A NEW BANKING MODEL FOR AFRICA:
Lessons on digitization from four years of operations

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IFC | International Finance Corporation
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Creating Markets, Creating Opportunities

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Table 1: DFS definitions[1]

DFS	Definition
AGENT NETWORK	A network of banking agents. More generally, an agent is any third-party acting on behalf of a financial institution or a non-bank institution to deal directly with customers, under contractual agreement. Here, agents are contracted by a bank (bank agents) to provide services on their behalf, most importantly cash-in and cash-out. Agents may (if permitted under local regulations) engage sub-agents to carry out activities on behalf of the financial institution. • **Proprietary versus non-proprietary (third party):** A proprietary agent network is a network the financial institution recruits, equips, manages, and brands itself. A non-proprietary (third party) agent network is a network that is owned, equipped, managed, and branded by an external partner, such as a Mobile Network Operator or other payment network.[2] • **Exclusive versus non-exclusive:** An exclusive agent serves only one Digital Financial Service provider. An agent who serves more than one DFS providers is non-exclusive. • **Dedicated versus non-dedicated:** Dedicated agents only conduct DFS business for one or multiple providers. More common though is that agents also run other kinds of businesses, known as non-dedicated agents. • **Static versus roving (mobile):** A roving (or mobile) agent is (part-time) moving through villages, market areas, etc. It is a "doorstep service" that serves customers where they live and work rather than making them find the nearest static agent outlet. The service is especially applicable to the collection of daily savings from market traders.
MOBILE BANKING	Mobile banking (or m-banking) is a service provided by a bank or other financial institution that allows its customers to conduct conventional financial transactions remotely using a mobile device such as a simple feature phone, smartphone or tablet. • **USSD versus application:** Unstructured Supplementary Service Data (USSD) technology is similar to Short Messaging Service, but, unlike SMS, USSD transactions occur during the session only. USSD is accessible from any type and model of mobile phone and therefore is currently the best available technology to deliver mobile financial services to low-income customers. Mobile banking via application requires a smartphone or tablet with internet access – which low-income populations often still lack.
INTERNET BANKING	Internet banking (or e-banking) is an electronic payment system that enables customers of a bank to conduct a range of financial transactions through the financial institution's website.
DEBIT CARD	A debit card is a bank card that allows bank account holders to pay third parties directly from their account balances electronically. If the available funds on the account are insufficient, the transaction is not completed.
PREPAID CARD	Unlike a debit card, a prepaid card is not linked to a bank account. Generally, when a customer uses a prepaid card, he or she is using money that has been loaded onto the card in advance.

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1   *See AFI "Digital Financial Services Basic Terminology" 2016: https://www.afi-global.org/sites/default/files/publications/2016-08/Guideline%20Note-19%20 DFS-Terminology.pdf*
2   *See the Mastercard Foundation & BFA "Alternative Delivery Channels for Financial Inclusion: Opportunities and Challenges in African Banks and Microfinance Institutions" 2016: https://mastercardfdn.org/wp-content/uploads/2018/06/BFA_ADC_FIpaper_April2017-Accessible.pdf*

EXECUTIVE SUMMARY

The ongoing Fourth Industrial Revolution is a technological transformation that is changing the way we live, work and communicate. It is altering every aspect of our society and economy, including the financial sector. In Sub-Saharan Africa, 44 percent of the population subscribed to mobile services in 2017. By 2025, the number of subscribers is expected to grow to 52 percent, and 87 percent of those subscribers are expected to have mobile broadband access.[3] Results of the 2017 Global Findex survey reveal significant progress in financial inclusion driven by a new generation of financial services accessed through mobile phones and the internet. Still, with 57 percent of its population lacking any form of bank account, Sub-Saharan Africa remains the region with the greatest potential for the adoption of Digital Financial Services (DFS).[4]

From 2014 to 2018, IFC and the Mastercard Foundation conducted a longitudinal study with nine partner financial institutions (FIs) in seven Sub-Saharan African countries to understand if Digital Financial Services are a viable strategy for these institutions to expand financial access. More precisely, the study explains the strategic objectives of the institutions and describes how they planned and implemented their DFS rollouts. The study aimed at extracting lessons on implementing internal change management, as well as measuring the impact DFS has on business growth, sustainability, outreach and adoption. The study is unique as it identifies valuable benchmarks on DFS implementation that fit the banking context, which differs from many studies in the existing literature that focus on MNO-led DFS implementations. It serves as a guide for target-setting and strategic engagement of FIs seeking to implement or scale digital channels. The study also differentiates itself by focusing on many institutions over multiple years and countries.

By the end of the study period, the participating institutions had overcome many external and internal challenges and were successfully running their digital channels. Channel maturity varied among institutions. Five of the financial institutions expanded their original DFS scope to explore other service offerings. Lessons from the study centered around four main themes: strategy and business case, staff buy-in, data, and DFS management. The research team also documented the impact of DFS on outreach and banking operations.

Study results show that digital strategies are dynamic, requiring constant readjustment based on client feedback and changes in market conditions. Although all FIs had a compelling business plan and strategy before developing their DFS, these had to be constantly fine-tuned and adopted to successfully grow their businesses. The original DFS assumptions, in particular around client outreach and uptake, had to be adjusted to the realities of financial services providers. Moreover, a digital strategy requires internal support from staff, and a financial institution has to define ways to overcome their clients' initial resistance and fear of going digital. The study also revealed that most successful DFS implementations used strong data-driven approaches to monitor and assess DFS operations and they are using those insights to refine products and services, thereby improving customer service and the overall experience. That said, given that most FIs in the study started their DFS offering from scratch, internal capacities needed to be built and the costs for that development were often higher than anticipated. The institutions also had to learn how to assess and work with external partners (i.e. mobile network operators, technology companies, among others). For several of the participating FIs, managing partnerships was a challenge. With respect to agent banking, FIs saw the importance of prioritizing quality over quantity, and providing the right incentives to network agents.

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3 See GSMA "The Mobile Economy Sub-Saharan Africa 2018": https://www.gsma.com/mobileeconomy/sub-saharan-africa/
4 See World Bank Global Findex Database 2017 "Account (% age 15+)", retrieved from: https://globalfindex.worldbank.org/

OVERVIEW

From 2014 to 2018, IFC and the Mastercard Foundation conducted a research study on the implementation of Digital Financial Services with nine financial institutions across seven markets in Sub-Saharan Africa. The objective was to understand implementation strategies, the effect of digital channels on business models, and the impact of digital transformation on the institutions. This report shares the findings and best practice insights gained from the research.

All nine FI partners successfully implemented digital channels over the study period, some starting earlier than others. Although all the institutions faced significant external challenges (e.g. regulation, market context), as well as internal challenges (e.g. staff resistance, technology incompatibility), by 2018 the first FIs had outsourced significant shares of their transactions to the digital channels. The institutions with more mature channels are reporting that they are on their way to reaching financial sustainability and are already covering agent commission costs with generated fee income. Several institutions are expanding the initial strategic scope of DFS to explore additional DFS offerings.

The study identifies a number of lessons from FIs with established digital channels and presents best-practices for financial institutions planning new digital channels. The key findings of the study are:

- Digital channels provide a viable business model for microfinance Institutions (MFIs).
- Digital channels are effective for reaching new customers and expanding financial inclusion.
- FIs should draw on strategies, best-practices and benchmarks that are appropriate for the banking sector to successfully implement digital channels. Business models and benchmarks established from other sector actors, such as mobile network operators (MNOs), are not replicable in a traditional financial sector context.
- Change management strategies are vital to support internal and external organizational changes.

The Longitudinal Study on Digitizing Distribution Channels

The Partnership for Financial Inclusion is a $37.4 million joint IFC-Mastercard Foundation initiative to expand and advance Digital Financial Services in Sub-Saharan Africa. Under this Partnership, the Longitudinal Study is a four-year cross-country applied research project that documents the experience of nine financial institutions in seven Sub-Saharan Africa countries. In identifying best-practices, the study also supports the FIs towards implementing digital delivery channels (agent networks, mobile banking, debit cards, etc.) as part of their business operations.

The study employs a mixed-methods research approach, combining quantitative and qualitative data collection at the institutions with structured interviews and user feedback:

- **Qualitative questionnaires:** Between Q2 2014 and Q1 2018, a research team conducted four rounds of visits at the nine bank partners in Sub-Saharan Africa. Structured interviews guided all meetings with the FI management and department representatives and were later adapted to the individual context of each participating institution. These interviews touched on multiple aspects of DFS implementation, such as strategy, regulation, partnerships, markets and products, distribution, technology, risk management, business model, and other operational considerations.

- **Quantitative data:** Eight institutions that implemented digital delivery channels provided quarterly data on outreach, transaction flows, staffing, fee revenue and operating costs of the respective channels. Although nine participated in the study, one institution delayed its DFS implementation to Q4 2017 and comparative data was therefore not collected at this time. All data was collected from January 2015 to December 2017, with a later reporting start of FIs that launched their DFS after January 2015. An analysis of the data describes how digital channel implementations have evolved and affected the overall business of institutions over time. The team also conducted an assessment of how initial digital channel business model assumptions had materialized by the end of the study timeline.

- Additionally, the team interviewed agents and customers from the FIs, as well as savings and/or loan groups to incorporate the perspectives of DFS users.

The study has produced a number of intermediate publications, in addition to this report, which focus on specific areas of business strategy, best-practices and risk areas that financial institutions face when implementing Digital Financial Services:

- **Breaking Free of the Branches - Microfinance and Alternative Delivery Channels in Sub-Saharan Africa:** This field note is a recap of findings from the first round of interviews the research team conducted after most FIs had launched their DFS with plans to fully integrate the new services into the institutions' operations. Major challenges to a successful DFS rollout in this initial phase included regulation and partnerships – which delayed the project in many cases – staff capacities, technical limitations as well as risk and agent liquidity management.

- **Turning FI Digital Strategies into Reality:** This field note shares key strategic lessons from the study that FIs should consider before embarking on a DFS strategy: First, greater outreach has shown to be faster and easier to achieve than deposit mobilization, and strategic objectives evolve over time. Second, overall buy-in of staff is key, particularly when staff is in direct contact with clients. Third, agent network planning should focus on high-quality active agents[5] vis-à-vis a large number of agents. Lastly, the study found that the cost of an agent transaction is 25 percent less than the cost of a branch transaction.

- **Research Report Aligning Expectations - The Business Case for Digital Financial Services:** This research report provides a complete set of DFS financial modeling benchmarks, based on the study's findings. It is addressing one of the main challenges for the industry to date, which is the lack of sufficient information on appropriate benchmarks. Realistic expectations for a DFS solution are built from a digital strategy to guide development of the business case and a financial model to assess the long-term viability of the project.

- **Changing Change Management - Adapting Internal and External Culture in Times of Digital Transformation:** As for the effects of DFS implementation on staff and customers, the study shows that managing change is not easy and requires dealing with emotional responses and initial resistance. This field note discusses internal and external aspects of a digital transformation and how institutions should address these in their change management strategy.

