¹²

106 Dick Clark and Gunnar Camner, 'A2A Interoperability: Making Mobile Money Schemes Interoperate', p. 5 (London, GSMA, February 2014). Available from https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2014/03/A2A-interoperability_Online.pdf

107 Renata Bindo and Sophia Hasnain, 'Choosing a technical model for A2A interoperability: Lessons from Tanzania and Pakistan', p. 23 (London, GSMA, 2015). Available from https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2016/01/2015_GSMA_Choosing-a-technical-model-for-A2A-interoperability_Lessons-from-Tanzania-and-Pakistan.pdf

108 Lara Gilman, 'The impact of mobile money interoperability in Tanzania', p. 17 (London, GSMA, 2016). Available from <https://www.gsmaintelligence.com/research/?file=5176a26de119933587cb93811eb81be4&download>

109 Marc Bourreau and Steffen Hoernig, 'Interoperability of mobile money: International experience and recommendations for Mozambique', S-36404-MOZ-1, p. 12 (London, International Growth Center, December 2016). Available from <https://www.theigc.org/wp-content/uploads/2017/01/Hoernig-et-al-2016-Final-Report.pdf>

110 Ibid.

111 Ibid.

112 See <http://www.helix-institute.com/data-and-insights>

Yet, CGAP argues that 'agent interoperability is possible even when there is agent exclusivity, as long as platforms are interconnected as is the case with interoperable ATM networks.'¹¹³

The remaining sections will focus on interoperability at the platform level.

Regulation and regulatory agreements for shared platforms

A provider that is interested in creating and distributing e-money would need to obtain a licence from its respective central bank. In the case of Benin, featured in subsequent sections of this toolkit, MFIs may leverage, depending on the provider to be selected, the e-money licence of ASMAB (an MFI that has obtained an e-money issuer licence) or the licence of another partner to perform bank-to-wallet and wallet-to-bank transactions involving bank accounts of FIs and MM wallets of MNOs.

Partnerships for shared platforms

While MM operators are working on making their systems interoperable under the impulse of central banks¹¹⁴ or market players,¹¹⁵ FIs are working on interoperability at their level through shared platforms and multilateral agreements. A 2014 International Finance Corporation presentation explained the situation thus: 'the payment infrastructure will likely evolve into a "shared resource" over the next 5 years' and 'there will be specialist "Payment Service Providers" (PSPs) that will be the "back office" for multiple FIs.'¹¹⁶

Platform sharing is not a new concept in the MM industry, yet examples of successful implementation and interoperability remain scarce. Platform sharing means that 'more than one service provider uses the same transactional processing platform.'¹¹⁷

113 Michael Tarazi and Kabir Kumar, 'Branchless Banking Interoperability and Agent Exclusivity' (Washington DC, CGAP, 2012). Available from <http://www.cgap.org/blog>

114 According to the following article, 18 out of 46 countries with MM regulations had regulation regarding interoperability as of September 2015: Leigh Anderson and others, 'Review of Interoperability and Regulations of Mobile Money', Evans School Policy Analysis and Research Technical Report, No. 313 (Seattle, University of Washington: Evans School of Public Policy and Governance, 2015).

115 As explained in an International Growth Centre article, interoperability can be voluntary using bilateral agreements such as in Indonesia, Rwanda and the United Republic of Tanzania; voluntary using a national switch such as in Pakistan and Peru; or mandated by the central bank/government such as in Ghana, Malawi, Mexico, Nigeria, Paraguay and Rwanda. The article added, 'the appropriate interoperability solution depends on the stage of market development.' Source: Bourreau and Hoernig, 'Interoperability of mobile money: International experience and recommendations for Mozambique', pp. 67, 70.

116 International Finance Corporation, 'Mobile Financial Services: Its role in banks and in the market', presentation in January 2014. Available from https://www.ifc.org/wps/wcm/connect/5e24430042b925809415bc0dc33b630b/M-Banking_Workshop_Presentation_Jan28-2014_ENG.pdf?MOD=AJPERES

117 Davidson and Leishman, 'The case for interoperability', p. 2.

A growing number of countries are looking at shared platforms and interoperability to enable smaller FIs to provide their services to a growing number of clients at an affordable cost for both the clients and the FI. Most of these FIs do not have the financial means or the human resources and information technology resources required to engage in developing or acquiring their own mobile banking platform. By pooling resources with other FIs in the country, they can access mobile banking technology and be able to provide these services to their clients.

To name just a few examples, Senegal has had this shared mobile banking platform in mind since the early 2010s in order to enable all MFIs in the country to share a platform that most would not be able to finance alone. In Sierra Leone, the network of MFIs conducted a study in 2013 to assess the feasibility of such a platform. Madagascar is in the process of implementing one. Rwanda has developed interoperability at the agent level and the customer level under the impulse of mVisa¹¹⁸ (refer to MicroLead DFS Toolkit #4, Part 2: Case studies for the experience of Urwego Opportunity Bank in Rwanda). Peru is the first financial-industry-led scheme, based on an initiative by the Association of Banks of Peru (Asociación de Bancos del Perú), which was successfully implemented in 2015 by 30 e-money issuers (see more details on the Peruvian experience in box 2 to 7 beginning on page 59).

Products and services available through shared platforms

The range of financial products and services offered through a shared platform depends on the country and the providers. The most common services offered to clients are the following:

- Access to savings: Managing savings deposits from the phone.
- Access to loans: Requesting a loan and completing credit transactions (disbursement/repayment) on the phone.
- Transferring money between accounts (between bank accounts and between bank account and MM wallet).
- SMS banking: Receiving product information and reminders.
- Cash-in/Cash-out with agents.

To support a shared platform, a large and robust network of service points (agents) is needed to allow customers to transform their cash into e-money and vice versa. FI branches, MNO agents and FI agents can be used as agents for the shared platform. Usually the FIs share a network of agents on top of a shared technical platform, yet they might decide to each have their own agents.

Technology required by shared platforms

A shared platform interfaces—preferably in real time to allow for transactions to be registered automatically—with the CBS of each FI and with the e-wallets of MNOs.

Customers use their mobile phone to carry out transactions on their FI account, by making a push or pull transaction between their MNO MM account and their FI account. Usually these services are available through USSD.

Financials involved with shared platforms

Technical development of a shared platform represents the main cost. By leveraging an existing platform, FIs can significantly reduce the investment, as it only requires adaptation of the platform and integration/plugin. In the case of Benin, if the MFIs choose to use the existing provider of one of the MFIs (ASMAB) and merely request an adaptation of the platform, the cost is expected to be ~US\$170,000 (cost shared among the MFIs). If further customization is needed, this cost will increase.

OpEx consist of a fee to use the platform, based on the volume and value of transactions.

Customers pay fees based on transaction performed, either only for cash-out transactions or also on payments and transfers performed using the platform, depending on the providers' decision. The revenues generated are usually split between the FIs and the platform owner as well as the MNO.

Examples of interoperable platforms

As mentioned above, a number of interoperable platforms have been launched worldwide that enable FIs (banks and MFIs) to provide financial services through an interoperable platform (see table 12 for an overview of some of these platforms). A shared platform goes beyond an interoperable platform by sharing resources (technical platform and most often agent network). Examples of shared or common platforms that are currently in operation are very limited. Providers are usually third parties, technology providers or MM providers with large operations that have decided to open their platform to smaller players to offset the investment made by receiving fees from smaller players to use the platform.

¹¹⁸ mVisa works across different FIs and mobile networks. In Rwanda, mVisa launched with Bank of Kigali and Urwego Opportunity Bank.

Table 12: Examples of interoperable third-party platforms worldwide, 2017

Continent	Country	MM model ^a	Platform interoperability: players involved	Shared platform provider	Platform name	Launch
Asia	Bangladesh	Bank based	Between banks (MM only)	Third-party provider: bKash	bKash	2011
	India	Non-bank based (used to be bank based)	Micro switch between banks	National Payments Corporation of India	Immediate payment service platform Unified payments interface	2011 2016
	Sri Lanka	Non-bank based	MM providers	MM provider: Dialog Axiata PLC	eZ Cash	2013
South America	Peru	Non-bank based	Banks, non-bank FIs, e-money issuers, MNOs	Asociación de Bancos del Perú	Bim	2016
Africa	Rwanda	Non-bank based	Banks and MFIs	Third-party provider: Visa	mVisa	2013
	Zimbabwe	Non-bank based	Between bank accounts and MM accounts Open to FIs	Third-party provider: Zimswitch	Zimswitch Instant Payment Interchange Technology	2012
	Ethiopia	Bank based	FSPs (banks and MFIs) + shared agent network	Third-party provider: BelCash	HelloCash	Jan. 2015 (pilot)
			MFIs mostly and one bank (agency banking and MM services)	Technology provider: Moss ICT	M-BIRR	Sept. 2015
	Kenya	Non-bank based	KUSSCO has established an ASP for SACCOs in Kenya. The ASP provides back-office software solutions to SACCOs with inadequate or no information technology system access to a web-based CBS that links SACCO members' ASP accounts to M-PESA.	Technology provider: Kenya Union of Savings and Credit Co-operatives (KUSSCO)	ASP	2015

^a Leigh Anderson and others, 'Review of Interoperability and Regulations of Mobile Money,' Evans School Policy Analysis and Research Technical Report, No. 313 (Seattle, University of Washington: Evans School of Public Policy and Governance, 2015).

Acronyms: ASP, application service provider; CBS, core banking system; SACCOs, savings and credit co-operatives.

In the case study described in the following sections, the path of MFIs in Benin towards a mutualized mobile banking platform is presented. While a decision on the provider and implementation are both still to be completed (planned for early 2018), lessons learned along the journey can benefit FIs considering this path. Depending on the technology provider selected, either (1) these MFIs will leverage the e-money licence of one of them or (2) the Consortium Alafia (the project coordinator) will need to apply for an e-money licence from the Central bank (BCEAO) so that the platform can run.

Recipe for success for shared platforms

Results of a mutualized platform are still to be assessed when it comes to mobile banking and FIs in particular, yet it has some promising elements. Nine key success factors for shared platforms are presented in tool 7 while expected challenges are presented in tool 8. These success factors and challenges are provided as non-exhaustive considerations for providers and must be adapted to the local context and addressed over time.

TOOL 7: KEY SUCCESS FACTORS FOR SHARED PLATFORMS

As CGAP summarizes,¹¹⁹ key success factors for interoperability (at the platform level as well as other levels) are a combination of the following:

- **Partnership agreement on governance and operating rules:** 'Rules should be in place to establish how participants in the interoperability arrangement will make decisions, jointly manage operations and consider risk.'¹²⁰
- **Business model for each stakeholder:** 'Agreements should balance the economic interests of participants, from pricing to brand marketing, to incentivize the exchange of payments.'
- **Technical integration with a 'sound' technical infrastructure.**

Based on experience in Benin and Peru and attempts in Madagascar and Senegal, the following key success factors are provided:

- **Creation of a separate entity with dedicated, specialized staff to centralize the discussion with the MNOs and platform provider.**

- **Definition of business and technical requirements of each participating FI,** under the guidance of a central body.
- **Selection of FIs allowed to participate in the platform,** ensuring a mix of smaller and larger FIs.
- **Capacity-building of FIs participating in the shared platform.**
- **Shared network of agents connected in real time.**
- **Right balance between a national awareness campaign** (above the line) and more direct engagement techniques (below the line) to create awareness and to support usage among clients.

TOOL 8: MAIN CHALLENGES TO ANTICIPATE FOR SHARED PLATFORMS

- **Development of an agent network:** Agent network should have sufficient size, activity (number of transactions) and liquidity.
- **Match between the service offer and the needs of clients:** Services should be developed using a customer-centric approach.
- **Effective use of services by clients.**
- **Capacity of FIs:** Capacity includes internal human resources who are trained and available, operational capacity to integrate new digital finance operations into current operations, technical capacity to manage the integration of the

platform with the existing management information system (MIS), and financial capacity.