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5 An active agent has completed one value transaction within 30 days. As transaction counts cash-in or cash-out from customer account, P2P payment, bill payment, etc. Balance inquiries, PIN resets and other transactions that do not involve the movement of value do not qualify as value transaction.
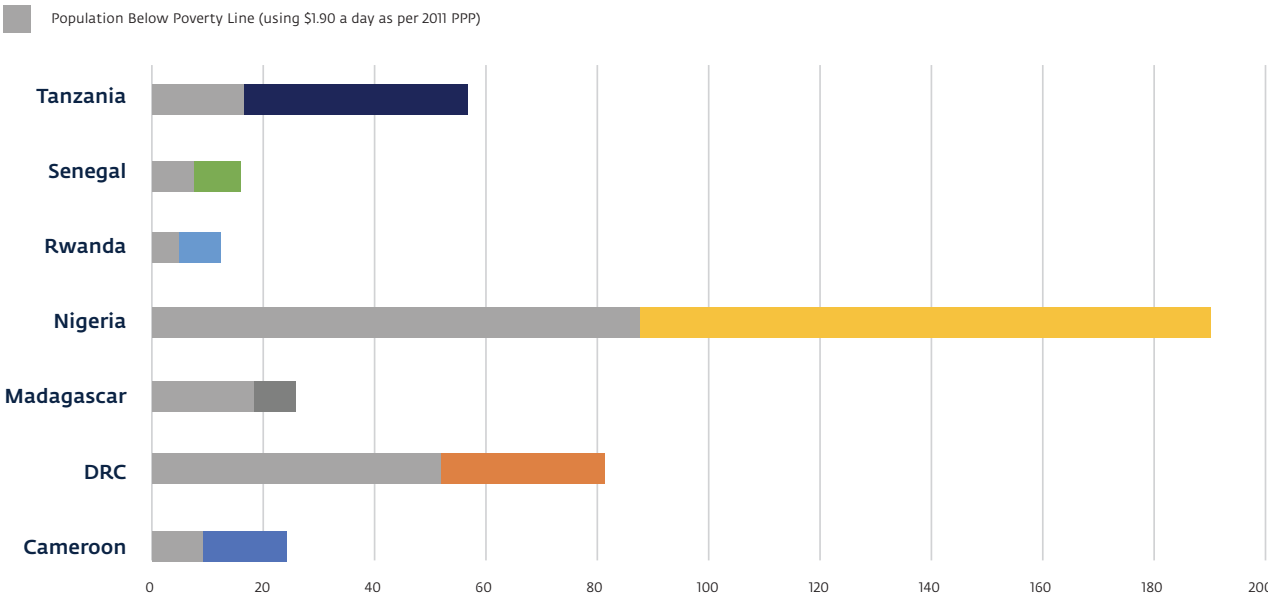
STUDY BACKGROUND

Over the past ten years, the introduction of mobile money and agent banking has transformed the financial sector in Sub-Saharan Africa and greatly contributed to the expansion of the financial inclusion rate from 23 percent in 2011 to 43 percent in 2017. The promise of new technology and innovative business models has attracted a range of market actors to the evolving Digital Financial Services space in attempts to find sustainable ways of serving the mass market.

The objective of the Longitudinal study was to understand if Digital Financial Services are also a viable strategy for FIs to reach financially excluded populations.

The study sought to examine how digital channels impact the ability of FIs to expand access, scale and outreach without relying on traditional branch infrastructure as well as the impact of DFS on overall FI operations. It identifies both the efficiencies and challenges that these services bring to such institutions. The study extracts lessons learned and establishes best-practices that can be used and adapted by other institutions in different markets, providing benchmarks around performance, costs and benefits of DFS implementations for the microfinance sector as well as the general banking industry (Figure 1 to 4 give a short overview of general – and DFS market statistics on the study markets).

| Cameroon | DRC | Madagascar | Nigeria | Rwanda | Senegal | Tanzania |

Figure 1: Population abobe 15 years-old in millions, 2017

Population Below Poverty Line (using $1.90 a day as per 2011 PPP)

Note: Using poverty headcount ratio at national poverty lines (percent of population); reporting years are 2009 for Nigeria, 2011 for Tanzania, 2012 for Senegal, Madagascar and DRC, 2013 for Rwanda, 2014 for Cameroon.

Figure 2: Gross National Income per capita 2017 (Atlas Method, in US Dollars)

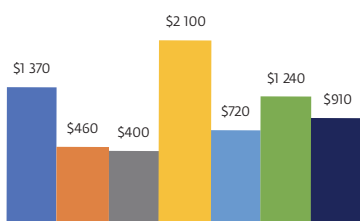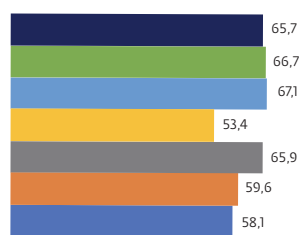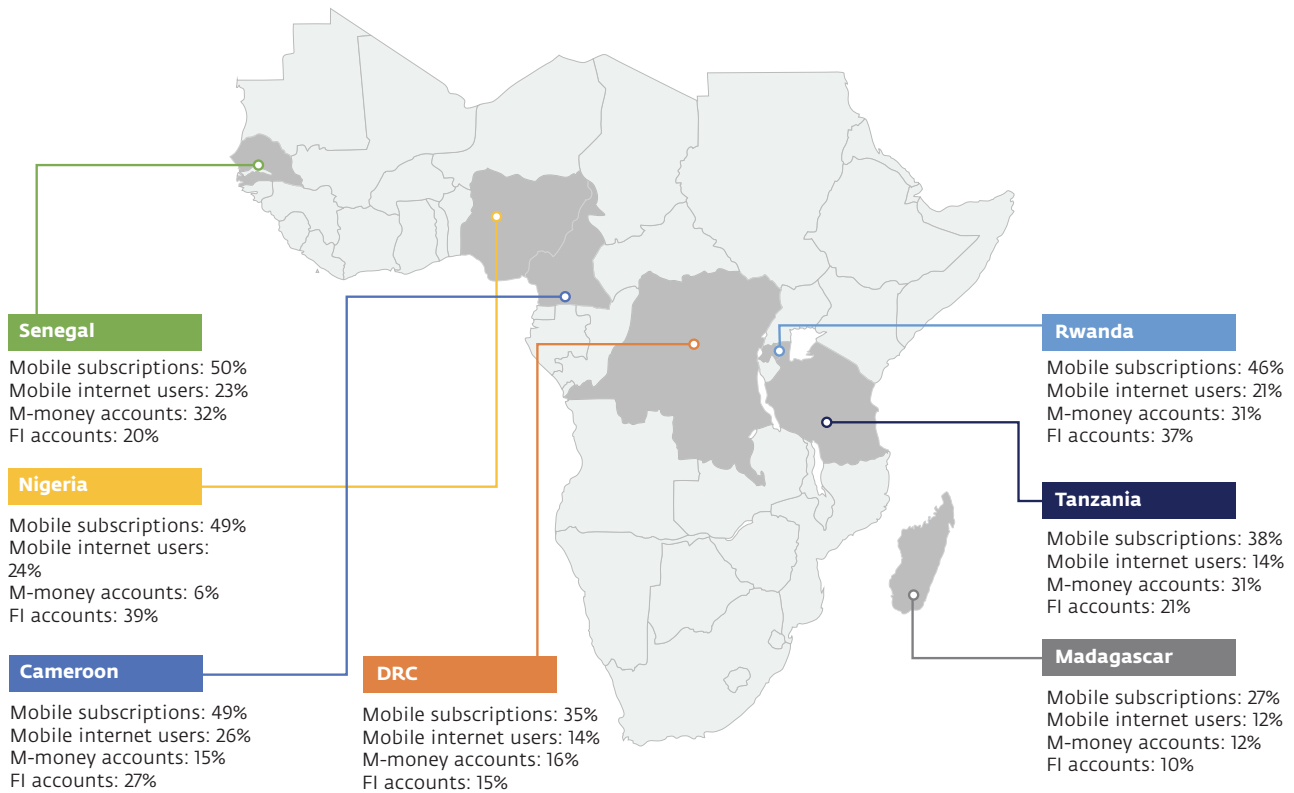$1 370 $460 $400 $2 100 $720 $1 240 $910

Figure 3: Life expectancy at birth in years

65,7
66,7
67,1
53,4
65,9
59,6
58,1

Note:
Reporting years are 2015 for Tanzania, 2016 for Senegal, Madagascar, DRC, Cameroon and Nigeria, 2017 for Rwanda.

Figure 4: DFS market overview as of December 2017

Senegal
Mobile subscriptions: 50%
Mobile internet users: 23%
M-money accounts: 32%
FI accounts: 20%

Nigeria
Mobile subscriptions: 49%
Mobile internet users:
24%
M-money accounts: 6%
FI accounts: 39%

Cameroon
Mobile subscriptions: 49%
Mobile internet users: 26%
M-money accounts: 15%
FI accounts: 27%

DRC
Mobile subscriptions: 35%
Mobile internet users: 14%
M-money accounts: 16%
FI accounts: 15%

Rwanda
Mobile subscriptions: 46%
Mobile internet users: 21%
M-money accounts: 31%
FI accounts: 37%

Tanzania
Mobile subscriptions: 38%
Mobile internet users: 14%
M-money accounts: 31%
FI accounts: 21%

Madagascar
Mobile subscriptions: 27%
Mobile internet users: 12%
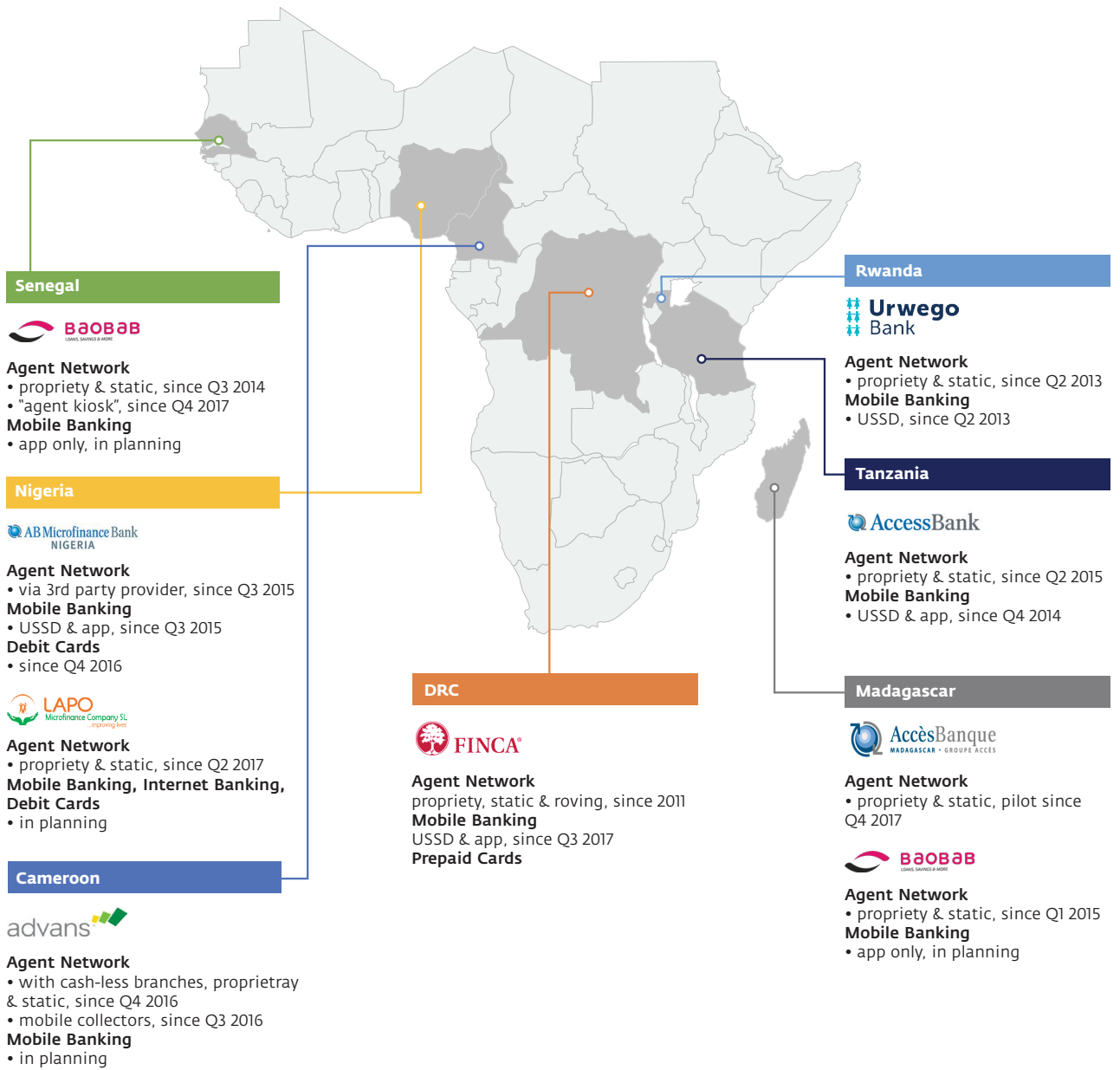M-money accounts: 12%
FI accounts: 10%

Notes: Mobile subscription is the market penetration rate for unique subscribers calculated as total subscribers at the end of the period and expressed as a percentage share of the total market population. Unique subscribers are the total unique users who have subscribed to mobile services at the end of the period, excluding M2M. Subscribers differ from connections such that a unique user can have multiple connections. Mobile internet is the share of total unique users who have used internet services on their mobile device(s) at the end of the period. Mobile internet services are defined as any activity that consumes mobile data (i.e. excluding SMS, MMS and cellular voice calls). M-money account - and Financial institution account ownership only consider adult population, i.e. population of 16 years and older. Data sources are GSMA Intelligence database and World Bank Global Findex database 2017.

The nine institutions that participated in the study represent a variety of characteristics with regards to market share, sector maturity and regulatory frameworks. Notably, DFS strategy and operational time frames differ as each institution started channel implementation at different times and progressed respectively. By the end of the study, all agent network solutions were live at various stages of maturity: two network solutions were more than five years old, three were operating for about three years, two were in their initial roll-out phases, and two were in pilot stages. For this report, we have classified the digital implementations in two categories: mature (if the digital channel has been operating for more than three years) or young (if the operational life is less than three years). If not otherwise stated, all data presented in this report does not include DFS in pilot stage. Most of the banks that participated in the study have also developed or plan to develop mobile banking systems to complement the agent banking channel. Some institutions have adapted DFS solutions to popular, informal, market solutions, e.g. mobile savings and loan repayment collection or integration of banking agents into group lending.

Figure 5: DFS approaches of study institutions as of December 2017

Senegal

BaoBaB

Agent Network
• propriety & static, since Q3 2014
• "agent kiosk", since Q4 2017
Mobile Banking
• app only, in planning

Nigeria

AB Microfinance Bank
NIGERIA

Agent Network
• via 3rd party provider, since Q3 2015
Mobile Banking
• USSD & app, since Q3 2015
Debit Cards
• since Q4 2016

LAPO
Microfinance Company SL
...improving lives

Agent Network
• propriety & static, since Q2 2017
Mobile Banking, Internet Banking, Debit Cards
• in planning

Cameroon

advans

Agent Network
• with cash-less branches, proprietray & static, since Q4 2016
• mobile collectors, since Q3 2016
Mobile Banking
• in planning

DRC

FINCA®

Agent Network
propriety, static & roving, since 2011
Mobile Banking
USSD & app, since Q3 2017
Prepaid Cards

Rwanda

Urwego
Bank

Agent Network
• propriety & static, since Q2 2013
Mobile Banking
• USSD, since Q2 2013

Tanzania

AccessBank

Agent Network
• propriety & static, since Q2 2015
Mobile Banking
• USSD & app, since Q4 2014

Madagascar

AccèsBanque
MADAGASCAR • GROUPE ACCÈS

Agent Network
• propriety & static, pilot since Q4 2017

BaoBaB
LOANS, SAVINGS & MORE

Agent Network
• propriety & static, since Q1 2015
Mobile Banking
• app only, in planning

LESSONS LEARNED

Over the course of the four-year research period, the team has extracted many valuable lessons, actionable recommendations, as well as performance benchmarks on DFS deployment in the banking context. This final research report gives a comprehensive summary of key learnings as of the end of the study. It has been written to provide practical guidance to institutions leveraging DFS for greater financial inclusion and is organized according to these four phases of DFS rollout:

(I) Planning
(II) Managing
(III) Promoting usage and activity
(IV) Ensuring sustainability

(I) LESSONS LEARNED: PLANNING A DFS ROLLOUT

Defining DFS objectives and a business case through analysis of internal factors and the market environment

It is important to define appropriate and compelling business objectives that Digital Financial Services can deliver, e.g. reaching customers in new geographic areas, building better operational efficiencies, mobilizing deposits, or enhancing customer experience. Those objectives should be backed by a realistic and achievable business case.[6]

To achieve this, an institution has to conduct a thorough analysis of external factors, such as market research on potential and existing customers and the overall market environment where the DFS is to be deployed (i.e. size, competition, country infrastructure, regulatory framework); as well as internal factors such as staff capabilities and legacy systems. The results of this exercise should help in the formulation of recommendations and assumptions for the initial DFS strategy design and work planning stage. For example, market research results on (potential) customer pains can ensure that (1) the DFS responds to a particular market need, (2) the DFS value proposition is in line with what the market expects, and (3) that the market size assumptions for the financial modeling are built on the best available information and a solid rationale. All assumptions and their rationales should be well documented in the DFS business case.[7]

The market research effort is a vital component when building a DFS strategy. It can include different quantitative and qualitative techniques, drawing on institutional databases, in-depth customer and staff interviews, focus groups,

ethnographic research, surveys, and/or analysis of secondary data. It may not rely solely on the institution's marketing or research department, and can include frontline cashiers, loan officers and other roles. Depending on the availability of resources, market research activities may also be partly or fully outsourced to an external company or consultant.

With regards to internal factors, an institution should consider reviewing the following areas:

- The human resources capacity of the institution to put in place adequate project management skills, market research, technology, and data analysis that is necessary to implement a DFS solution.

- The ability of the institution to transform itself. The digital project might require staff to learn new skills or become familiar with basic DFS concepts. The ability to train and retrain staff requires implementing capacity building programs, communication strategies, and change management plans to guide existing staff through the digital transformation.

- The durability of legacy infrastructure and its readiness to support new digital channels. The capacity of the IT department must be assessed in terms of the enterprise systems and IT infrastructure necessary to support the digital channel in terms of core banking systems, integration services, hardware (servers, mobile devices, Point-of-Sale devices), and network communications, for example. Costs related to improving existing systems or acquiring new technology should also be considered, as these can become significant CAPEX and OPEX items.

Only a few FIs in the study conducted comprehensive market research activities, encompassing both internal and external factors, for the design of their DFS strategy and business case. The research helped those FIs to have more realistic expectations in terms of potential market uptake as well as client needs and expectations for the digital channel. Most institutions in the study relied heavily on internal information in combination with client focus groups, competitor analysis or mystery shopping. Only one institution externalized the market research to a specialized company. Some institutions also leveraged publicly available information about mobile money services for building their DFS business case. Using information from mobile money services proved not useful for building assumptions for the DFS business case as it tended to mislead FIs in terms of digital channel size, customer acquisition growth, and transaction volume.

6   See the Mastercard Foundation & IFC "Field Note #7 Turning MFI Digital Strategies into Reality" 2017:
     https://www.ifc.org/wps/wcm/connect/67a1ee9e-9f95-4baa-8430-2a101ca77a9e/MFI+Digital+Strategy+Field+Note_8.pdf?MOD=AJPERES
7   See the Mastercard Foundation & IFC "Aligning Expectations - The Business Case for Digital Financial Services" 2017:
     https://www.ifc.org/wps/wcm/connect/5a322011-52b6-4b52-b4d5-6175039e551d/MFI+Longitudinal+Study_Digital_FA.pdf?MOD=AJPERES

A careful assessment of the regulatory environment is an important aspect of the DFS planning stage

An important aspect of the environment assessment for the DFS planning stage is a careful review of the relevant banking regulation commonalities in the country or region where the bank operates. As part of this exercise, it may be worthwhile to contrast the country's relevant banking and DFS regulations – if they exist – with regulations from countries that are known to have enabling DFS environments. This can help in identifying challenges and gaps (an overview on the regulatory contexts of the study countries and their challenges is added in the annex). It can also help when seeking regulatory permission for a digital service delivery model, especially in underdeveloped markets where the institution may be breaking new ground. It is important to be well prepared when doing so, as in many instances the regulator may not have sufficient knowledge itself to be able to adequately assess a proposed initiative.

For example, one of the institutions in West Africa that was studied sought the regulator's approval to integrate its mobile banking service with a leading mobile money platform to allow customers to move money between their bank accounts and mobile wallets. The regulator rejected this request based on existing regulation that does not allow banks to "issue e-money." However, the law was not clear about the scope of the term e-money and a case where e-value is only moved between a bank account and a mobile wallet. The lack of shared understanding between bank and regulator delayed the account-wallet integration for more than two years.

Three of the institutions in the study encountered delays in obtaining approvals and licenses from the regulatory authorities for their agent banking services. One regulator requested an individual background check of each agent candidate, which substantially slowed down agent recruitment processes and agent network growth at the beginning of the rollout phase. This caused considerable damage to the institution's implementation plan as agents that had already been recruited and trained were unable to start their business and lost motivation or even eligibility to become banking agents. During the waiting period, some agents were contracted by competing mobile network operators to join their networks and lost interest to become bank agents.

One institution only received regulatory consent for a pilot with four agents. Despite this limitation, the FI proceeded and built a network with more than 400 agents within 14 months. The bankruptcy of a leading bank in the same country then increased the Central Bank's concerns about the sector as a whole and the regulator became increasingly cautious and risk-averse regarding new innovations. Control measures and bureaucratic barriers were raised, blockading further expansion of the bank's agent network. The regulator required an individual background check of each new agent, conducted by the regulator itself. Additionally, the Central Bank required that financial institutions intending to operate agents set up a Banking Operations Intermediary and apply for a license first.

Until receiving this license, the institution could not continue recruiting new agents or launching new products on this channel. Many of the operating agents were also not complying with the new strict requirements that were put in place as part of the background check and they were forced to close. In this period, agent network expansion was hence halted and the institution even reduced network size.

The study found that digital financial inclusion thrives within enabling regulatory frameworks and when stakeholders collaborate closely with policy makers. Only a few of the study countries had existing regulations for bank-led DFS deployments when the institutions started their DFS journeys: Rwanda, Senegal, and Tanzania. In other markets, the FIs had to deal with legal voids and lack of clarity. In those kinds of situations, taking a pro-active approach and directly engaging with regulators can prevent delays in implementation.

One FI proactively addressed all concerns regarding the implementation of digital channels before the regulator raised them. By doing so, it gained the Central Bank's trust to be the first institution allowed to develop and pilot a bank-led agent network in the country. In other cases, such as Rwanda and Senegal, regulators become more progressive about Digital Financial Services after better understanding how digital channels work. Similarly, in some countries like Nigeria, the issue of agent exclusivity became a factor to consider when expanding an agent network. Different agent paradigms are depicted in Table 1.

Defining a realistic DFS business case and goals that fit the operating environment

Most of the institutions participating in the study were first movers. They were the first bank – or even banking institution – developing a DFS offering in their respective markets. This was true for the institutions in Cameroon, Democratic Republic of Congo (DRC), Madagascar, Nigeria, Rwanda and Senegal. As such, they were forced to rely on their own assumptions or the experience of other ecosystem players, primarily mobile network operators, to guide the development of strategies and business models. This would include the number of agents needed, how many customers an agent would serve, and what average transaction sizes would be, for example. They did not have benchmarks available adapted to the realities of financial institutions. While providing some rudimentary guidance, such an approach does not consider differences in the business nature and culture of different ecosystem players. To help fine-tune assumptions that would be more valid for financial institutions and to better understand the discrepancies between various types of market actors, the research team compared the initial financial projections for agent banking deployments of the study institutions with the actual realities to date. The team found that:

a) **Customer and agent registrations do not translate into activity.**[8] While customer and agent acquisition targets set in the financial models were often largely met or even exceeded, activity rates have remained far below assumptions.