- **Governance** of the separate entity should ensure a balance of interest between larger and smaller stakeholder FIs.
- **Profitability of the platform to make it sustainable.**
- **Participation of larger institutions in the platform:** Even though a shared platform is a great opportunity for smaller FIs to have access to DFS that they would be unable to provide on their own, having larger FIs also involved enables the platform to achieve larger scale, and receive larger financial contributions to make it profitable/sustainable.
- **Time needed for integration:** Timing varies depending on the context. As an example, in Peru given the number of providers involved, it is expected to take three years to integrate all providers.

119 See Pablo Garcia Arabéhéty and others, 'Digital Finance Interoperability & Financial Inclusion: A 20-Country Scan,' CGAP Working Paper (Washington DC, CGAP, 2016).

120 Claudia McKay and William Cook, 'Interoperability: More Than a Technological Challenge,' 21 December 2016. Available from <http://www.cgap.org/blog/interoperability-more-technological-challenge>. Note: All quoted text in these bullets is from this source.

THE CASE OF MICROFINANCE INSTITUTIONS IN BENIN—EXECUTIVE SUMMARY

In Benin, the interest and enthusiasm of the financial sector for new technologies and agency banking is growing.¹²¹ However, few FIs have started to develop alternative distribution channels.¹²² DFS are largely dominated by MNOs: MTN and Moov. MFIs in Benin agree on the need to enter the field alongside MNOs. They also want to be seen as modern by offering high-value-added services to their customers via digital tools.

To date, though, few MFIs in Benin have the technical, operational and financial capabilities to digitalize their operations. Many, especially smaller MFIs, face major technological challenges. For example, for most Beninese MFIs, their MIS is not centralized. The development and implementation of a platform and/or a network of agents is a costly and complicated undertaking for these MFIs, demanding a considerable budget and cutting-edge skills for development and maintenance.

Since 2015 and the launch of the payment platform CARMES (Carte Magnétique d'Épargne Sécurisée, or Magnetic Card for Secure Savings) by ASMAB, an MFI, discussions have been held among various players in the microfinance sector, grouped around the Consortium Alafia (the network of MFIs in Benin), to find effective solutions to enable everyone to enter the DFS arena. From these discussions, a partnership between ASMAB (also an e-money issuer owning its own technology platform solution) and the Consortium Alafia, representing the interests of the country's MFIs, emerged.

This partnership would allow MFIs (so far, 15 have expressed interest)¹²³ to access a shared platform as well as to provide agency banking services to their clients through the platform. The Consortium Alafia and its partner MFIs have recently decided to consider the offerings of other technology providers, in competition with the offer by ASMAB. Indeed, the ASMAB platform (CARMES) has certain limitations and would require critical adaptations to meet the requirements of the MFIs. If ASMAB is selected, it would be responsible for the issuance of e-money in circulation on the platform, in accordance with the licence it received for that purpose in 2013 from the central bank (BCEAO). If another provider is selected, the Consortium Alafia would have to apply for an e-money licence from BCEAO.

To date, the platform provider still needs to be selected among those shortlisted. The platform is scheduled for launch in early 2018.

This case study highlights how digital finance goals can be achieved through the establishment of smart partnerships. It demonstrates one of the ways to succeed is not necessarily to build everything independently, but rather to know how to leverage existing structures and thus to enable the development of a lively sector relevant to all providers.

This path offers new opportunities for smaller MFIs that cannot afford to develop their own mobile banking platform or that either cannot or do not want to engage in an unbalanced partnership with an MNO. By pooling their resources, MFIs in Benin want to prove that they can find innovative ways to afford a shared platform that would enable them to serve all clients, including rural and isolated clients, through digital finance.

THE CASE OF MICROFINANCE INSTITUTIONS IN BENIN—DIGITAL PATH AND OBJECTIVES

Founders of **MICROLEAD** Consortium

Consortium Alafia

As summarized on its website, 'the Consortium Alafia is the Professional Association of Decentralized Financial Systems (APSF) (in French) in Benin. It was created on 10 March 2000, following the adoption by Benin of the decentralized financial systems (SFDs) law. As of August 25, 2017, it has fifty (50) approved microfinance institutions and networks as members.'¹²⁴ They adhere to it on a voluntary basis; there is no obligation to be affiliated with the Consortium.

Its mission is to ensure the development of the microfinance sector in Benin. It promotes and defends the collective interests of its members. Beyond its advocacy role, it also acts as a platform for exchange and knowledge, fostering cooperation among its members and strengthening their capacities.

One potential technical provider - ASMAB¹²⁵

ASMAB is a Beninese MFI. As of May 2016, it had 0.8% market share (in terms of number of customers).¹²⁶ In 2013, ASMAB was granted approval by BCEAO to become an e-money issuer, making it the first—and, to date, the only—MFI to obtain the e-money distributor licence in the entire West African Economic and Monetary Union. Since it was approved, ASMAB developed its own technological platform capable of supporting digital transactions and set up the digital financial product CARMES, which was launched in August 2015.

¹²¹ Refer to annex 4 for more information on the Beninese context.

¹²² Examples include ALIDé (Association de Lutte pour la promotion des Initiatives de Développement), ASMAB (Association pour la solidarité des marchés du Bénin), PAD-ME (Association pour la Promotion et l'appui au développement des micro-entreprises) and RENACA (Réseau National des Caisses Villageoises d'Épargne et de Crédit).

¹²³ Names were not disclosed.

¹²⁴ Consortium Alafia, internal board meeting minutes, 25 August 2017.

¹²⁵ The Consortium Alafia has recently been considering other technical service providers (both from Kenya), as competitors to the ASMAB offer.

¹²⁶ National Agency Supervising Decentralized Financial Services, email to authors, May 2016.

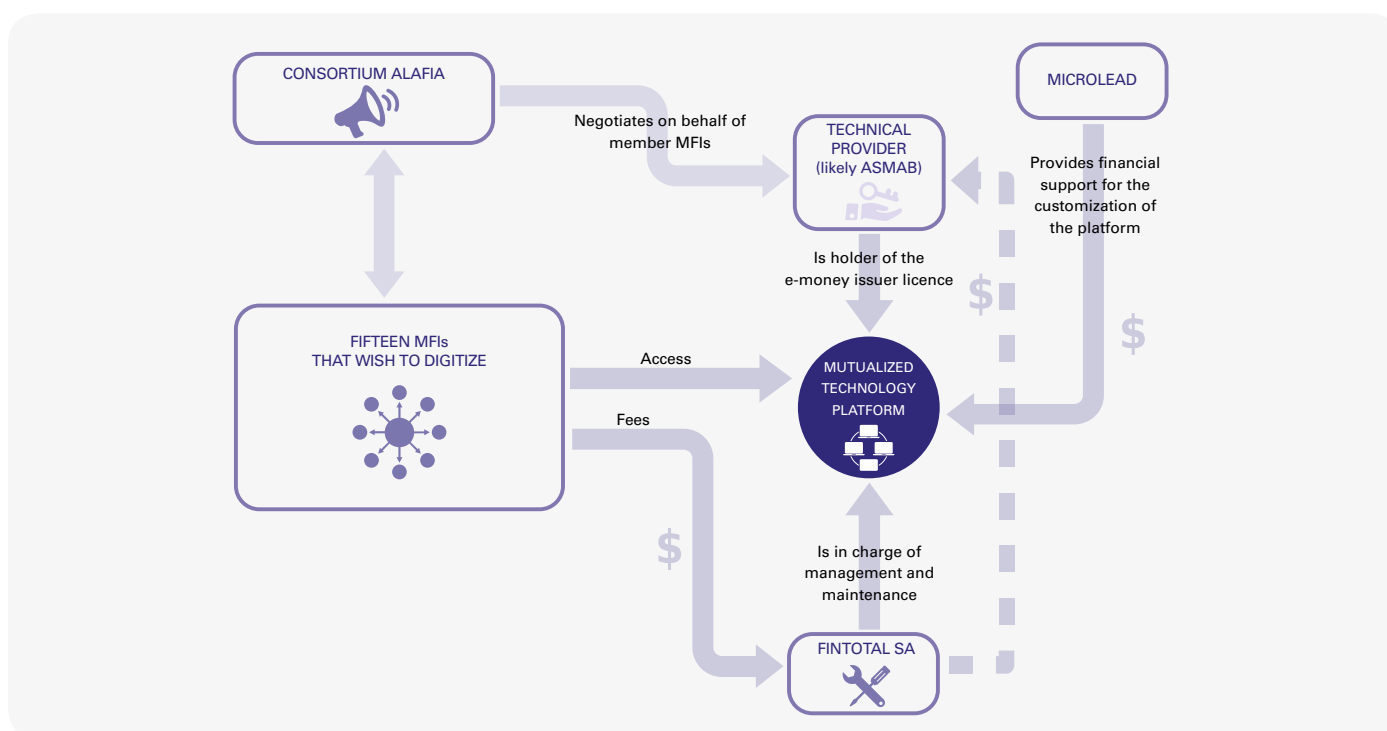
MicroLead

The mission of the UNCDF programme MicroLead is to support the development and deployment of (formal) savings services to rural populations, working with many financial and technical service providers to develop alternative distribution channels. In Benin, UNCDF-MicroLead supported the Consortium Alafia in promoting the idea of a shared platform among the MFIs by providing financial support to assess existing options of digital platforms and to explore ways to use them at the industry level. This work included facilitating discussions between the Consortium Alafia and several providers such as ASMAB (in Benin) and Tracom Services (in Kenya).

FINTOTAL SA

For the day-to-day management of the platform, a dedicated company was created. This company, FINTOTAL SA, is envisioned to be in charge of the maintenance of the platform as well as the usage contracts with the partner MFIs. It will have its own staff (sales management, technical management, etc.) and will be financed partly by the fees paid by the partner MFIs and partly through the commissions paid by the end clients. Its board of directors will include the technical provider (e.g., ASMAB or any other provider selected), the Consortium Alafia and the partner MFIs. The role of each partner in the shared platform project is shown in figure XIII.

Figure XIII: Role of the different partners in the shared platform project in Benin



Objectives of the partnership

The objective of the partnership is different for each of the stakeholders:

- **For MFIs**, the objective is to access existing technology so that they can offer their customers their products and services (mainly savings and loan disbursement and repayment services) through mobile technology. It allows them to realize significant savings in terms of effort and money, as not all of them are able to make the investments necessary to design a proprietary platform. A benefit of a partnership with ASMAB, or another third-party provider, is also to emancipate themselves and to break the monopoly of MNOs in the field of e-money.
- **For the Consortium Alafia**, the objective is linked to its mission of developing and supporting the microfinance sector. Through

this partnership, the Consortium Alafia enables its members to achieve their digital finance goals, which will result in more convenient and lower cost financial services for the masses.

- **For ASMAB** (or the technology solution provider selected), the objective of developing a partnership to share its e-money licence and potentially its technological platform is above all financial. Indeed, during the development of the CARMES platform, ASMAB had planned for the traffic of 10 million people. However, at its launch in 2015, it carried only 10,000 (1% of its goal).¹²⁷ This situation quickly led to major financial losses as development and maintenance costs were very high. The aim of this partnership is therefore to increase the use of the platform/to create traffic and thus to accelerate its profitability.

¹²⁷ Stakeholder interview with ASMAB by PHB Development in November 2015.

Digital path

This shared platform project was initiated by small MFIs in Benin wishing to develop DFS without having the capabilities on their own. They reached out to the Consortium Alafia to find solutions to digitize their operations. Ideally, all would have liked to be able to develop their own offering independently by following business model #4 'Develop own agent network' or #5 'Create own mobile banking channel' in this series of MicroLead DFS toolkits. However, these models require strong financial, operational and technical capacities, and the vast majority of MFIs in the country did not meet the necessary prerequisites to implement them.

Rapidly, stakeholders found common ground in the idea that pooling resources for the platform would be a win-win for all. The partnership was signed in April 2016. Business requirements from each interested MFI were listed to issue a request for proposals from vendors. The decision was made to start with basic banking services, that is to say, savings and credit operations.