Figure 6: Median customer and agent activity rates over the course of the study

Legend: Customer activity — Agent activity — - - - Linear (Customer activity) — - - - - Linear (Agent activity)
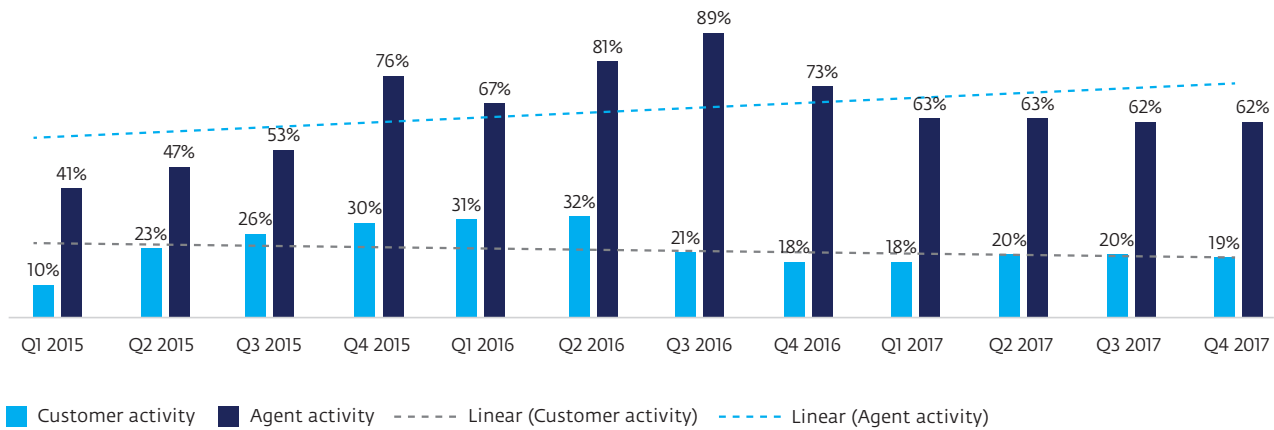
b) **Customer transaction targets were out of reach**. The research team found that institutions reached only around 16 percent of the projected agent cash transaction volumes and 17 percent of the value. This finding goes hand-in-hand with unmet expectations on customer and agent activity rates.

c) **Customer transaction patterns differ from the MNO model.** The team noted two main differences between customer transaction patterns at MNOs and banks.
   I. Since bank-led agent networks are primarily used as outlets for the repayment of loans, transaction amounts tend to be higher than those at MNOs. In Q4 2017, the median cash-in amount of the study institutions was $146 and cash-out was $117. For MNOs in Sub-Saharan Africa, GSMA reported an average transaction amount of approximately $16 for December 2017.[9]

Figure 7: Average cash-in and cash-out amounts in US dollars over course of the study

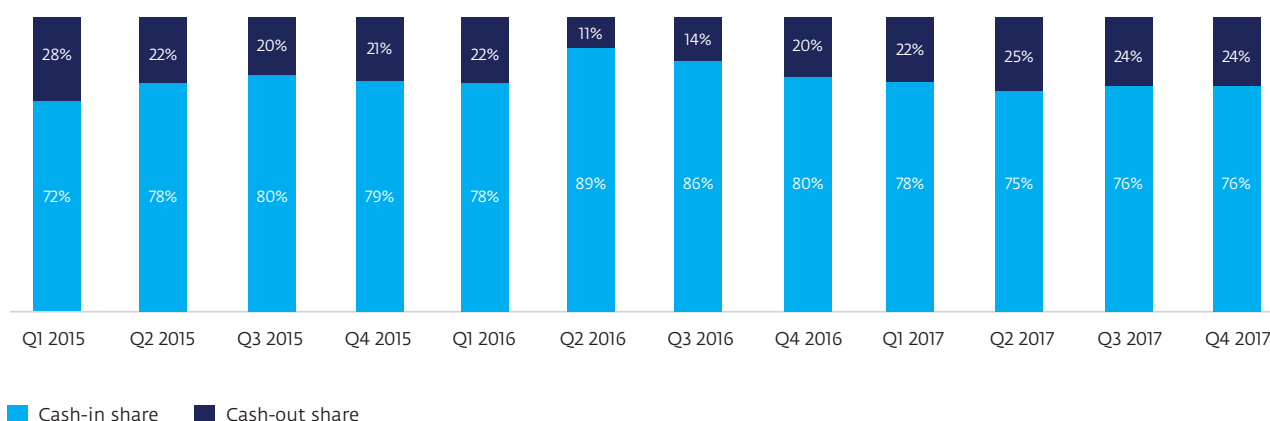Legend: Cash-in amount — Cash-out amount

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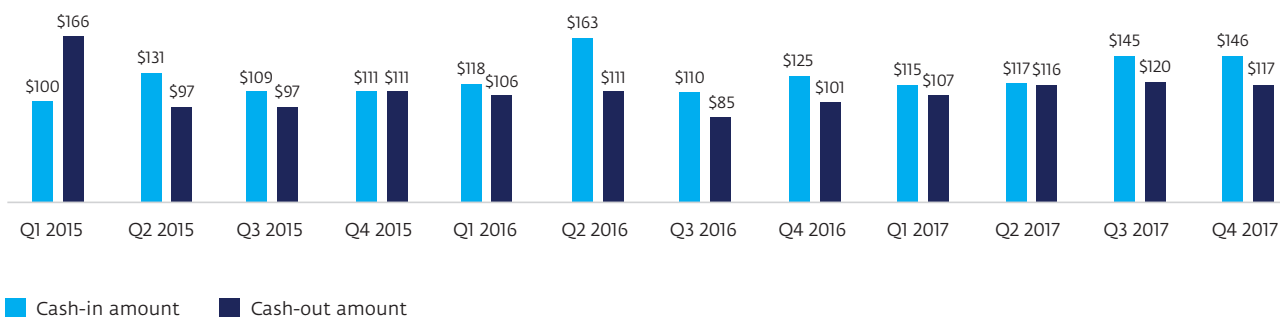
8   *An active customer has completed one DFS value transaction within 30 days. As transaction counts cash-in or cash-out from account, P2P payment, bill payment, etc. Balance inquiries, PIN resets and other transactions that do not involve the movement of value do not qualify as value transaction.*

9   *See GSMA "2017 State of the Industry Report on Mobile Money" 2018:*
    https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2018/05/GSMA_2017_State_of_the_Industry_Report_on_Mobile_Money_Full_Report.
    pdf; in 2017 the average mobile money transaction amount in SSA was at $16, the global average was at $17.5

II. As of December 2017, the median cash-in share in the transactions performed at agents of the study institutions was 76 percent (i.e. only 24 percent of cash transactions were cash-outs), which differs from the more balanced transaction mix the industry observes for mobile money agents.[10] When defining assumptions for financial modeling using MNO experiences, this misconception may lead to (a) an overestimation of fee income from cash-out transactions generated on the channel, (b) an underestimation of efforts and costs related to liquidity management support for agents. With more unequal float and cash flows, sustaining a sufficient float and cash balance is more challenging for banking agents.

Figure 8: Median cash-in versus cash-out shares over the course of the study

	Q1 2015	Q2 2015	Q3 2015	Q4 2015	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017
Cash-out share	28%	22%	20%	21%	22%	11%	14%	20%	22%	25%	24%	24%
Cash-in share	72%	78%	80%	79%	78%	89%	86%	80%	78%	75%	76%	76%

■ Cash-in share   ■ Cash-out share

d) **Agent networks are smaller, but agent activity rates are higher. Expectations on required agent management efforts were hence met.** The agent networks of participating institutions are small – between 200 and 1,500 agents – and concentrated around banking branches. The number of active agents varied from 100 to 900. Even the largest network of the study institutions, which has 1,471 registered agents of which 887 are active, is small compared to standard MNO agent network sizes that are on average ten times larger. The rate of active agents for the FIs was around 60 percent however, compared to less than 40 percent for MNO networks. This indicates that the financial institutions outperformed the MNOs in terms of management and stimulation of their networks, with a model building on quality rather than quantity. These factors contributed to higher agent activity rates for the participating FIs vis-a-vis the larger MNO networks. Expectations on the level of agent commission and management costs were largely met or even exceeded, despite projections on network activity and transactions volume being out-of-reach.[11]

Another important lesson is that financial modeling should not be seen as a one-time exercise. New benchmarks that were developed as part of this study can be used to develop further iterations of business models as needed. Institutions should reassess original plans and make regular revisions based on adoption, usage, and actual growth of the digital service throughout its lifespan.

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10   See GSMA "2017 State of the Industry Report on Mobile Money" 2018: https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2018/05/GSMA_2017_State_of_the_Industry_Report_on_Mobile_Money_Full_Report.pdf

11   For more information on the findings of the analysis on initial agent banking projections and FI benchmarks, please see the Mastercard Foundation and IFC "Aligning Expectations: The Business Case for Digital Financial Services" 2017: https://www.ifc.org/wps/wcm/connect/5a322011-52b6-4b52-b4d5-6175039e551d/MFI+Longitudinal+Study_Digital_FA.pdf?MOD=AJPERES

Exploring hybrid approaches to adapt DFS to existing customer habits and cultural context

Digital channels are said to facilitate access to financial services and enhance customer experience at low cost. There are, however, a number of factors that pose challenges to market uptake, including a general lack of trust in the financial sector, self-exclusion, customer stickiness to informal financial services, and fears about adopting new technologies. When interviewing bank customers in the field, the researchers found that many people distrust new digital services because they are afraid their money may 'get lost' in the digital system due to issues of connectivity or human error. Additional reasons for not choosing to adopt digital services were a lack of awareness of the DFS value proposition and self-exclusion, i.e. some of the interviewees believed that they were not sufficiently technology savvy, financially educated or affluent to use such services.[12]

A key factor to customer adoption of DFS is trust, but it takes time to build trusting relationships with customers. FIs operating in generally difficult market environments or where digital technologies and digitization are still new phenomena may find it particularly challenging to build clients' trust in digital services. Institutions that are traditionally targeting customers at the base of the income pyramid and that are heavily reliant on traditional microfinance strategies (group lending methodologies, frequent face-to-face interactions with customers, etc.) are advised to move cautiously and to carefully assess the readiness of the existing customer base or target segments to move into the digital era. The experience of the study institutions shows that FIs will need to invest time and capacities in training, marketing, and handholding of clients to support their learning processes and to build trust in using the new services.