The partners are finalizing the terms and conditions of the partnership, such as the remuneration system for the platform and the decision on the technical provider.

The idea early on is that the platform should be open to a limited number of MFIs (approximately 15—those that have expressed interest in being part of the project) but over time would be accessible to any MFI willing to pay the fee.

THE CASE OF MICROFINANCE INSTITUTIONS IN BENIN—APPROACH TO IMPLEMENTING DIGITAL FINANCE

Regulation

MFIs in Benin decided to join forces to create their own digital finance platform involving e-money as an intermediary to carry out operations, which implies being allowed to create and distribute e-money. The approval of the regulatory body of the sector, BCEAO, was therefore required. Depending on the decision reached during the selection process, the shared platform will either leverage the e-money licence of ASMAB (in the case ASMAB is selected as provider) or the one requested by the Consortium Alafia (in the case that one of the Kenyan providers is selected).

In view of the development of its CARMES technology platform and its desire to become independent from MNOs, ASMAB submitted an application for an e-money licence to BCEAO. It was a three-year long process that started in 2012:

- ASMAB had to prepare an application to seek authorization to become an e-money issuer. This application contained legal doc-

uments (a request signed by the representative of the institution to BCEAO, information on the main shareholders, managers and partners of the institution, etc.) as well as financial documents (detailed presentation of the e-money activity that the institution wished to undertake, certified annual financial statements, financial projections with assumptions of sensitivity, etc.). The application also contained information about the technical architecture (information system, certification of the platform, etc.).

- BCEAO reviewed the application and conducted field missions to ensure the veracity of the submitted information and the functioning of the platform through various tests.

It was the first time that BCEAO granted an FI a licence to issue e-money in the entire West African Economic and Monetary Union.

Regulators are monitoring the development of this project closely; exchanges and frequent meetings are organized between BCEAO and the Consortium Alafia, in order to preserve trust and ensure transparency of developments. For example, quarterly consultation meetings are organized by BCEAO to allow both parties to discuss challenges faced by MFIs, including digitization.

Products and services

The objective of the shared platform is to transition from cash to digital payments and to facilitate financial transactions. It will offer several digital banking services to clients of the partner MFIs. Transactions enabled for clients via the platform will include the following:

- Managing savings deposits from the phone.
- Completing credit transactions (disbursement/repayment) on the phone—in the short term (date not specified), the plan is also to allow credit requests and credit scoring through the platform.
- Transferring money.
- Conducting SMS banking.
- Withdrawing cash with a debit card available to customers.

However, during the pilot phase, only savings and credit operations will be available.

The services linked to this shared platform should also include 'non-financial services.' Financial literacy campaigns and customer training on digital tools will be put in place to allow customers to perform basic transactions within the network as independently as possible. These efforts will be shared by FINTOTAL SA (the company in charge of managing and maintaining the platform), the Consortium Alafia and the partner MFIs.

Since 2015, the MFIs themselves have also received regular training on digital transformation, the definition of a relevant

business model and the management of a network of agents. These courses are made possible through the support of international organizations, including UNCDF.

Distribution network

To support the shared platform, a large and robust network of service points is needed to allow customers to transform their cash into e-money and vice versa.

The development of this network of service points will take place in three steps:

1. To start, use of agencies/branches of partner MFIs as points of service.
2. In a second phase, use of existing agent networks (those of the two MNOs, MTN and Moov, if negotiation enables all parties to reach a beneficial agreement).
3. In a third phase, formation of proprietary agent networks by each MFI that has the capacity to do so.

Regarding the third phase, some MFIs (e.g., PADME) are interested in building a network of their own agents to increase the access and scope of their financial services via the mutualized platform. Each member institution of the platform will be in charge of the recruitment and management of its own network of agents, yet the system of agent incentives will be harmonized among the different MFIs. Agents will assist clients in performing mobile transactions if needed.

Internal organization

The management entity created, FINTOTAL SA, will have its own staff (sales management, technical management, etc.) and will be financed by the fees paid by the partner MFIs and partly via commissions paid by the clients. It will be responsible for the management of the platform. It will receive applications from MFIs interested in joining the platform and will decide which is eligible to become a member. The Consortium Alafia will not have a say in the choice of eligible MFIs, as its role will be to support small MFIs to ensure that they have the ability to join the platform.

UNCDF-MicroLead provided DFS training and training of trainers to ensure that the internal capabilities of the MFIs allow them to join the platform and then manage their own agents. MicroLead also conducted an exposure visit to Kenya for 20 participants, selected from the MFIs willing to engage in the shared platform initiated by the Consortium Alafia. The Kenyan visit helped improve their understanding of the types of partnerships possible and the cooperation needed between various financial service stakeholders, supervisory and apex bodies, and financial intermediation service providers.

Technology

The Consortium Alafia carried out an evaluation of the existing CARMES platform (from ASMAB) to establish its relevance to the needs of the interested MFIs. Other technical platforms were also considered: the Consortium Alafia examined digital finance modules of the main MIS suppliers (Mifos, Microfina, PERFECT) that could connect to existing MIS. Given the weak centralization of MIS (a prerequisite) of the interested MFIs, it was deemed more efficient to connect to a common platform than to upgrade all MIS.

Three providers have been shortlisted based on the technical and business requirements listed by the MFIs.¹²⁸ The choice of the provider remains to be made at the time of publication of this toolkit.

The technical platform will be tailor-made for the MFIs and the Consortium Alafia. Each MFI will have access to it via a network infrastructure.

Customers will use their mobile phone to carry out transactions on their MFI account, by making a push or pull transaction between their MNO MM account and their MFI account, using USSD sessions.

Financials

The Consortium Alafia, with the support of UNCDF-MicroLead, will cover the cost of adapting the platform for the MFIs. Technical development costs should amount to CFAF 100 million (US\$167,387) if the existing CARMES platform is chosen and simply customized to the needs of the MFIs.¹²⁹ If a new platform is ultimately chosen, the costs will be much higher (hundreds of thousands of dollars).

The business model should be as follows:

- Customers pay commissions for each transaction. These commissions are shared between the MFI and FINTOTAL SA.
- MFIs pay a fee to FINTOTAL SA for the use of the platform, which is used to cover the operating costs of the company. The amount of the fee has not yet been decided, though it will vary depending on the size of the MFI. It should also be based on the amount of transactions each MFI generates.

This model should be implemented in early 2018. During the pilot phase, it is expected that customers will not be charged transaction fees in order to encourage them to use the platform and to familiarize themselves with it. However, MFIs will make their financial contribution starting in the pilot phase to be able to make FINTOTAL SA operational.

¹²⁸ The three shortlisted providers are CARMES, Tracom Services and MFS Africa.

¹²⁹ Conversion rate: CFAF 1 = US\$0.0016738687 (Source: www.xe.com, 15 May 2017).

THE CASE OF MICROFINANCE INSTITUTIONS IN BENIN—RESULTS, KEY INFLUENCING FACTORS, LESSONS LEARNED, NEXT STEPS

Results

As the platform has not yet been set up, it is too early to assess the achievement of results. Thus, an example of an existing shared mobile platform in Peru is provided in box 2.

Box 2: Example of Bim, a shared mobile platform in Peru

Bim (Billetera Movil) is the first interoperable e-money platform in Peru.^a Launched in February 2016 as a result of a 'historic' collaboration among the Government, FIs (banks and MFIs), MNOs and other players,^b the platform enables customers to make deposits and withdrawals, purchase airtime, perform balance checks and conduct transfers between persons, irrespective of the operator used by the issuer or the recipient, regardless of whether the users are banked or not, and irrespective of whether the recipient is registered for the service or not.

To use the service, the customer registers from his/her mobile phone by simply entering his/her ID number and choosing a PIN. Deposit and withdrawal transactions are carried out through agents, while transfers and balance checks can be conducted by the customer using his/her phone and the USSD code * 838 # to log on. More than 8,700 service points (of which some 8,200 are active and include FIs and agents) are available across the country.^c The customer can go to any agent, regardless of his/her phone operator or bank.

Interoperability is at three levels: (1) between FIs, for example allowing a transfer from a client of bank/MFI A to a client of bank/MFI B; (2) among the three MNOs (Claro, Entel and Movistar), for instance allowing a customer to purchase Claro airtime from a Movistar line; and (3) between agents, for example allowing a client to go to an agent of FI A to deposit money while being client of FI B and to send it to a customer of FI C.

^a See <http://mibim.pe/>

^b Center for Financial Inclusion at Accion, 'BiM – The First Fully-Interoperable Mobile Money Platform: Now Live in Peru,' 17 February 2016. Available from <https://cfi-blog.org/2016/02/17/bim-the-first-fully-interoperable-mobile-money-platform-now-live-in-peru/>

^c Pablo Antón Díaz and Tomás Conde, 'Modelo Peru: Unique Model, Unique Challenges, Bright Future' (n.p., Center for Financial Inclusion at Accion and Institute of International Finance, January 2017).

^d Carolina Trivelli, 'El primer año de Bim, la billetera electrónica del Modelo Perú,' March 2017. Available from <http://www.bankingtech.com/2017/04/perus-first-mobile-money-wallet-bim-lessons-learn/>

^e BankingTech, 'BiM, Peru's first mobile money wallet: lessons learnt,' 28 April 2017. Available from <http://www.bankingtech.com/2017/04/perus-first-mobile-money-wallet-bim-lessons-learn/>

^f These included two FIs, one saving organization, one e-money issuer and five banks.

The objectives of the MFIs and the Consortium Alafia are to reach 2 million active users of the platform by 2020 and to ensure that the platform can support the load and respond to customer requests.

The ultimate goal, however, is that each MFI that wishes to offer DFS to its customers can do so and that the platform will host both small and large MFIs. Among the large ones, some have already expressed interest in joining the project rather than developing their own platform, as originally envisaged.

Several shared platform projects have been considered in Madagascar and Senegal. To date, none has emerged. If successful, the Beninese platform would be the first shared mobile banking platform in Africa.

As will be the case in Benin, an entity dedicated to the management of the platform was set up in July 2015: PDP (Pagos Digitales Peruanos). Its shareholders are the association of Peru banks, microfinance associations, many banks and e-money issuers. The entity developed the shared infrastructure, while Ericsson developed the technology platform.

The goal of Bim is to reach 5 million customers in five years; however, the shorter-term objective of Bim was to reach 300,000 accounts in one year, of which 30% were to be active with an average of 3.1 transactions per month.^d One year after launch, 400,000 Peruvians used the platform, with 20,000 new users added per month.^e Nevertheless, the other two aspects of the objective (i.e., activity rate and monthly transaction average) are yet to be reached.

The project was launched with 9 FIs;^f a year later, 23 FIs were connected to the platform, including Banco de la Nación (the largest bank in the country) and all MNOs. The service offer was expanded to include payments of micro-business taxes, purchases from affiliated merchants, payments to suppliers by affiliated merchants, and deposits to the Bim account from a bank account. New services will be added in 2017 to allow customers to pay their water, electricity and telephone bills, as well as to access micro-savings, loans and insurance services.

Key influencing factors

Several factors played a positive role in the genesis of the Benin shared platform project:

- The desire by MFIs for independence from MNOs has driven the development of this solution. Otherwise, MFIs could have used the technology platforms of the MNOs.
- There is awareness at the national level of the importance of DFS, as evidenced by the following: creation of a Ministry of Digital Economy and Communication (champions the adoption of DFS), role of the Ministry of Microfinance and Youth and Women's Employment (promotes joint work by MFIs), role of BCEAO (promotes interoperability) and role of international institutions like UNCDF (supports professionalism in and development of the sector).
- Under the impetus of the Ministry of Digital Economy and Communication, the development of DFS is in an expansion phase. The involvement of governmental actors has stimulated the development of inclusive finance policy in Benin, which makes DFS a strategic axis of intervention.
- The desire to remain relevant to the target populations, and to not be overtaken by new entrants (i.e., MNOs, fintechs), has prompted MFIs to develop DFS with the aim of providing better services and being customer-centric.