It may also be wise for institutions to consider a gradual approach for the implementation of DFS. Adopting a step-by-step strategy to sensitize staff and customers alike could entail hybrid models where face-to-face interaction with customers is at least partly preserved at the early stages of the digitization effort. In this sense, agent banking models can serve as hybrid model and are particularly interesting for microfinance institutions that heavily rely on face-to-face interaction between staff and customers. Instead of branch staff, agents conduct digital transactions on behalf of customers or are able to offer face-to-face support to customers when conducting DFS transactions on their own. Similarly, it may be fruitful to experiment with models that tailor DFS offerings to customers' existing financial habits and cultural peculiarities. For example, some of the institutions that participated in the study have tried hybrid models that marry DFS with group lending methodologies. Groups' social cohesion and peer pressure

act as risk mitigation under this lending methodology, as group members guarantee each other's loan repayments. Traditionally, all payments are done in cash during in-person group meetings, where deposits are physically handed to the loan officer who repays in bulk at a bank branch. This model requires the physical presence at the meeting of both the borrowers and the loan officer. At one of the institutions being studied, group borrowers were offered the option to either repay at an agent outlet or at the roving agent who was participating in the weekly group meetings. To preserve key elements of the traditional methodology, the institution mandated all group borrowers to confirm their on-time repayment during the meetings by handing in the transaction receipts from the agents or by using the roving agent at the meeting. Another institution, which also had a history of relying on group lending, decided to move cautiously with DFS so as not to disrupt the existing dynamics of its group clients, which account for 80 percent of the overall customer base. Consequently, it initially limited the services it offered at pilot agents to account opening, savings collection, cash-out, and transfers for individual customers. Loan repayments via agent outlets were not allowed in this first phase, and still require group borrowers to participate and repay during regular group meetings. Individual group members can still open separate accounts and use agents for the purpose of individual savings. At the end of the study period, the institution was planning to add a loan repayment option for individual loans at agents. The repayment of the group loan, however, will remain exclusively within the group meetings.

As a test, some of the study institutions tried to incorporate common financial practices and market peculiarities into the DFS strategy. For example, the use of so-called susu collectors for daily savings is common in many West African countries. This informal service relies on mobile collectors circulating in markets and communities to collect regular contributions from clients, usually for a monthly or weekly flat fee. One of the study institutions had incorporated the susu mechanism into its business operations even before going digital, using roving staff to collect daily savings from business customers in market areas. The institution then digitized the process of this mobile collection service, supported by a proprietary agent network that is centered around cash-light branches. Its agents focus primarily on collection of loan repayments and cash-out. The digitized collection service, which featured instant confirmation of deposits via short message, has proved popular and has led to a significant rise in deposit mobilization and consequently improved the capital structure of the bank. After 18 months, the mobile collection accounted for around $15 million in cash, equivalent to about 40 percent of the overall deposit portfolio.

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12 Similar results were also observed in research performed by the Mastercard Foundation and IFC regarding perceptions and attitudes towards mobile money in Cameroon, DRC, Zambia and Senegal. See "A Sense of Inclusion - An Ethnographic Study of the Perceptions and Attitudes to Digital Financial Services in Sub-Saharan Africa" 2017: https://www.ifc.org/wps/wcm/connect/15e6158a-8e52-444b-9103-391547cb1730/IFC+A+sense+of+Inclusion+DFS+Ethnographic+Study+2017.pdf?MOD=AJPERES

In markets where the use of innovative technologies was more common and where a DFS ecosystem had already been established, the research showed that institutions found it easier to move their customers onto digital channels. Even so, client education, effective marketing and well-targeted products and services were critical in ensuring that digital channels are differentiated from existing offerings in the market.

Full engagement is needed to successfully roll out a DFS

To be successful, an institution's journey into digital transformation requires a shift in mindset of staff and clients. Most of the financial institutions in the study faced internal and external resistance to digitization. Internally, staff felt threatened by the new digitization push as it promised to bring better efficiencies and cost reduction. It created fear among staff as positions and salaries were perceived at risk. For example, the FIs noted that branch staff

– in particular tellers and loan officers – felt threatened by agents and regarded them as competitors who could make their roles in the institution redundant. Branch staff, who used to be in direct ownership of the customer relationship, would therefore refuse to promote the adoption of the new service, leading to limited DFS uptake. Additionally, a digital project requires putting clients in the center, a difficult task for FIs that normally are product-centric. Therefore, having a customer-centric approach requires a mindset change for most staff members of the organization, and it requires mechanisms for properly gathering and addressing customers' feedback.

In fact, the research shows that some of these concerns are legitimate. Figure 9 shows that out of the eight reporting institutions deploying DFS solutions, five either reduced the number of their staff outside of the headquarters over the course of the study period or they kept staff size more or less stagnant. At two institutions, the number of non-headquarter staff rose.

Figure 9: Branches (right y-axis), non-HQ staff and agent network size (both left y-axis) over data reporting period
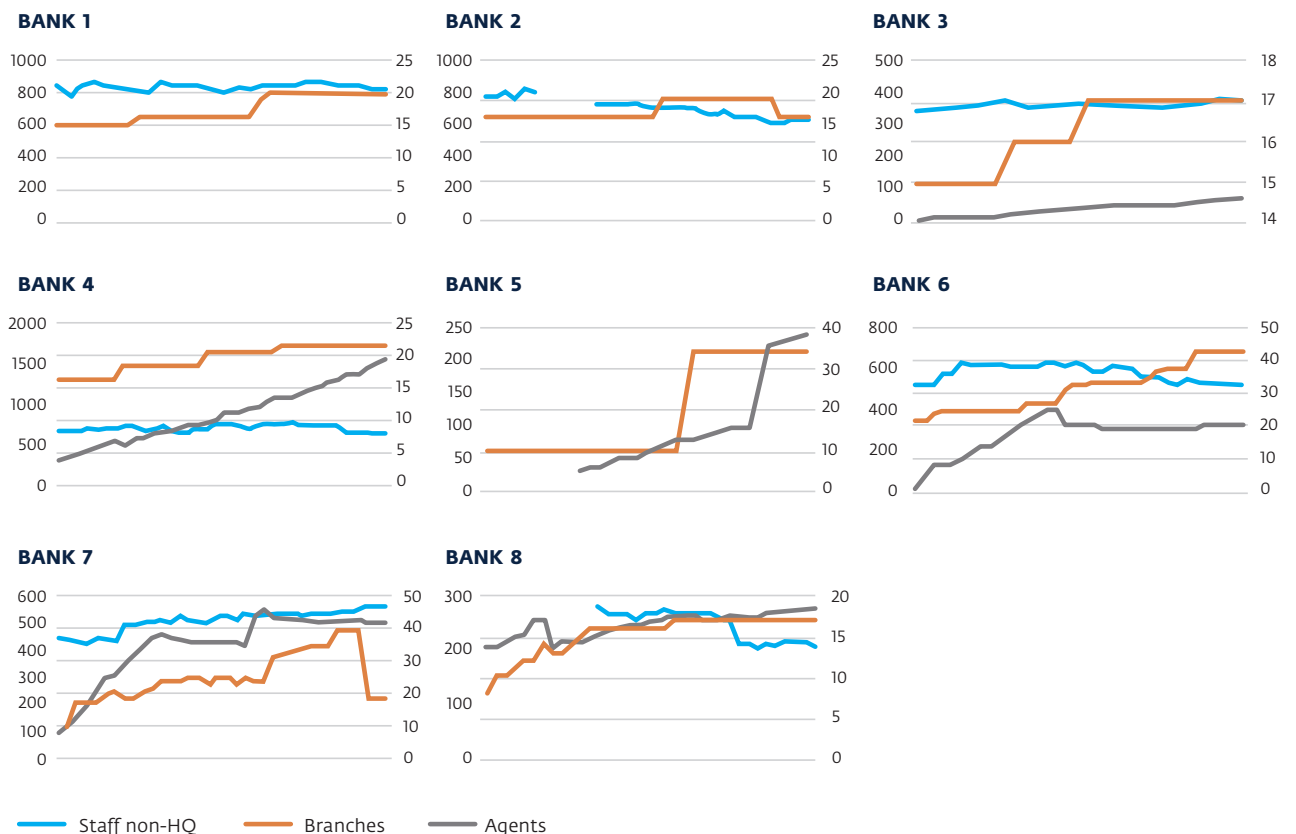
Notes: Data reporting start dates vary; agent networks in pilot stage are included; for two institutions reporting is incomplete

It is still important to foster an understanding among staff – particularly branch staff – that 'going digital' is necessary, and it is important to accurately communicate that message to all employees. Not doing so can create challenges for the digital project and even put its success at risk. One study institution that did not properly communicate the advantages and requirements of the implementation of an agent network to its branch staff struggled to get the digital channel off the ground. Loan officers did not have any incentives to encourage customers to use the digital channel but remained focused on loan recovery. Similarly, branch managers considered the integration of agents to branch operations a low priority. The value proposition of cashing out at agents (time savings, convenience) and a detailed instruction on how to use the digital channel were also not integrated into the financial literacy content of the bank.

The research further shows that it is important to leverage senior management when sensitizing staff to the value of the digital venture, particularly when addressing branch staff that has the most direct interaction with customers. Management should clearly communicate that ownership of the new digital channels lies with the entire organization and not headquarters alone. While it is the role of headquarters to manage the harmonization of digital and traditional channels, staff located at branches or in the field should be responsible for promoting digital services in their daily interactions with customers, e.g. by proposing agents as faster and easier option for cash services, or explaining how agents can facilitate the account opening process. Internal communication should also center around how the digital channels benefit staff in their daily functions, e.g. how DFS enables loan officers to devote more time to loan promotion, origination and recovery instead of collecting loan repayments.[13]

Even if an institution does not get communications or incentives structures right from the start, it may be possible to adjust them at a later stage, albeit at a cost. One institution in the study that went through the digitization process and concurrently made fundamental structural changes, failed to define a unified communication plan that could address the emotional aspects of change and help to integrate the digital channel into the daily operations. For many of its employees, the initiative to 'go digital' was perceived as a threat. They were afraid they would lose their jobs to agents and the new mobile banking application.

In 2017, the financial institution mentioned above, began to implement measures designed to increase staff acceptance of the DFS project. One immediate action taken by the FI was a revision of incentive structures at its branches. The FI transferred ownership of the agent network from headquarters to the branches. The branches have since adopted key performance indicators (KPIs) based on DFS performance, and they have assumed responsibility for the management of local agents. Some staff have been moved from headquarters to the branches to better guarantee branch oversight and support in areas outside the capital. Most branch staff were also moved to more generic roles as Customer Service Agents, giving the bank more flexibility to quickly allocate resources where business needs arise. The financial institution has also introduced new training opportunities for staff, including, for example, coaching staff on how to enroll clients at agents. Younger staff have been offered opportunities in leadership roles, and there has been a positive impact on staff morale and engagement. Since the implementation of these changes, the institution has seen an increase in the number of cash transactions handled via agents, from 25 percent in May 2017 to 31 percent in December 2017.

Friendly technology and a data-driven approach increase the chances of success

Technological readiness can make or break a digital channel. All of the institutions in the study experienced severe technological challenges during DFS planning (and later rollout), including, among others, difficulties in selecting appropriate technology providers, delays in technology delivery, difficulties integrating DFS systems to the core banking systems, and insufficient network strength and coverage. Reliance on Global System for Mobile communications (GSM) and internet connectivity is a major risk to the successful delivery of DFS in developing and emerging markets. Consequently, it is advisable that FIs interested in launching DFS take note of the following during the planning stage:

- **Perform a proper due diligence or a selection process of the technology providers to use.** This includes asking for references from previous clients.

- **Assign enough time for system integration testing.** This type of testing should be both technical and functional. On the technical side, one should ensure that all systems are using the right data exchange and communication protocols. On the functional side, one should ensure that users will have the right experience and receive the right responses.

- **System testing should also look at transaction reconciliation.** Reconciliation testing should include developing different scenarios on the type of transactions going through the system with the respective exceptions. FIs should aim for transaction reconciliation processes that are fully automated and take less than 24 hours.

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13 See also the Mastercard Foundation & IFC "Field Note 8: Changing change management: adapting internal and external culture in times of digital transformation" 2018: https://www.ifc.org/wps/wcm/connect/93567f5c-6eb5-4e23-bc13-ee0c55f3eabc/IFC+MCF+Field+Note+8_DFS+Change+Management+MCF.pdf?MOD=AJPERES

- **The planned DFS technical infrastructure should have communication redundancy in place.** This addresses risks regarding network connectivity and strength. For example, one of the FIs in the study uses agent Point-of-Sale devices that support two or three SIM cards to mitigate risks related to connectivity.

The use of new technologies brings new risks to the business, and it is advisable to put in place a risk management framework that identifies such risks upfront as well as puts in place processes and measures to monitor and mitigate risks. The study institutions have experienced people and system risks that relate to the adoption of DFS:

a. **People risks related to agents:** All institutions reported having experienced various kinds of agent fraud. Agents or agent assistants may split transactions (the most common type of agent fraud reported by the FIs), or abuse system downtimes and the lack of customers' understanding of the system. Agents may also accept cash for deposits from customers but delay the actual completion process of the transaction in the system to a later time. As a result, customers do not receive an immediate confirmation of the transaction or receive the confirmation with a delay, spurring doubts about the reliability of the service.

b. **System risk related to manual control systems:** Most of the banks in the study still use manual control mechanisms for their DFS. This limits the capacity to effectively monitor the service and raise flags e.g. when suspicious transactions or irregularities arise – especially when the service is scaling up.

One FI decided not to invest in an automated risk control system for agent fraud and transaction irregularities when launching their DFS and has been using a manual, excel-based tool for fraud control. When the network of agents expanded, the DFS team found that the whole team had to spend three to four days a month manually checking all agent transaction files. Still, the manager estimated they would only detect around 10 percent of all agent fraud actions causing the bank considerable overspending on agent commissions. The bank is currently reviewing this process and plans to invest in an automated control system in the near future. An early investment into data-driven solutions for channel monitoring and management offers better security and transparency on channel activities and should pay off once the DFS is scaling up. The team found that other institutions have benefited from early investments into centralized, automated structures for DFS management and monitoring. Two FIs worked with a technology provider to design a dashboard for instant monitoring of DFS operations and KPIs.

Another important technological factor to keep in mind when planning a DFS is the selection of user-friendly applications and devices. It is important to include an assessment of the technical sophistication of your existing or targeted customers in the upfront market research. Upfront market research efforts to investigate this aspect were uncommon among the institutions of this study, which has possibly led to the adoption of technologies that mismatched customer readiness and their capacities in adopting the services. For example, a mobile banking application that is only compatible with smart phones will prevent the large share of existing USSD users in a customer base from adopting the service.

The digitization of banking operations should also entail investments into building internal capacities for Business Intelligence (BI), including the recruitment or training of staff to conduct collection, integration, analysis, and presentation of business information such as customer transactional data. This is worthwhile for the later design of new products for the digital channel. For instance, two institutions have developed and successfully introduced nano loan products based on scoring systems built on client transaction data and credit histories that are solely distributed via agents.

II. LESSONS LEARNED: MANAGING A DIGITAL FINANCIAL SERVICE

Effective management and close supervision of DFS operations are crucial for the success of the digital service. This is especially true when implementing a digital channel for the first time. When the institutions in the study first decided to go digital they all generally started by implementing agent banking. Hence, most of the findings in this section relate to the management of an agent network.

Managing an agent network starts with a strategy to identify and recruit the right agents

An agent network does not rely on a digital interface alone, but also on human capacity. By employing agents to interact directly with customers, often as the first contact point for customers, an institution outsources a considerable part of the customer relationship to a third party and this will have an impact on the bank's image. The service quality at agents is therefore of utmost importance. Research shows that the quality of a customer's first-time experience with a new channel has great impact on his usage and activity going forward. In an interview, one agent officer said: "If a customer tries the service a first time and it is not working, he will never try it a second time."

Recruitment is critical to agent quality. All the eight institutions in this study that rolled out agent networks put in place sets of agent selection and/or agent profile criteria to guide the recruitment task. These policies and criteria evolved over time, based on requirements defined by the regulator as well as the experiences and assessments made by the banks. Poor agent selection can lead to poor agent performance, reputational risk, regulatory risks and eventually financial losses.

From the interviews the research team held with agent managers at the participating FIs, the following attributes were identified as success factors for agent profiling and recruitment:[14]

What characterizes top performing banking agents?

1. They are previous banking clients with a proven track record of more than two years of loyalty to a bank.

2. They may be exclusive or non-exclusive*, i.e. agents may only serve one DFS provider or multiple providers. Non-exclusive agents tend to adapt to their roles easier and faster because they are already familiar with similar businesses.

3. Retailers tend to make good agents.

4. Evidence also shows that women tend to make good agents.

5. They should have a good reputation in the local community; they are trusted and known to be reliable.

6. At their outlets, agents should clearly display their marketing and pricing materials.

7. They should have flexible opening hours, preferably outside the opening hours of bank branches.

8. They should be located in areas where a lot of cash transactions are conducted, such as near markets and mechanics' streets.

9. The agents and their assistants should have a level of digital literacy and knowledge to be able to correctly offer digital services on behalf of a bank.

10. They are well supervised and monitored to ensure they are delivering quality service. Bank representatives should visit each agent at least once every two weeks.

* If the regulator does not forbid agent exclusivity, as it is the case in Senegal and Nigeria.

In some markets, regulators intervened in the agent recruitment process. In those cases, the regulators specified, for example, that agent candidates must meet a set of criteria before being approved for the role, or that candidates undergo mandatory background checks that were to be performed by regulators prior to starting operations. This slowed down agent recruitment and impacted institutions' growth plans for their agent networks.

The study also found that the recruitment of qualified agents was particularly challenging in two situations:

- In rural areas, limited knowledge of technology and limited education presented challenges. This required higher efforts and investments in financial education, digital literacy and training.

- In relatively mature DFS markets, where multiple service providers attempt to attract agents to their services, FIs are under pressure to build an attractive value proposition and incentive scheme to differentiate themselves from other market players.

Manage agent network growth to balance internal capacities and customer demand

For the institutions in the study, agent network growth decelerated over time. The collected quantitative data shows that agent network growth, in terms of the number of recruited agents, is, on average, four times faster in the first operating year of an implementation than in the second year (see Figure 10). In the third year, monthly network growth usually falls below 5 percent, arriving at a growth average rate of just 1.4 percent in the fourth year of operations. This shows that bank-led agent networks do not grow indefinitely and are much smaller than the type run by MNOs. The data also suggests that bank-led agent networks reach a saturation point after some years of operations (year four in the case of this study), most likely due to two factors: internal capacity to manage and grow the network and/or market demand. In addition, over time it became apparent during the study that FIs with large agent networks but low agent activity rates are not cost-effective. Agent recruitment and setup is expensive, and a financial institution might not be able to recover these costs if the agents do not have sufficient business thereafter. The institutions realized the importance of having an agent network that responds to evolving market demand, with sufficient business for each of the network agents.

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14 Top performing agents are characterized by high transaction volumes and the ability to reliably manage their float and liquidity requirements.

Figure 10: Monthly agent network growth rates over the operational lifetime

20,9%	5,1%	3,2%	1,4%
1. Year	2. Year	3. Year	4. Year
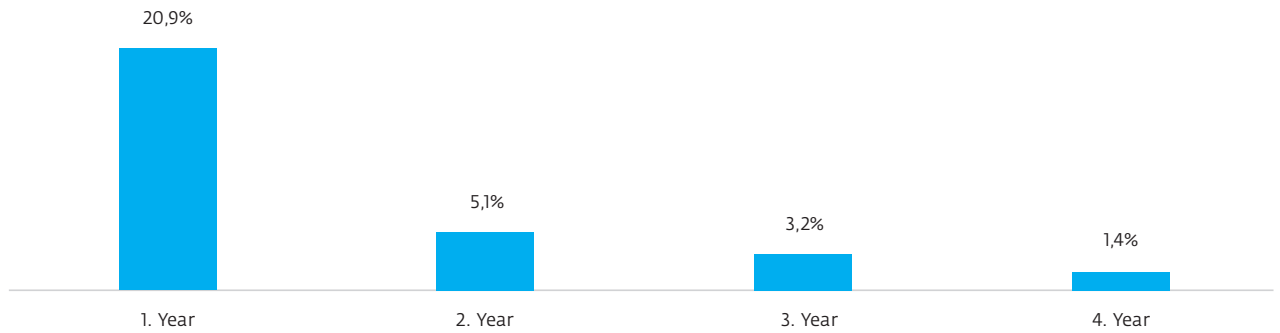
Notes: First year growth measured for all networks > 25 agents

The study also collected information on the required human resource capacities to internally manage the network. The team found that in Q4 2017 the number of agents managed by a single agent manager varied significantly among the institutions (between 17 and 55). On average, a single agent manager oversaw 26 registered agents. This number decreased to 14 when only counting active agents, varying between 7 and 21 among the institutions. For all institutions, the number of agents being managed by a single staff manager was rising, hinting at a development of efficiencies in agent management over time.

Finding the right pace for business expansion that corresponds to market demand can be a challenge. This is also true for agent networks. It is important that agents have sufficient business and can deliver high quality services when enlarging the network. Monitoring customer and agent activity as well as transaction flows can help predict situations when there are either too few agents for the market, or too many.

Figure 6 shows that agent activity levels at the institutions in the study have been rising over time, while the share of active customers versus registered customers has been declining. Figure 11 puts these numbers in relation, showing the average number of active customers per active agent at the end of each month for six of the agent networks in the study (the blue lines). The agent network utilization rate has ranged from 40 active customers per active agent up to over 100 customers per active agent. As of December 2017, both the average and median calculated for this indicator stood at around 80 and has, more or less, remained at this level over the course of the last year, revealing a more or less stable customer density per agent.