Lessons learned

A decisive factor for the success of the project was the **centralization of the project by the Consortium Alafia** to federate all the MFIs and to provide the necessary funds for technical development. On the one hand, the MFIs could speak with a single voice and hold a strong position; on the other hand, they did not have to make any prior financial investment.

The MFIs worked together under the leadership of the Consortium Alafia to define the services to be offered through the platform. Thanks to this joint effort, the business and technical requirements were prepared.

The **creation of the separate management entity** FINTOTAL SA, with dedicated and specialized staff, will undoubtedly be a success factor for a well-managed project. Other countries that have expressed interest in setting up such a shared platform (e.g., Madagascar, Senegal) have stumbled at this stage.

The **support provided by the Consortium Alafia and UNCDF-MicroLead to strengthen the capacity of the MFIs** will be crucial. Indeed, not all the MFIs are currently able to embark on a digital finance project. The selection of MFIs that will be made by FINTOTAL SA as well as the technical support to the MFIs will determine the success of the project.

Additional lessons from the implementation of the shared platform in Peru are provided in box 3.

Box 3: Lessons learned from Bim, a shared mobile platform in Peru

Among the lessons learned by Bim in Peru that could benefit Benin and other countries are the following:

1. There is a need to connect agents in real time to the system.
2. Having multiple devices for agents should be avoided. Agents already had point-of-sale devices as agents of commercial banks and received mobile phones as agents of Bim. Operating two devices proved too complex. Moreover, agents' phones are not always charged when needed and/or agents lack the liquidity needed to perform transactions.
3. The national awareness campaign for Bim did not have the expected return on investment; rather, a strategy of direct engagement with users and establishment of an awards and loyalty programme was far more successful in terms of adoption and usage.^a

^a Banking Tech, 'BIM, Peru's first mobile money wallet: lessons learnt.'

Foreseen challenges

1. Development of an agent network

Using the existing agent network of member FIs will provide a good starting point in Benin. It will be necessary to ensure that the agents cover all the areas where clients live and work and that sufficient agents be available to address the needs of the clients. Beyond the size of the network, which is the first critical challenge, the liquidity of agents to carry out withdrawal and deposit transactions will be crucial. In particular, it will be important that agents have the cash necessary for withdrawals but also the e-money needed for deposits. The responsibility to develop and manage the agent network lies with the MFIs, so it will be necessary to ensure that each MFI is prepared to undertake that activity. Training has been provided to MFIs to this end, but monitoring by the management entity will undoubtedly be necessary. Another option is that the entity supports the deployment of a third-party agent network to complement those of each participating MFI to ensure high density of service points.

See box 4 to read how the Bim shared platform in Peru dealt with this challenge.

Box 4: Bim in Peru and the challenge of agent network development

The main challenge faced by the shared platform in Peru was the development of an efficient network of agents to allow deposits and withdrawals (cash-in/cash-out). Initially, the level of transactions was low compared to the large size of the agent network (some 8,200 active agents out of just over 8,700 total agents^a), and the agents did not have sufficient balance of e-money to cope with customers' cash-in requests. The limited activity meant that the agents were not encouraged to mobilize their resources. Customers who were unable to complete desired transactions were diverted from the service. The main challenge was thus to convince agents and customers that the service would reach a critical size. To this end, the management entity redefined the profile of agents and limited the size of the network to 3,000 active agents to ensure there would be enough activity for each agent.^b

a Díaz and Conde, 'Modelo Peru: Unique Model, Unique Challenges, Bright Future.'
b Carolina Trivelli, 'El primer año de Bim, la billetera electrónica del Modelo Perú.'

2. Match between the service offer and the needs of microfinance institutions and clients

One of the challenges the Consortium Alafia expects to encounter is how to ensure that the services offered through the platform correspond to both the services that MFIs wish to offer to their clients and the expectations of the latter. Deposits, withdrawals, transfers, savings and loans will be offered from the start, which should serve the needs of customers. The introduction of credit requests and credit scoring services should also satisfy customers, ensure retention and improve usage. Building an MM ecosystem and making certain that clients use the services of the platform will certainly be a challenge for the MFIs.

The ability to respond to the requests of the 2 million customers who are expected to use the platform in the long run will be another challenge, namely to make sure that the platform can support the load. This challenge is unlikely to present itself for several years, which will give the management entity time to test the platform and to make certain it is technically capable of meeting the expected needs.

See box 5 to read about the challenges of the service offering faced by Bim.

Box 5: Bim in Peru and the challenge of service offering

An additional challenge faced by the Peruvian platform was the limited offer of services originally proposed, which did not allow for the creation of a real ecosystem for the use of MM. Only person-to-person transfers were offered, requiring customers to convert e-money into physical cash. Use cases have been developed to allow customers to pay for their purchases and invoices and soon to access savings and credit, in order to create a real ecosystem for the use of e-money.

3. Technical integration of MFIs in the shared platform

The modalities are intended to be simple in the Benin shared platform (a 'plug and play' model not requiring integration with the MIS of all FIs). Only time will tell if this is the case. Security is a major concern of all stakeholders, though the issue is currently being addressed.

See box 6 to read about the experience of Bim related to this challenge.

Box 6: Bim in Peru and the challenge of technical integration

The integration of the mutualized platform in Peru with all banks, MNOs and agents is expected to last three years. It should be noted that the number of actors to be integrated in Peru is much higher, which affects integration time.

4. Effective use of services by clients

Any new service is confronted with this problem. Effective use of DFS is particularly concerning, as sometimes DFS activity rates are quite low. Using human-centric design to develop products, involving customers from the start, understanding their needs and making sure they are addressed are all key (in the case of Benin, this approach was not applied since the idea did not originate from the clients but the FSPs). Regular engagement with customers is necessary to ensure that registration turns into trial and then into regular use. Client education is part of this effort. In Benin, this responsibility will mainly be that of the Consortium Alafia, through a training-of-trainers approach. Concretely, the Consortium Alafia will train staff of MFIs to educate clients, via specific modules and courses. Most Beninese MFI clients are illiterate, thus it is planned that a visual toolkit, as well as audio and video materials, be created.

See box 7 to read about the experience of Bim related to this challenge.

Box 7: Bim in Peru and the challenge of effective use of services by clients

In Peru, usage has been one of the major challenges. The target of 30% active clients in the first year was not reached.^{a,b} The self-registration of customers via their mobile phone has contributed to inactivity: customers have registered with the service but have never used it, sometimes for lack of information. Interaction with an agent makes it possible to obtain the necessary information and to encourage the customer to complete a first transaction. Bim is currently considering mandatory enrolment through an agent and removing self-registration.

a Carolina Trivelli, 'El primer año de Bim, la billetera electrónica del Modelo Perú.'

b Interviewees from the banks involved in the system claimed that the usage rate was as low as 2%, according to Díaz and Conde, 'Modelo Perú: Unique Model, Unique Challenges, Bright Future.'

5. Capacity of microfinance institutions

The capacity of the MFIs in Benin to attract customers to the platform and then to manage the network of agents will undoubtedly be a major challenge, according to the Consortium Alafia. Indeed, digital finance requires very specific skills, as has been seen through the various toolkits in this series:

- **Internal capacity** with (1) a person in charge of digital finance (dedicated or not, depending on the importance of digital transactions), (2) a person in charge of the agent network since it will be up to MFIs to recruit and manage their own agents (see MicroLead DFS Toolkit #4 for tips on how to proceed) and (3) support staff in MFI branches to oversee agents. Offering DFS also requires adequate experience and training in digital finance.

- **Operational capacity** to integrate new digital finance operations into current operations and to manage the liquidity of agents in terms of e-money and cash, which as seen above will be one of the main challenges.
- **Technical capacity** to manage the integration of the platform with the existing MIS. The advantage of the platform is that, for the MFIs, it does not require heavy technical developments for the interface or an upgrade of their MIS. Nevertheless, the MFIs should be able to send and retrieve real-time transaction data from the platform and from the devices used by agents.
- **Financial capacity** to make a return on investment on the fees to be paid by the MFIs to use the platform.

The selection of eligible MFIs will be made by the management entity. It should include a review of the capabilities of the MFIs and their operational and financial strength.

To help the MFIs prepare, the Consortium Alafia and UNCDF-MicroLead have provided support in the form of trainings. The MFIs were trained on business models and agent network management. The training may need to be renewed and monitored to ensure that the MFIs have the capacity to manage a network of agents, since that is likely to be the main challenge they will face.

6. Profitability of the platform

While ASMAAB succeeded in developing its platform, the challenge that the institution quickly faced was that it had to be profitable. This challenge also awaits the Consortium Alafia. Drawing on the lessons learned from the experience of ASMAAB targeting 10 million users of the platform and falling far short of achieving that result, the Consortium Alafia decided to validate the interest and commitment of the MFIs before launching the project. Even though the MFIs have not had to make any investments so far, they have pledged to join the project. With the 15 interested MFIs, the project may reach the desirable scale of several hundred thousand active users to become profitable. It is likely that more MFIs will be interested in joining, which will reduce costs for each MFI.

7. Participation of large microfinance institutions and integration of microfinance institutions into the platform

For the success of the platform (and its profitability), the participation of large MFIs is desirable because it will attract smaller MFIs, contribute to the awareness of the platform and position the platform not only as a solution for smaller MFIs but for all MFIs that want to optimize their investment.

The Consortium Alafia is holding discussions with the largest MFIs in the country (ALIDé, COMUBA [Coopérative des Membres Unis Bethel Actions], FECECAM [Faîtière des Caisses d'Épargne et de Crédit Agricole Mutuel du Bénin] and PADME) to assess their interest. These organizations already had digital finance projects underway. Some nevertheless express an interest in joining the project.

Next steps

The next immediate steps are the choice of the technical provider, the testing of the platform and the release of the platform that is scheduled for early 2018.

At the same time, some MFIs continue to develop partnerships with MNOs (e.g., ALIDé with MTN).

MTN Benin, having obtained its e-money issuer licence, could become a potential technical provider by sharing its platform. Moreover, as BCEAO has requested interoperability between digital finance platforms, push-and-pull interoperability could allow for easier operations between the 'banking' accounts of the MFIs and the MM wallets of the clients, regardless of the MNO or MFI of the customers (transfer between MFIs). It could also facilitate the use of the existing MTN agent network by MFIs to enable their clients to perform operations with MTN agents.

The Consortium Alafia is not the only project that UNCDF-MicroLead supports in Benin. UNCDF-MicroLead supported CPEC (Coopérative pour la Promotion de l'Épargne et de Crédit) with the creation of its network of roving agents and its own technical platform (see MicroLead DFS Toolkit #1 for the case study), and it is currently supporting ALIDé in its partnership with MTN to enable the collection of savings and loan repayments. The shared platform is a second phase, which will allow other MFIs to benefit from the experience and lessons learned from the pioneers of digital finance in Benin.

The DFS landscape in Benin is changing rapidly. It will be interesting to see how the shared platform and the interoperability desired by BCEAO influence the DFS landscape and how the example of Benin can inspire other countries and MFIs that want to develop DFS but are not in a position to do so alone.



ANNEX 1: CONTEXT OF KENYA

Financial inclusion

In 2006, 73.7% of Kenyans were either financially excluded or only informally financially included; however, with the rapid uptake of M-Pesa in 2007, the rate of inclusion increased to 40.5% by 2009 and 66.7% in 2013.¹³⁰ Figure I.I provides 2016 financial inclusion data.

Telecommunications

The telecom sector is dominated by Safaricom (see figure I.II), which is owned by the Government of Kenya and Vodafone UK. The position of Safaricom has been dominant for quite some time in the telecommunications sphere, and it is one of the key reasons for its equal domination of the MM market with its M-Pesa offering.

Mobile money

MM launched in Kenya in 2007. Both the MM market and the regulatory environment for that market have rapidly undergone considerable development. Three MNOs and three non-MNOs are involved in MM in the country (see table 1.1), although the market is largely dominated by Safaricom M-Pesa.