Figure 11: End-month values of active customers per active agents in 2017

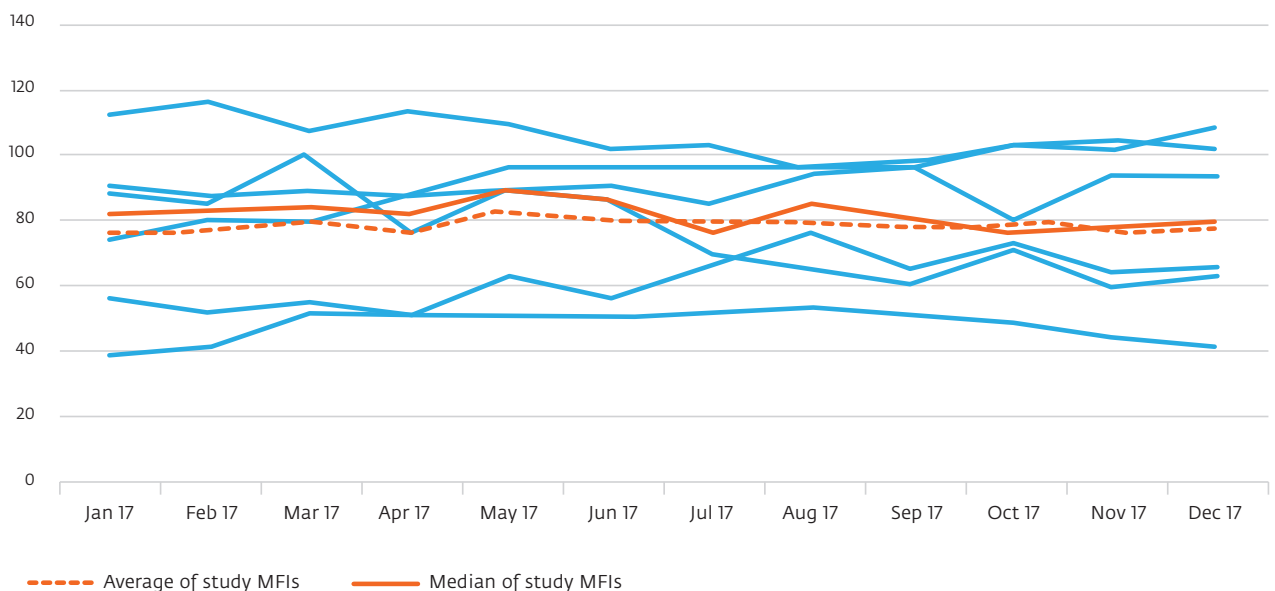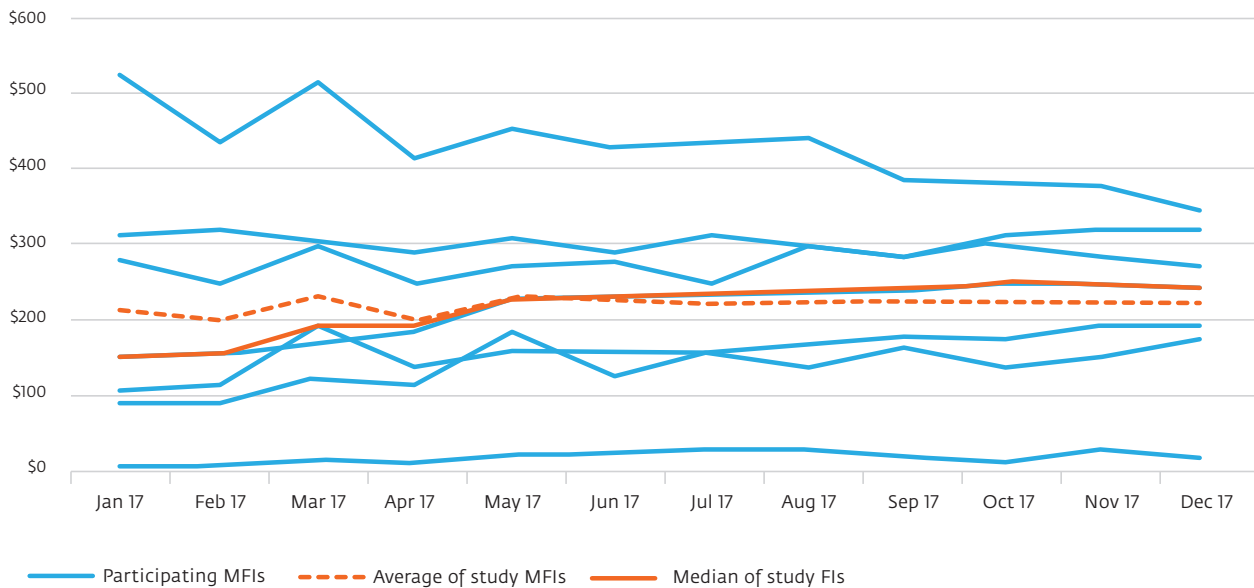- - - - Average of study MFIs   —— Median of study MFIs

Figure 12: End-month values of average transaction volume per active agent in 2017 in US dollars

Finding the right pace for agent network growth is challenging and is influenced by developments in the market and in regulation. The study pulls the following recommendations for agent network expansion from the experience of the participating institutions:

• When FIs build an agent network they should plan to have strong growth within the first two years. This growth should then slowdown in subsequent years.

• While human resources needs are high when starting the agent network (most likely due to high staff involvement in agent recruitment), study results indicate that capacity needs for network management decrease with time.

• FIs should not rely on MNO experiences when defining growth and size assumptions for their agent networks. FIs, and banks in general, tend to serve more specific market segments than MNOs.

• Close monitoring of agent density and customer utilization can help to identify recruitment needs or market saturation points. It is recommended to use on-time data visualization tools to monitor agent activity, the ratio of active customers per active agent, average transaction volumes per agent, etc. In addition, it is also worthwhile to monitor density of agents per population or area, separated by regions or districts, i.e. number of agents per 1,000 square kilometers or per 10,000 population.

The most attractive agent incentive structure makes the best agent network

To employ and keep high quality agents it is important to provide them with the right incentives. This is especially true in more mature markets, where the majority of agents recruited by FIs are non-exclusive and work with one or more other DFS providers. Only an attractive business case and incentive structure will ensure that the right agents are recruited; and that recruited agents show sufficient devotion and commitment to your business in order to foster a loyal customer base.

When interviewing agents, the team found agents are especially sensitive to the business case and commission compensation that an institution is offering. One agent shared a sophisticated table he had developed that showed the commission he would make for each transaction type with each specific service provider he has been working for. When, for example, a customer approached him for a $20 cash-out, he would refer to the table and if the commission for the requested provider was lower than for the competitors, he would attempt to convince the customer to use the service provider that paid him the highest commission. If he only had limited cash available, he may even decline to serve the customer and wait for a more lucrative service request. The example illustrates how savvy agents can allocate their resources to the service provider that is personally most profitable for them. This is especially relevant for non-exclusive agents in competitive environments. In less established markets, agents also appreciate training opportunities, the increased customer traffic the DFS service brings them, and the reputational gain and networking opportunities in their communities.

The data suggests that the business case of agents has become increasingly attractive over the course of the study period. The median number of monthly cash transactions per active agent has been rising, as also indicated in the previous section. It stood at 126 in Q1 2015 and had doubled to 244 in Q4 2017. The median value of monthly cash transactions rose 2.8 times in the same time. The value of cash transactions at agents has hence increased faster than the volume, which could indicate that customers are becoming increasingly trusting of the service and are transacting higher amounts at agents. In some markets, agents reportedly earned as much as $200 in commission

fees per month. Overall, agent income has been rising, across most of the institutions. In 2017 alone, the median monthly income doubled from $44 in January to $90 in December. It is reasonable to expect that transaction volumes and commission income will rise further in the future, since all institutions in the study have expressed plans to expand product and service offerings at agents.

This shows there is a convincing value proposition to prospective agents, which should be clearly communicated by financial services providers building or expanding agent networks. One FI guarantees new agents a minimum income for the first three months in operation, something institutions may consider in order to make the agent case even more compelling in the recruitment process.

Figure 13: End-month values of average commission income volume per active agent in 2017 in US dollars
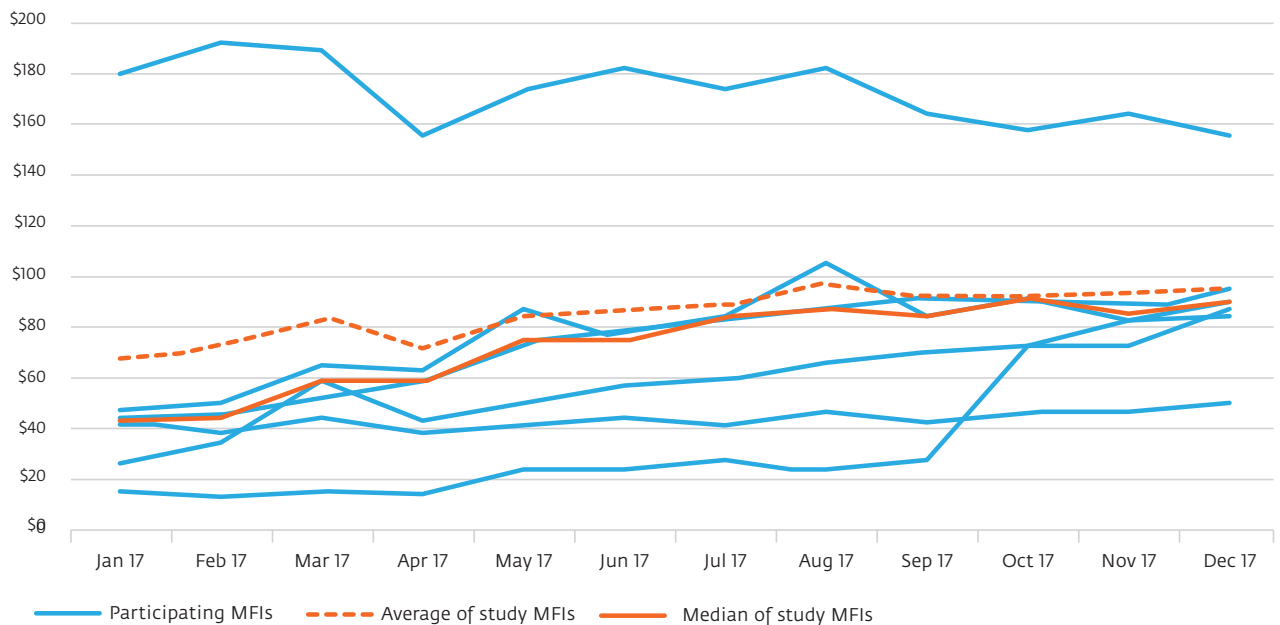
Proactively support your agents and leverage smart tools for DFS management

Especially when agents are freshly recruited, agent support and management staff should take a proactive approach and regularly inquire about their agents' well-being and feedback, if feasible in person. When launching the agent banking service, the FIs participating in the study tended to adopt the same feedback cycle for all their agents. Later, it proved reasonable to reduce the frequency of feedback from agents as they became accustomed to the service. Some of the institutions have developed standardized questionnaires that their agent supervision staff use. If systematically consolidated, the information collected during these visits can help the institution monitor agent satisfaction levels, quality of equipment and material at agents, and other issues or concerns that arise in their daily business. This will ultimately help to identify support needs and effectively allocate resources.

Agent management should also include monitoring customer traffic at agents, if financially feasible, through an early investment into an automatized dashboard solution. Two FIs in the study, for example, were early adopters of "next generation" DFS management systems, acquiring and implementing BIME, a visualization tool to help optimize operations. It enabled the institutions to develop interactive dashboards tailored to survey the operational needs of the

agents and the performance of their agent networks (see Figure 14). The management system most often uses two dashboards:

1. Daily Operations Dashboard provides a daily update of a bank's savings and loan portfolios with automated alerts when operational risks arise. Metrics can be customized to operational needs, but also include KPIs on transaction volumes, commissions and fees, agent activity, suspicious and potential fraud activities, DFS enrollment, failed transactions, and the geographic spread of operations.

2. Monthly Strategic Dashboard offers a longer-term, strategic view. It was developed to provide an overview of the customer lifecycle, including how the use of services and products evolve (e.g. branch transaction volume versus agent transaction volume), and customer adoption and usage of DFS.

Also, a step-by-step approach is recommended. The two banks started with some basic visualizations and then built the dashboards with increasing sophistication over time.

Figure 14: Example of a daily operations dashboard

A   Information on customer and agent counts, transaction volume

B   Transactions by day (left), transactions by week (right). These different views highlight peak weekday demand mid-week and low weekend demand when viewed by day (left); with similar cycles over the year with weekly averages (right).

C   Top performing agents by transaction volume and by transaction number, top performing branches by volume

FIs need to understand the different facets of agent liquidity management, prioritize agent liquidity monitoring, and provide adequate daily support tools

When the research team interviewed agents and customers in the field, one of the main complaints concerned liquidity management. Broadly, liquidity management can be defined as the sum of activities that ensure an agent has enough cash and float to service customers.

To exemplify: a customer enters an agent outlet with the request to deposit $50 into his bank account. He hands over $50 in cash to the agent, who transfers the equivalent amount from his agent float account to the customer's bank account. The customer receives an electronic SMS or paper receipt as confirmation and the agent has earned a commission revenue. Similarly, a customer can request a withdrawal at the agent outlet. In this case, an equivalent of the requested amount is transferred from the customer's account to the agent float account from which the agent hands it out utilizing his cash on hand. In both cases, the sum of money at the agent remains the same, it is only the cash/e-float composition that changes. A liquidity shortage arises when a series of customer transactions deplete the agent's cash or e-float. In this kind of situation, agents may have to turn customers down wishing to perform a cash-out (turned down if agent has insufficient cash on hand), a cash-in or a transfer (turned down if agent has insufficient e-float). Agents and financial institutions thus deal with two types of liquidity management; cash and e-float.