Figure I.I: Financial inclusion in Kenya, 2016 (% of those aged 18+)

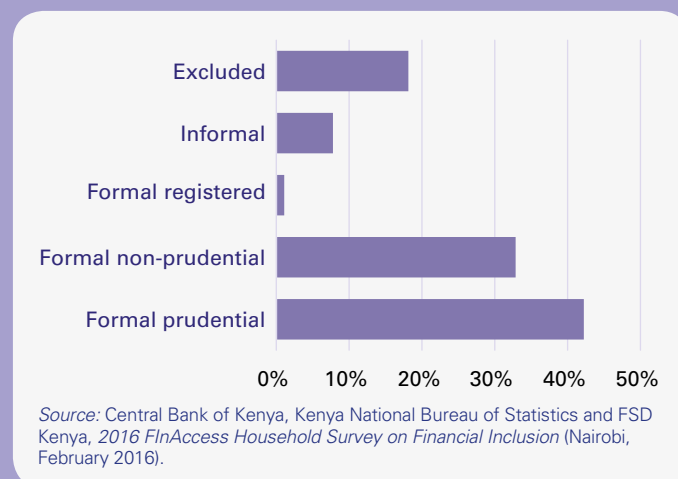


Figure I.II: Market share of mobile network operators in Kenya, 2017 (% of subscribers)

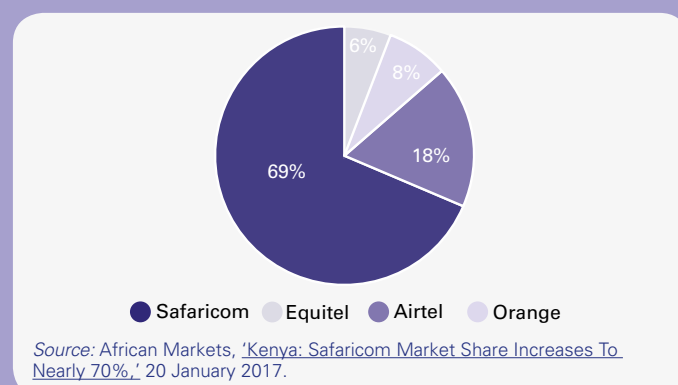


Table 1.1: Mobile money transfer services in Kenya, March 2017

Service	Mar-17						
	Agents	Subscriptions	Transactions	Value of transactions (KSh)	Mobile commerce transactions	Value of mobile commerce (KSh)	Value of person-to-person transfers (KSh)
M-Pesa	135 544	22 031 599	326 204 678	890 676 274 606	244 997 747	432 548 984 176	424 358 473 777
Airtel Money	16 623	1 730 524	8 117 770	5 843 212 397	8 117 770	5 843 212 397	2 614 634 646
Orange Money	800	194 427	26 000	125 674 000	178	52 343	3 450 199
Equitel	-	1 727 270	97 608 310	271 806 473 195	37 384 852	189 080 441 202	92 705 846 614
MobiKash	16 749	1 772 696	815 881	127 032 829	6 430	9 227 168	22 876 608
Tangaza	4 302	86 724	360 651	1 434 945 936	-	-	749 683 772
Total	174 018	27 543 240	471 133 290	1 170 013 612 963	290 506 977	627 481 917 286	520 454 965 616

Source: Sector statistics from Communications Authority of Kenya, 'Third quarter sector statistics report for the financial year 2016/2017, January–March 2017' (Nairobi, June 2017).

¹³⁰ Alliance for Financial Inclusion, 'Dramatic changes in Kenya's financial inclusion landscape,' 21 November 2013. Available from <https://www.afi-global.org/news/2013/11/dramatic-changes-kenyas-financial-inclusion-landscape>.

ANNEX 1: CONTEXT OF KENYA (continued)

65

Key regulation of mobile financial services

1. GUIDELINE ON AGENT BANKING (2010)

- **Defined who can be an agent:** A large range of entities may be an agent, including 'limited liability partnerships, sole proprietorships, partnerships, societies, cooperative societies, state corporations, trusts, public entities and any other entity which the Central bank may prescribe.'¹³¹
- **Defined roles agents can play:**
 - *Cash-in/Cash-out:* Permissible activities include 'cash deposit and cash withdrawal, cash disbursement and cash repayment of loans, cash payment of bills, cash payment of retirement and social benefits, cash payment of salaries and transfer of funds.'¹³²
 - *Verification of customer identity for account-opening purposes:* Agents may collect and forward customer documents in relation to account-opening.
- **Prohibited agent exclusivity** but did require each service provider to have a separate agreement with each agent for supervision and liability purposes. The Kenyan regulation applies only to banks and not to MNOs such as Safaricom. Safaricom has exclusive agents.
- **Explicitly provided that an agent shall not 'subcontract'** another entity to carry out agent banking on its behalf.¹³³
- **Imposed liability on banks** for agent actions.
- **Prohibited direct fees charged by agents** to customers.

2. E-MONEY REGULATION (2013)

This regulation dictated the following:

- 'No person other than a bank or financial institution shall conduct the business of an e-money issuer unless that person is authorized to do so under this regulation.'¹³⁴
- The stock of e-money is backed 100% by accounts held at commercial banks.
- 'Every e-money account issued shall be subject to an individual transaction limit that shall not exceed 75,000 Shillings [US\$728] and an aggregate monthly load limit of 1,000,000 Shillings [US\$9,700].'¹³⁵
- 'An e-money issuer may utilize agents to perform agency services on its behalf.'¹³⁶
- 'E-money issuers are liable to their e-money accountholders for the conduct of their agents.'¹³⁷

3. NATIONAL PAYMENT SYSTEM REGULATIONS (2014)

These regulations provided a new framework for e-money issuers, establishing the following:¹³⁸

- Banks and non-banks—including MNOs—are permitted to provide MM services.
- Customer funds must be held in trust with a strongly rated, prudentially regulated bank, and no lending or investment of such funds is permitted.
- Service providers can appoint agents and are responsible for the actions of agents.
- Exclusive dealings with agents are prohibited, thus empowering agents to seek contracts with multiple service providers. This rule applies to both banks and MNOs.

¹³¹ Central Bank of Kenya, Guideline on Agent Banking, CBK/PG/15 of 2010, sect. 4.2.3, p. 10.

¹³² Ibid, set. 4.4.1, p. 11.

¹³³ Ibid, p. 12.

¹³⁴ Central Bank of Kenya, E-Money Regulation, 2013, sect. 5.1, p. 5.

¹³⁵ Ibid, sect. 7.1, p. 9.

¹³⁶ Ibid, sect. 9.1, p. 11.

¹³⁷ Ibid, sect. 9.9, p. 13.

¹³⁸ Kenya, The National Payment System Act, 2014. Available from <https://www.gsma.com/mobilefordevelopment/programme/mobile-money/kenyas-new-regulatory-framework-for-e-money-issuers>.

ANNEX 2: CONTEXT OF UGANDA

Financial sector

The Ugandan financial sector has 25 commercial banks,¹³⁹ 4 credit institutions and 5 microfinance deposit-taking institutions (MDIs) supervised by Bank of Uganda (BoU) as well as a number of saving and credit cooperatives registered as non-governmental organizations or associations that provide financial services to people in peri-urban and rural areas (see table 2.1).¹⁴⁰ In addition, 20 insurance companies are licenced and regulated by the Insurance Regulatory Authority.

Among institutions that target microfinance clients, only two banks (Equity Bank and Centenary Bank) have sufficient size to reach a mass of underserved clients; others are concentrated in certain regions or on certain types of clients. While most other players serve the general market, including businesses and consumers, EFC Uganda (an MDI) focuses exclusively on micro, small and medium enterprises with expertise and products that respond to their needs.

Since 2009, there has been a tremendous evolution in MM services that has changed the Ugandan financial landscape to include a large proportion of the population that was formerly excluded from the financial service sector (see figure II.I). As a BoU representative stated, “access to formal financial services increased from 28% in 2009 to 54% in 2013 and ... a significant part of this increase is attributed to increased access to mobile money services.”¹⁴¹

According to a 2013 FinScope report, ‘financial deepening in Uganda is still very low and the financial system remains underdeveloped in a number of respects. The banking sector is still highly concentrated with 3 out of 24 commercial banks accounting for approximately 50% of the total market share (i.e., assets, deposits and number of branches). Most commercial bank branches are concentrated in the capital, Kampala, and other urban centres leaving the rural population with no access to commercial banking services.’¹⁴²

The majority of the rural poor in Uganda rely on informal financial services, consisting mainly of community-led self-help groups and welfare funds where they save and loan money among themselves. Village savings and loans associations are particularly popular with the rural poor. They collectively save and provide loans among members, which includes paying the interest rates set by the group.

Table 2.1: Ugandan financial sector in numbers, June 2016

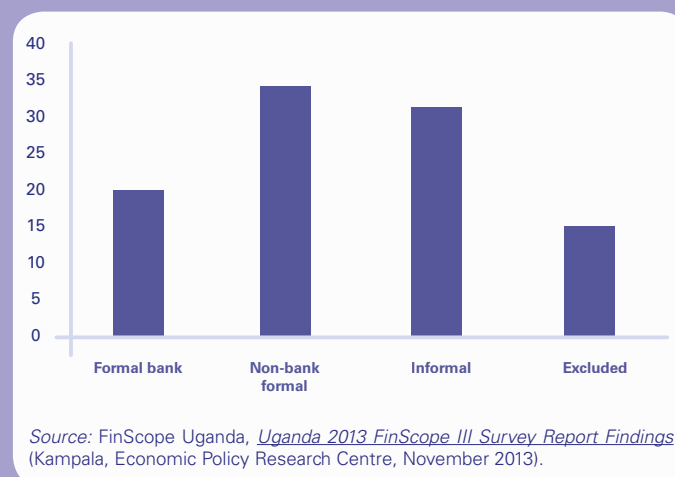
Commercial banks ^a	25
Bank branches ^b	566
MDIs	5
Credit institutions	4
Saving and credit cooperatives ^c	1 940

a Bank of Uganda, *Annual Report FY2015/2016* (Kampala, n.d.).

b UGAFODE, *Annual Report 2015* (Kampala, 2016).

c Caryn Vesperman, ‘Credit Unions Create a Better Future in Uganda’ (n.p., World Council of Credit Unions, n.d.); and, Uganda Co-operative Savings and Credit Union Limited, ‘Home.’

Figure II.I: Ugandan financial inclusion countrywide (% of those aged 15+), November 2013 (latest data available)



Telecom sector

Data from the Uganda Communications Commission (the MNO regulation body in the country) shows Uganda had more than 21 million people¹⁴³ connected to different mobile telecommunications in Q1 2016, with Airtel and MTN having the biggest share with more than 17 million users split between them (see figure II.II).¹⁴⁴

The estimated number of Internet users stood at 14.5 million in March 2016, with an Internet penetration rate of 39.8%.¹⁴⁵ In recent years, Internet subscription has grown rapidly, with mobile subscription growing faster than fixed Internet, which is attributed to the fact that the mobile phone is more attractive to individual users in terms of cost and flexibility, leaving fixed Internet mainly for large institutions.

¹³⁹ Bank of Uganda, *Annual Report FY2015/2016*.

¹⁴⁰ Caryn Vesperman, ‘Credit Unions Create a Better Future in Uganda’ (n.p., World Council of Credit Unions, n.d.). Available from http://cuworld.woccu.org/documents/CUs_Create_a_Better_Future_in_Uganda (accessed April 2017); UGAFODE, *Annual Report 2015* (Kampala, 2016); and, Uganda Co-operative Savings and Credit Union Limited, ‘Home.’ Available from <https://ucscu.coop/> (accessed April 2017).

¹⁴¹ Ivan James Ssettimba, ‘Mobile Money in Uganda,’ presentation, 14–16 March 2016, slide 5. Available from <https://www.theigc.org/wp-content/uploads/2016/03/3-Ivan-Ssettimba-Bank-of-Uganda.pdf>

¹⁴² FinScope Uganda, *Uganda 2013 FinScope III Survey Report Findings*, p. 2 (Kampala, Economic Policy Research Centre, November 2013). Available from https://www.bou.or.ug/opencms/bou/bou-downloads/Financial_Inclusion/Finscope-Report-2013.pdf

¹⁴³ Out of a total population of 39 million. Source: World Bank, ‘Where We Work: Uganda,’ 2015 data. Available from <http://www.worldbank.org/en/country/uganda>

¹⁴⁴ Cartesian, ‘Mobile Network Access for MVNOs: Market Assessment,’ v. 1.0 (n.p., 30 January 2015). Available from http://www.ucc.co.ug/files/downloads/SMP_Report_Mobile%20Network%20Access_April%202015.pdf

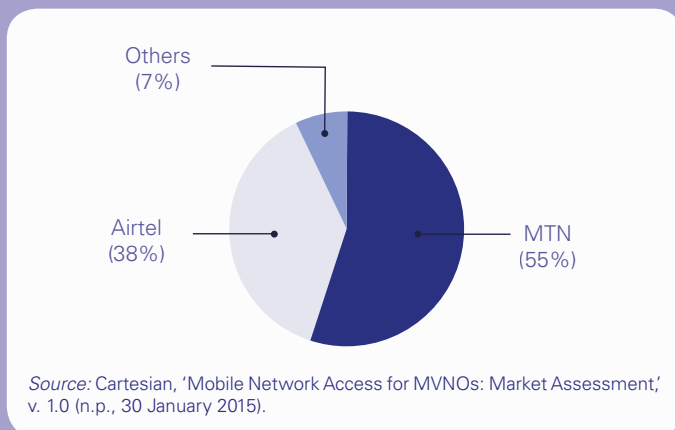
¹⁴⁵ Uganda Communications Commission, ‘Post, Broadcasting and Telecommunications Market and Industry Report: First Quarter (January–March 2016)’ (Kampala, n.d.). Available from <http://www.ucc.co.ug/files/downloads/Q1-Market-Report-for-Jan-March-2016-Mbaga.pdf> (accessed April 2017).

ANNEX 2: CONTEXT OF UGANDA (continued)

67

According to a 2015 InterMedia survey, 85% of Ugandans have access to a mobile phone and 55% own a phone.¹⁴⁶

Figure II.II: Market shares of mobile network operators in Uganda (% of subscribers), 2015



Digital financial service initiatives

MM was introduced in Uganda in March 2009. As of the end of 2016, there were seven MM providers. The main MM brands are MTN Mobile Money by MTN, Airtel Money by Airtel, Orange Money by Africell, M-Sente by Uganda Telecom, and Smart Pesa by Smart Telecom.

MM providers require a partnership with a supervised FI, where they must hold in an escrow account the equivalent of all the MM that has been issued. MM providers and their partner FIs are supervised by BoU.

DFS, especially MM and agency banking, in Uganda has grown quickly in the last few years and covers the whole country. As of January 2017, 92% of the population has access to an MM agent within five km, while only 2% has access to an MFI and only 1% to a bank branch within five km.¹⁴⁷ As explained by Humanitarian OpenStreet Map Team, 'access to digital financial services is fundamental to enabling poor people to become more economically stable, prosperous, and resilient. These services—payments, credit, savings and insurance offered through mobile phones or other technology—are reaching millions of people around the world who had not previously been included in the financial system. Historically, being included in the system meant living close enough to access a physical bank branch, credit union or ATM location. With the advent of mobile money, location still matters, but proximity of the nearest mobile money agent is now more important than the nearest bank branch or ATM.'¹⁴⁸

According to a report by the European Investment Bank and UNCDF, there were 14.2 million registered users in Uganda as of the end of 2013, representing 77% of adults, with active user rates at just under 29% of adults.¹⁴⁹ The number of registered MM users as of June 2016 was 19.6 million (>50% of the total population).¹⁵⁰ Active account ownership grew from 30% of Ugandans in 2013 to 34% in 2015, according to an InterMedia survey.¹⁵¹

The number of MM transactions stood at 809 million as of June 2016, representing U Sh 37 trillion (US\$10 billion), an increase by 41% over the previous year.¹⁵²

Regulation of mobile financial services

DFS in Uganda are regulated by BoU, which published guidelines providing clarity on the roles and responsibilities of MM service providers, customers, FSPs, MM agents and other parties involved in the provision of MM services in Uganda. The first guidelines were issued in October 2013.¹⁵³ In January 2016, BoU released new guidelines for agency banking: the Financial Institutions (Amendment) Act, 2016.¹⁵⁴ These new guidelines were developed in partnership with the Uganda Communications Commission. Up to that time, regulation allowed MNOs to offer DFS, including wallets and agents. The new regulation paves the way for FIs to engage in agency banking. Banks in Uganda are currently in the process of developing their agency banking or mobile banking channels.

146 N=3,000, 15+, July–August 2015. Source: InterMedia, 'Uganda: Wave 3 Report—FII Tracker Survey' (n.p., February 2016). Available from <http://finclusion.org/uploads/file/reports/2015%20InterMedia%20FII%20UGANDA%20Wave%20Report.pdf>

147 www.fspmaps.com, 'Uganda.' Available from [http://www.fspmaps.com/#/map@1.095819,32.082825,8\(dark,cicos_uganda\),Uganda?country-summary=open](http://www.fspmaps.com/#/map@1.095819,32.082825,8(dark,cicos_uganda),Uganda?country-summary=open)

148 HOT, 'Mapping Financial Inclusion in Uganda.' Available from https://www.hotosm.org/projects/mapping_financial_inclusion_in_uganda (accessed April 2017).

149 European Investment Bank and UNCDF, 'Digital Financial Services in Africa: Beyond the Kenyan Success Story' (n.p., December 2014). Available from http://www.eib.org/attachments/country/study_digital_financial_services_in_africa_en.pdf

150 Bank of Uganda, *Annual Report FY2015/2016*.

151 N=3,000, 15+, July–August 2015. Source: InterMedia, 'Uganda: Wave 3 Report—FII Tracker Survey.'

152 Bank of Uganda, *Annual Report FY2015/2016*.

153 Bank of Uganda, Mobile Money Guidelines, 2013. Available from https://www.bou.or.ug/bou-downloads/Financial_Inclusion/Mobile-Money-Guidelines-2013.pdf

154 Uganda, The Financial Institutions (Amendment) Act, 2016, Act 2 of 4 February 2016. Available from https://www.bou.or.ug/bou-downloads/acts/supervision_acts_regulations/FI_Act/Fin-Amendment-Act-2016.pdf

ANNEX 3: CONTEXT OF THE UNITED REPUBLIC OF TANZANIA

Market situation for financial institutions

The United Republic of Tanzania was the second country, after Kenya, to introduce agency banking. It did so for two main reasons: first, out of a population of 45 million, only 12% was banked in 2009; and second, access to financial services in the country was limited as evidenced by the fact that 81% of adults (age 15+) did not have an account at an FI.¹⁵⁵ Despite the presence of many banks, the majority of Tanzanians were financially excluded. Figure III.I and table 3.1 provide specific financial inclusion data in the country.

In its 2014/2016 National Financial Inclusion Framework, Bank of Tanzania (BOT) set a target of 80% of the adult population using a financial access point by end-2016.¹⁵⁶

Telecom sector

Policy reforms have led the Tanzanian telecom sector to become one of the most liberal in Africa. Operators are regulated by the Tanzania Communications Regulatory Authority. About **12 MNOs** are currently operating or in the process of starting business. There are **five leading MNOs** in the country, with **Vodacom Tanzania** holding the largest market share. Mobile penetration has reached 83%, with nearly 40 million subscribers.¹⁵⁷ Table 3.2 offers more specifics on the telecom sector.

Table 3.1: Financial institutions in United Republic of Tanzania

Commercial banks	40
Development financial institutions	3
Community banks	11
Microfinance banks	5
MFIs ^a	170
SACCO initiatives	5 845
Credit bureaux	2
Gross national savings (% of GDP)	22.6
Commercial bank prime lending rate (%)	16.1

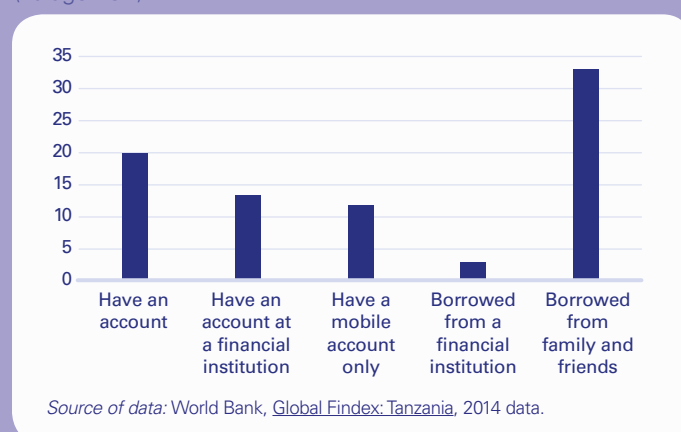
Sources of data (unless otherwise noted): Tanzania National Council for Financial Inclusion, 'National Financial Inclusion Framework: A Public – Private Stakeholders' Initiative' (n.p., n.d.); BOT, 'Directory of Banks and Financial Institutions Operating in Tanzania' (n.p., April 2017).

^a BOT, 'Directory of Banks Operating in Tanzania.'

Note: No more recent data could be obtained.

Acronyms: GDP, gross domestic product; SACCO, savings and credit co-operative

Figure III.I : Financial inclusion in the United Republic of Tanzania (% age 15+)



Digital financial service initiatives

The Tanzanian DFS landscape has developed very rapidly. In 2008, there were just two non-bank e-money issuers. The sector has since grown to include five leading MNOs as MM providers as well as 14 banks that offer DFS. Among banks, some such as CRDB Bank, Ecobank and National Microfinance Bank have developed their own agent network.

The MM services of the five MNOs are M-Pesa for Vodacom (41% market share of MM), Airtel Money for Airtel (25%), Tigo Pesa for Tigo (32%), HaloPesa for Halotel and Ezy Pesa for Zantel. More than 160,000 agents are operating with about 20,000 financial access points.¹⁵⁸

In 2013, when agency banking started, there were 97 transactions per user and 31.5 million mobile accounts (representing 64% of the population), of which 11 million (22%) were active.¹⁵⁹ By end-2015, registered active users of mobile financial services amounted to 19 million.¹⁶⁰ Forty-five percent of Tanzanians lived within a five km radius of a financial access point due to the expansive MM agent network.¹⁶¹ There are now more mobile accounts than FI accounts. Table 3.3 summarizes the different access points to digital finance available in the country.

155 Financial Sector Deepening Trust, 'FinScope 2009 Survey: The demand for, and barriers to, accessing financial services in Tanzania' (Dar es Salaam, n.d.).

156 Tanzania National Council for Financial Inclusion, 'National Financial Inclusion Framework: A Public – Private Stakeholders' Initiative' (n.p., n.d.). Available from <https://www.afii-global.org/sites/default/files/publications/tanzania-national-financial-inclusion-framework-2014-2016.pdf> (accessed September 2017).

157 Paul Budde Communication, 'Tanzania - Telecoms, Mobile, Broadband and Digital Media - Statistics and Analyses.' Available from <https://www.budde.com.au/Research/Tanzania-Telecoms-Mobile-Broadband-and-Digital-Media-Statistics-and-Analyses> (accessed September 2017).

158 PHB Development with e-MFP Digital Innovations for Financial Empowerment Action Group, 'FINCA EXPRESS Tanzania: Mobilizing Savings Through Agency Banking' (n.p., October 2015).

159 WSBI and PHB Development with e-MFP Digital Innovations for Financial Empowerment Action Group, 'Tanzania Postal Bank: Digital Financial Inclusion Through Popote' (n.p., October 2016).

160 Ibid.

161 Financial Sector Deepening Trust, 'GIS Census of Financial Access Points: Highlights 2014' (Dar es Salaam, 2015).

ANNEX 3: CONTEXT OF THE UNITED REPUBLIC OF TANZANIA (continued)

Table 3.2: Market share of mobile network operators in the United Republic of Tanzania

Telecom operator	Ownership	Market share (%)
Vodacom Tanzania	Vodacom (65%); Mirambo Ltd (35%)	32
Tigo	Millicom (100%)	28
Airtel	Bharti Airtel (100%)	26
Halotel	Viettel (100%)	9
Zantel	Millicom (85%); Zanzibar Government (15%)	2
Tanzania Telecommunications Company Limited	State (100%)	1
Others	-	2

Source of data: Tanzania Communications Regulatory Authority, March 2017 statistics.

Table 3.3: Digital financial access points in the United Republic of Tanzania

Digital finance access points	Number
MM	16 551
MFIs	1 084
Commercial banks	478
Bus stands	403
Offsite ATMs	367
Post offices	202

Source: Table from PHB Development with e-MFP Digital Innovations for Financial Empowerment Action Group, 'FINCA EXPRESS Tanzania: Mobilizing Savings Through Agency Banking,' p. 5 (n.p., October 2015).

Regulation of mobile financial services

BOT issued agency banking guidelines in February 2013,¹⁶² which allowed FIs to appoint retail agents as banking agents for the first time. Further, in 2014, the United Republic of Tanzania became the first country to successfully develop and implement standard business rules for interoperable DFS transactions.

¹⁶² Bank of Tanzania, *Guidelines on Agent Banking for Banking Institutions*, 2013 (Dar es Salaam, 2013). Available from <http://www.bot.go.tz/BankingSupervision/GUIDELINES%20ON%20AGENT%20BANKING%20FOR%20BANKING%20INSTITUTIONS%202013.pdf>.

ANNEX 4: CONTEXT OF BENIN

Financial inclusion

Despite the work of the Government of Benin towards the professionalization of the microfinance sector, the strong involvement of regulators in the development of the sector and the presence of strong players (ALIDé, FECECAM, PADME), the level of financial inclusion in Benin still remains lower than in neighbouring countries in sub-Saharan Africa: only 17% of those 15+ have an account at a formal FI¹⁶³ (versus 34% for sub-Saharan Africa).¹⁶⁴ See figure IV.I for more detail on financial inclusion in the country.

The first MFIs were established in the 1990s, following the closure of development banks and the need for financing of the informal sector and the agricultural sector. However, activities are mainly concentrated in the three largest cities: Cotonou, Porto-Novo and Parakou. Coverage in rural areas is limited.

Telecommunications

The mobile phone sector enjoys effective competition among MTN, Moov, Glo Mobile (Globacom). See figure IV.II for their specific market shares. Of these operators, MTN is the largest with 46% of mobile subscribers.¹⁶⁵ These MNOs have pushed market penetration to about 82%.¹⁶⁶ Although Libercom is displayed in figure IV.II, the Council of Ministers of the Republic of Benin ordered its dissolution. Bell Bénin had its MNO licence withdrawn in August 2017.

Orange Group is said to be making headway towards entering the telecommunications market soon.

Mobile money and digital financial services

The high penetration of mobile phones combined with developments in the information and communications technology sector (4G, network portability, etc.) means the environment in Benin is conducive to the development of DFS.

While digital finance is still nascent in Benin, the sector is developing rapidly. Two MNOs launched an MM solution, MTN in 2010 and Moov in 2013. One MFI, ASMAF, obtained its licence to become an e-money issuer in 2015.

Today, the sector is largely dominated by MTN Mobile Money, in terms of number of transactions, customer confidence, and quality and presence of its agent network. In September 2017, MTN reached 1 million MM active subscribers (i.e., 25% of the MTN Benin subscriber base). MFIs are also showing a growing interest in the development of digital finance solutions.

However, DFS remain largely dominated by credit purchase services and domestic remittance services through the MM wallet, where the MFIs are mainly serving as agents on behalf of MNOs. The enthusiasm of the various stakeholders (MFIs, MNOs and the Government) on the subject, combined with the regulatory mechanisms in place, together suggest a favourable future for the development of the financial ecosystem in Benin.

¹⁶³ World Bank, 'Financial Inclusion Data / Global Findex: Benin,' 2014 data. Available from <http://datatopics.worldbank.org/financialinclusion/country/benin>.

¹⁶⁴ World Bank, 'Financial Inclusion Data / Global Findex: Sub-Saharan Africa,' 2014 data. Available from <http://datatopics.worldbank.org/financialinclusion/region/sub-saharan-africa>

¹⁶⁵ Autorité de régulation des communications électroniques et de la poste, 'Statistics'

¹⁶⁶ GSMA Intelligence, data available through registration.

Figure IV.I: Financial inclusion in Benin, 2016 (% of those aged 18+)

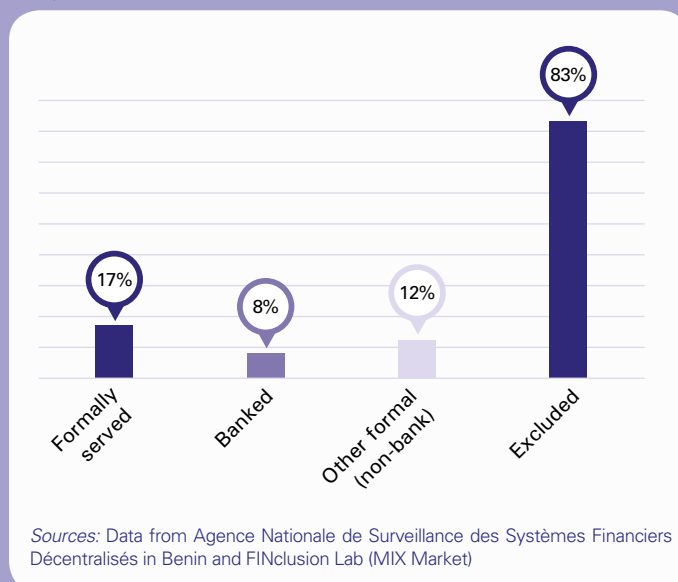
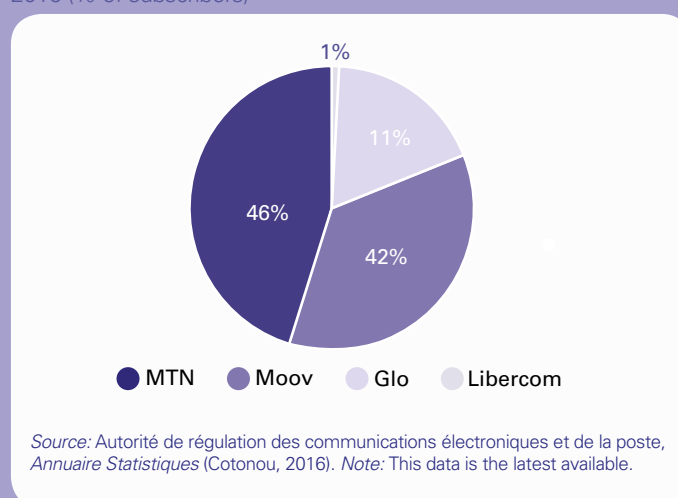


Figure IV.II: Market share of mobile network operators in Benin, 2016 (% of subscribers)



Key regulation of mobile financial services

Mobile financial services are regulated by BCEAO, through Instruction n° 008-05-2015, governing the conditions and modalities of the activities of the issuers of e-money in the member states of the West African Economic and Monetary Union. This Instruction allows all types of actors offering financial services (commercial banks and MFIs) to offer digital services.

By allowing two types of models for the issuance of e-money (the bank model and the non-bank model), the pathway for MNOs to create e-money-issuing subsidiaries is clearer. MTN is, for example, embarking on that path.

ANNEX 5: DETAILS ON COMMERCIAL BANK OF AFRICA—SAVINGS ACCOUNTS

71

In addition to the basic savings account offered in all four countries of operations of the CBA DC&S products, some countries also offer more advanced saving features.

The **M-Shwari Lock Savings Account in Kenya** has no monthly fees and allows the customer to save for a specific purpose during a predefined period of time. The minimum deposit is KSh 500 (US\$5), and the saved amount in the M-Shwari Lock Savings Account is kept in the account until the maturity date. The maturity date, which is between one and six months, is set when opening the account. For this account, the customer has the option to save either from the M-Pesa account or from the M-Shwari basic savings account. The client can make additional deposits into the account and withdraw at any time, but these transactions imply losing the interest. The interest rate is constant during the investment period, calculated daily and paid out at maturity. Savings in the M-Shwari Lock Savings Account earn an interest of 7% p.a., being 70% of the Central bank Rate, in line with the Banking (Amendment) Act, 2016.¹⁶⁷

The average amount saved by customers in these locked accounts is US\$89 versus US\$5 on average for traditional savings accounts. About 147,000 customers used this type of product at the end of 2016.¹⁶⁸

The average savings term of these locked accounts is 3.8 months.

The **MoKash auto-saving feature in Uganda** allows the customer to set a saving schedule (daily, weekly, monthly), which facilitates the saving process. The customer can choose any amount to auto-save. The money is automatically moved from the MTN Mobile Money account to the MoKash savings account in the case of the basic savings account.



Dear Customer, your request to open a Lock Savings Account has been received and will be processed shortly.



Dear Customer, your Lock Savings Account balance is Ksh. 2000. The maturity date is 30/05/2017.



Dear Customer, your Lock Savings Account has matured and Ksh 2,007.99 (savings and interest) moved to M-Shwari. M-Shwari balance is Ksh. 2,007.99.

Screenshot from M-Shwari Lock Savings Account
Courtesy of PHB Development

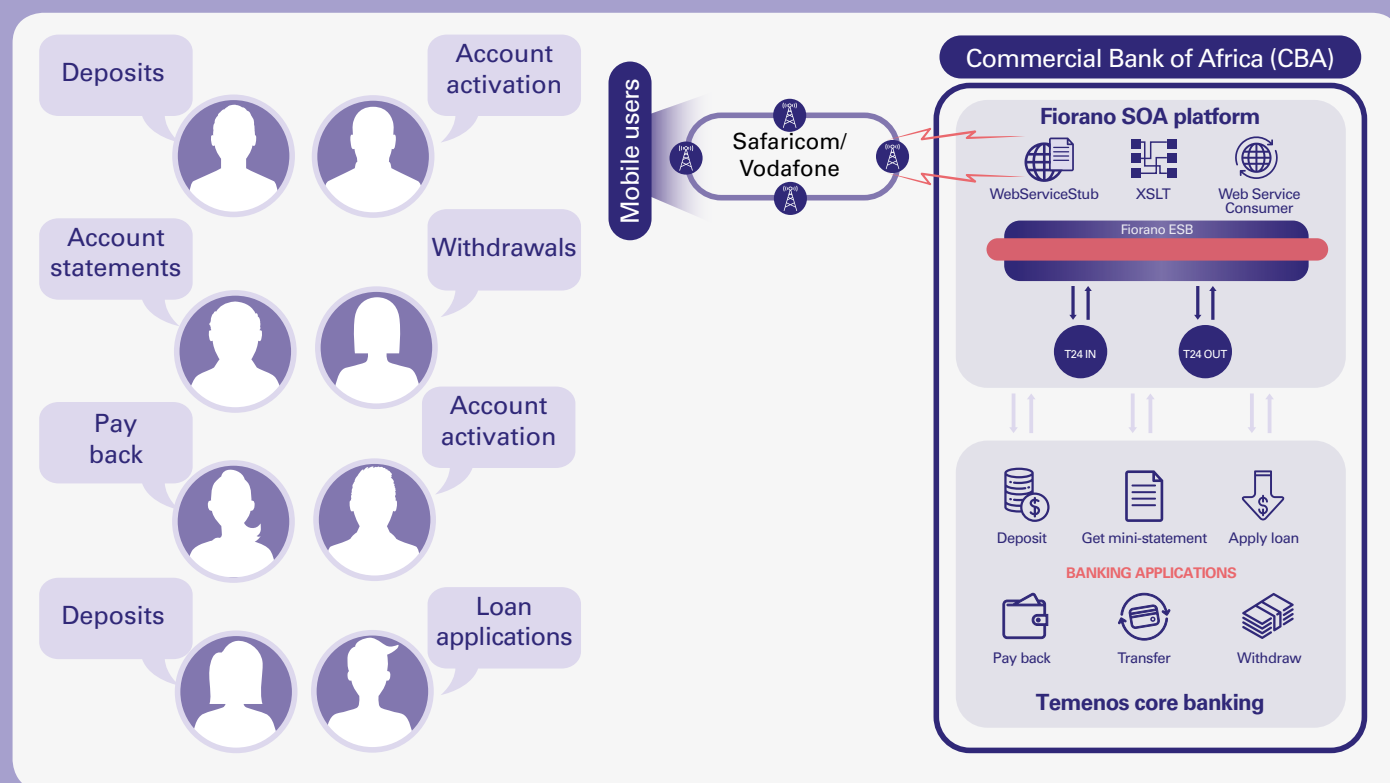
¹⁶⁷ CBA, 'M-Shwari Lock Savings Account'.

¹⁶⁸ CBA, 'M-Shwari', infographic. Available from <http://pubdocs.worldbank.org/en/669641476811886656/Session-3-Arthur-Gichuru-CBA-Group-Mshwari-Infograph-USD.pdf>.

ANNEX 6: DETAILS ON COMMERCIAL BANK OF AFRICA—TECHNICAL INTEGRATION OF M-SHWARI

To integrate the different systems, servers and databases, two flows (synchronous and asynchronous) were built on the Fiorano SOA platform (see also figure VI.I).¹⁶⁹

Figure VI.I: Fiorano platform at Commercial Bank of Africa in Kenya



Source: Fiorano, 'Case study: Commercial Bank of Africa Ltd (CBA)', p. 2 (n.p., 2012–2013).

Acronyms: ESB, enterprise service bus; XSLT, extensible stylesheet language transformations

1. Synchronous – Web service flow for account information and savings

Synchronous web services (i.e., in real time) send data and provide an instant response to requests. In practice, it means that the customer receives immediate answers to queries (SMS) during a session (e.g., savings balance, loan limit).

2. Asynchronous – Flow for customer registration and loan application status

Asynchronous messaging is used for operations such as registration and loan requests, which can take a long time to process.

In the case of M-Shwari, 'when a request is sent for a new customer activation or a loan application, a "Know Your Customer" verification is first performed at the Government of Kenya Integrated Population Registry System [sic]' and then the flow is picked up by Temenos T24 at CBA and the updated status is sent as a 'message to the Web Service hosted at Safaricom, which finally informs the user on the status of their loan (or other) application status.'

In practice, it means that the customer initiates a session, requests to register and closes the session. Afterwards, the customer first receives an SMS confirmation that the registration is being processed and then another SMS to confirm approval. For a loan, the customer initiates a session, enters the desired loan amount and closes the USSD or STK session. Then, the customer receives an SMS informing him/her either if the loan has been approved or if it has been denied. Approvals are not completed in real time during the same session.

169 The following case study was the source from which figure VI.I was based, on which the explanations of flows in the paragraphs above were based, and from which the quoted text in this Annex was taken. Source: Fiorano, 'Case study: Commercial Bank of Africa Ltd (CBA)', pp.2–3 (n.p., 2012–2013). Available from <http://www.fiorano.com/customers/casestudies/CBA-Mobile-Banking.pdf>

ANNEX 7: DETAILS ON COMMERCIAL BANK OF AFRICA—BRANDING AND MARKETING STRATEGIES USED IN DIFFERENT COUNTRIES

73

M-Shwari in Kenya: How it was promoted in recent example

Stawisha Na M-Shwari (meaning develop or cultivate in Swahili) was a six week promotion in April/May 2017 to reward customers for their M-Shwari savings and loans. Its purpose was to increase customer savings, contribute to a savings culture in Kenya, encourage M-Shwari customers to pay back their loans and to further deepen financial inclusion in the country.

Every time a customer deposited money into his/her M-Shwari account, the customer earned points that would enter him/her into a drawing. Prizes included the following:

- One Grand Prize Winner – KSh 5,000,000 (US\$48,400)
- One Weekly Winner – KSh 1,000,000 (US\$9,700)
- 50 Weekly Winners – KSh 100,000 (US\$970)
- 100 Daily Winners – M-Shwari savings balance doubled¹⁷⁰

Additionally, M-Shwari constantly challenges customers to save using SMS as a tool.

Another ongoing savings challenge is the **#52WeekSavingChallenge**, which also aims at creating and cultivating a savings culture among Kenyans through M-Shwari.¹⁷¹ The challenge started in the first week of January 2017, with a deposit of KSh 50 (US\$0.50). The goal is to reach KSh 68,900 (US\$668) by the end of the year. To do so, Safaricom created a savings schedule that encourages its customers to save every week in gradually increased amounts.¹⁷²

M-Pawa in the United Republic of Tanzania: How it was introduced

While using communication related to achieving dreams, M-Pawa was also introduced to the Tanzanian market as a more secure alternative to save than *kibubu* (meaning hiding place), a popular savings method in the country. According to InterMedia Financial Inclusion Tracker Data, 8% of Tanzanian households were using bank accounts to save/store money in 2012; yet, 34% of households were still keeping their savings in a hiding place.¹⁷³ M-Pawa was promoted as the way to eliminate concerns related to safe storage of savings.

MoKash in Uganda: How it was advertised

In Uganda, CBA and MTN chose to advertise mostly through billboards, television and radio ads, leaflets and SMS. MTN staff members were involved in product advertising on television and radio, and they did interviews during which they responded to customer queries and addressed customer concerns. Communication focused on a mother and child for savings and on a *boda boda* (motorbike driver) for savings and loans. Television ads were about building the future through savings for education of children.

¹⁷⁰ Safaricom Kenya, 'Stawisha Na M-Shwari.' Available from <https://www.safaricom.co.ke/personal/get-more/promotions/stawisha-na-m-shwari> (accessed October 2017).

¹⁷¹ See <https://www.safaricom.co.ke/personal/m-pesa/do-more-with-m-pesa/the-m-shwari-52-week-challenge>.

¹⁷² See <http://www.rookie-manager.com/how-to-save-for-the-52weekchallenge-with-m-shwari-lock-savings/>.

¹⁷³ Sidra Butt, 'A Demand for Secure Savings Exists Among Tanzanians; M-Pawa may Prove to be a Viable Savings Option – Especially for Those in Rural Areas,' 15 October 2014. Available from <http://finclusion.org/blog/a-demand-for-secure-savings-exists-among-tanzanians-m-pawa-may-prove-to-be-a-viable-savings-option-especially-for-those-in-rural-areas.html>.



Are you taking the 52 week challenge? You should have saved Ksh. 9,500 this week. Grow your savings in the M-Shwari Lock Savings A/c to Ksh. 68,900 by December



The M-Shwari #52WeekSavingChallenge is on week 23. If you are on the challenge, deposit Ksh.1,150 this week to grow your saving to Ksh.68,900 by December



Dear customer, saving money is not impossible and reaching your goal is easier if you start by making a plan

Screenshot of SMS sent to M-Shwari client to encourage savings
Courtesy of PHB Development



Advertising on dreams from M-Pawa Tanzania

Source: M-Pawa website



On the left: Advertising on savings and credit for MoKash in Uganda - featuring a motorbike driver

On the right: Advertising on savings for MoKash in Uganda: featuring a mother and her child

Source: MTN communication

ABOUT MICROLEAD

MicroLead, a UNCDF global initiative which challenges financial service providers to develop, pilot and scale deposit services for low income, rural populations, particularly women, was initiated in 2008 with support from the Bill & Melinda Gates Foundation and expanded in 2011 with support from Mastercard Foundation and LIFT Myanmar. It contributes to the UN's Sustainable Development Goals, particularly SDG 1 (end poverty), SDG 2 (end hunger, achieve food security and promote sustainable agriculture) and SDG 5 (achieve gender equality and economic empowerment of women), as well as the Addis-Abeba Financing for Development Agenda (domestic resource mobilization).

MicroLead works with a variety of FSPs and Technical Service Providers (TSPs) to reach into previously untapped rural markets with demand-driven, responsibly priced products offered via alternative delivery channels such as rural agents, mobile phones, roving agents, point of sales devices and informal group linkages. The products are offered in conjunction with financial education so that customers not only have access but actually use quality services.

With a specific emphasis on savings, women, rural markets, and technology, MicroLead is a performance-based programme that supports partnerships which build the capacity of financial institutions to pilot and roll out sustainable financial services, particularly savings. As UNCDF rolls out the next phase of MicroLead, it will continue to focus on facilitating innovative partnerships that encourage FSPs to reach into rural remote populations, build on existing digital financial infrastructure and emphasize customer-centric product design.

For more information, please visit www.uncdf.org/microlead. Follow UNCDF MicroLead on Twitter at @UNCDFMicroLead.

ABOUT PHB ACADEMY

PHB Academy provides training and coaching aimed at improving financial inclusion. We focus on increasing the take-up and usage of digital financial services (DFS). PHB Academy offers training and coaching face-to-face and online, as well as in blended format (a mix of face-to-face and e-learning). Workshops and programmes can be custom-designed and tailored to our clients' specific needs. The design of our programmes is based on the latest insights in adult learning and executive coaching. We change behaviour by doing more than just transferring technical knowledge. We focus on the development of the practical skills and positive attitudes that managers and field staff need to design, manage and deliver DFS in a sustainable manner. Experiential learning methods and a focus on self-management are key to our success. Our offer is available to financial institutions, mobile network operators, remittances & payment providers and development agencies that pursue financial inclusion through innovative delivery channels.

PHB Academy is the Training & Development Practice of PHB Development, a specialist consulting firm with operations across the world. Since 2006, PHB Development has been committed to increasing financial inclusion in underserved markets. PHB has helped its clients develop viable financial services and delivery channels throughout more than 100 projects.

For more information, please visit <http://phbdevelopment.com/>. Follow PHB at @PHBDevelopment on Twitter.

75 ABOUT UNCDF

UNCDF is the UN’s capital investment agency for the world’s 47 least developed countries. With its capital mandate and instruments, UNCDF offers “last mile” finance models that unlock public and private resources, especially at the domestic level, to reduce poverty and support local economic development. UNCDF’s financing models work through two channels: financial inclusion that expands the opportunities for individuals, households, and small businesses to participate in the local economy, providing them with the tools they need to climb out of poverty and manage their financial lives; and by showing how localized investments — through fiscal decentralization, innovative municipal finance, and structured project finance — can drive public and private funding that underpins local economic expansion and sustainable development. By strengthening how finance works for poor people at the household, small enterprise, and local infrastructure levels, UNCDF contributes to SDG1 on eradicating poverty and SDG 17 on the means of implementation. By identifying those market segments where innovative financing models can have transformational impact in helping to reach the last mile and address exclusion and inequalities of access, UNCDF contributes to a number of different SDGs.

For more information, please visit www.uncdf.org and sign up for our Newsletter at <http://uncdf.org/en/content/subscribe-our-newsletter>. Follow UNCDF at @UNCDF on Twitter and Facebook.

ABOUT MASTERCARD FOUNDATION

Mastercard Foundation works with visionary organizations to provide greater access to education, skills training and financial services for people living in poverty, primarily in Africa. As one of the largest private foundations its work is guided by its mission to advance learning and promote financial inclusion to create an inclusive and equitable world. Based in Toronto, Canada, its independence was established by Mastercard when the Foundation was created in 2006.

For more information and to sign up for the Foundation’s newsletter, please visit www.mastercardfdn.org. Follow the Foundation at @MastercardFdn on Twitter.



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