In a perfect situation, all agents of a network should have sufficient liquidity (cash and e-float) to serve every customer transaction request at all times. If customers are repeatedly turned down due to lack of liquidity, they may conclude that the DFS is not reliable and refrain from using the service in the future. This is especially the risk with new customers. Poor liquidity management practices therefore have direct impact on business results, DFS uptake and usage, agent income and motivation, and consequently the success of the digital channel as a whole.

Despite these considerations, the team found that the FIs did not prioritize agent liquidity management in a timely and sufficient manner. Three factors contributed to this:

- The belief that agents can handle this challenge on their own, but agents don't always have resources and capacities to do so.

- Lack of reporting and monitoring tools that have ability to assess quality of agents in the network, such as visualizing transaction peaks and valleys.

- The lack of reliable means to monitor the negative impact of liquidity constraints; i.e. how many customers are sent away by agents due to liquidity constraints. FIs report that agents use "insufficient liquidity" as an excuse not to serve the customer when, for example, they are actually hoping to use existing liquidity for a more lucrative transaction type or service provider (in case the agent is non-exclusive).

- The costs and capacities required to invest in liquidity management tools.

The study revealed two main reasons why agent liquidity management has turned out to be a major issue. First, the nature of bank-led DFS is different from the MNO model. The majority of cash transactions at bank agents are deposits, with a net of cash coming in to the agent account. In December 2017 the share of cash-ins in the total transaction volume of the study institutions varied between 48 percent and 97 percent. The average stood at 76 percent, i.e. 76 percent of all cash transactions at agents were deposits. In value, the share varied between 55 percent and 96 percent, with an average of 79 percent for deposits. The cash streams of bank agents are thus not balanced, as is reported to be the case for MNO agents. For the FIs, this meant that it has been more difficult than expected to sustain sufficient e-float. Second, the institutions in the study mostly target SMEs and individuals in the lower income range, which usually reside in rural and remote areas, where the majority of agents are also located. Supporting the physical liquidity management of such agents is time consuming and costly (e.g. delivery of cash against e-float) and requires putting in place appropriate liquidity support tools.

Over the course of the study, the research team observed the FIs and agents adopting and refining various kinds of liquidity management tools. Table 2 summarizes these according to type, addressed needs, partnership requirements, process length, and costs.

Table 2: Agent liquidity management solutions observed as part of study

	LIQUIDITY ADDRESSED	PARTNERSHIP NEEDED	PROCESS	PROCESS LENGTH	ASSOCIATED RISKS°	COSTS FOR AGENTS	COSTS FOR FI	POPULARITY AMONG STUDY FIs
BRANCH	Cash & e-float	None	Agent visits nearest bank branch to exchange float – cash	Multiple hours	Low for FI; high for agent	High (time and travel costs)	Low	High
SUPERAGENT	Cash & e-float	Yes, if externalized	Agent calls superagent, superagent visits agent	Multiple hours	Low for FI; low for agent; high for superagent	Low to medium (if fee per transaction)	High	Medium
AGENT EXCHANGE	Cash & e-float	None	Agent contacts other agents, agents exchange float – cash	Multiple hours	High for FI; low to medium for agent	Low (given agent is close by)	None	High
B2W / W2B[15]	Cash & e-float	MNO partnership(s)	Cash: Agent conducts B2W transfer; agent calls MNO superagent to receive cash delivery e-float: agent conducts W2B transfer	Multiple hours if cash delivery, automated if W2B	None for FI; none for agent	Low to medium (fee per transaction)	Initial investment for integration	High, but can be difficult to negotiate with MNO
OVERDRAFT FACILITY	e-float	None	Agent applies for overdraft	Automated	Low for FI (credit risk); none for agent	Low to medium (interest expenses)	None to high Low	High
BIG DATA°°	e-float	None	Situations of liquidity constraints are predicted by algorithm; agent receives alert	Automated	None for FI; none for agent	Low	Initial investment for development	Low

* For example, risk of losing money, robbery.
**Still in testing phase.

Many of the institutions experienced difficulties deciding on the right liquidity management solutions. Often, solutions were tested, implemented, abandoned, and relaunched again in a refined version. The decision to drop one solution for another has not necessarily yielded improved results. Only one institution has outsourced the task to an external provider for agent liquidity management support. While this super-agent aggregator has proven successful in urban areas, it was poorly equipped to deal with the challenges in rural regions where costs were substantially higher. When the institution faced internal budget cuts the service was completely abandoned and internalized, leading to challenges also in the cities.
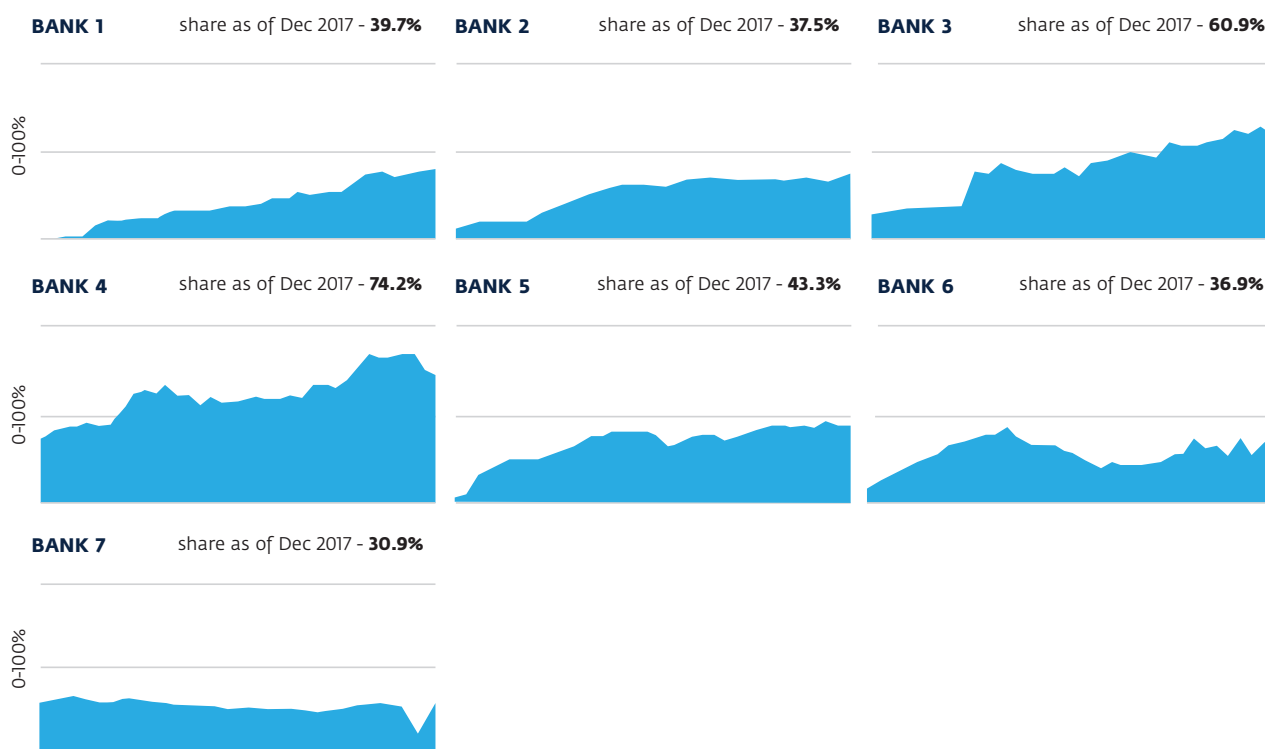
Several institutions reported the emergence of informal solutions among agents. At one institution, it was a known fact that certain high-volume transaction agents acted as super-agents to smaller agents in their area, requesting a small service fee in cash from the agents for each completed transaction. At another institution, agents located close to the bank's branches frequently received e-float transfers from other network agents to deposit in cash into their bank accounts.

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15   *Bank-to-wallet (B2W) and Wallet-to-bank (W2B) transactions allows bank account owners to move funds between their account and their mobile money wallet.*

III. LESSONS LEARNED: PROMOTING DFS USAGE AND ACTIVITY

DFS are able to redefine a business, but changes faced by staff and customers have to be managed carefully

Figure 15: Share of DFS transactions over data reporting period

| **BANK 1** | share as of Dec 2017 - **39.7%** | **BANK 2** | share as of Dec 2017 - **37.5%** | **BANK 3** | share as of Dec 2017 - **60.9%** |

| **BANK 4** | share as of Dec 2017 - **74.2%** | **BANK 5** | share as of Dec 2017 - **43.3%** | **BANK 6** | share as of Dec 2017 - **36.9%** |

| **BANK 7** | share as of Dec 2017 - **30.9%** |

Notes: Data reporting start dates vary; for two institutions reported data includes transactions on mobile banking

For some of the participating FIs, the digital channel offered an opportunity to reinvent themselves. Previously, all the institutions were credit-oriented microfinance banks, focused primarily on offering lending products, such as individual and group loans. With time, the digital channel created means to better understand customers' needs and to begin offering other financial and non-financial products and services, such as savings, government-to-person payments, and bill payments. The ability to serve a broader market with multiple products fundamentally challenged the original identity of some of the FIs, raising questions regarding 'what we do', 'who we are', 'how we work', 'who do we serve' and ultimately 'where do we want to go'? As a result, some FIs in the study fundamentally changed their business identities. Most of the FIs now market themselves as multi-product and/or multi-service institutions.

The changes in business direction, however, created different perceptions and reactions among staff and customers. To acknowledge and mitigate such negative sentiments, FI management should implement a change management strategy that presents the benefits of the digital channel and recognizes the challenges in order to create understanding, acceptance, and commitment. To arrive at such a strategy, the FI should:

- Listen to and document the potential fears of staff regarding the new channel.

- Analyze those fears to identify the drivers behind them and develop ways to address or mitigate the risks.

- Design communication and training activities that support the change and enhance staff understanding of the channel, highlighting the benefits the channel can bring to them.

- See change management as an open iterative process that allows for two-way communication with staff.

- Engage staff in the project, for example by asking staff to pilot a service and to include digital KPIs for all staff, among other measures. All staff should feel part of the change and take responsibility for its success.

During pilot and roll-out of the digital channels, FIs can implement specific communication initiatives to prepare staff for the cultural change; newsletters, videos, briefings, and Q&A sessions with staff are some of the activities that management should consider. Appointing a charismatic "champion" who is well-regarded within the institution to transmit core messages can also be useful for obtaining buy-in throughout all staff levels.

Successful FIs in the study also implemented early incentive structures for branch staff based on agent performance. Organization-level performance KPIs that incentivize harmonious integration between branches and the agent network help to mitigate staff fears about potential job losses and serve to enhance the credibility of messaging about the change process. Three of the participating FIs created operational KPIs for branches linked to the performance of the digital banking channel. Two FIs introduced targets for field staff on deposit mobilization and usage of the digital channel. One institution provided incentives to customer relationship managers to support the agent network as well as branches; part of their salary was fixed, and the variable element was linked to the transactional performance of branches and agents. At one of the study institutions, branches competed with each other based on the numbers of customers and transactions using the digital channel.

The introduction of digital channels changes the touch points between the FI and its customers. In some cases, it makes face-to-face interactions less frequent while increasing the ability for clients to transact at their leisure. It also broadens the variety of touch points between the FI and customers, requiring FIs to ensure a unified user experience across interfaces (for example, agent and self-service through mobile applications). It is thus key to success that responses from clients to these changes are incorporated into the concept, prototype, and final version of the digital channel. Using digital tools for collecting customers' feedback (e.g. chat bots, online platforms, social media) on the new service can also help create increased literacy and acceptance of the service among customers by creating a broader digital engagement with them.

There is a delicate balance between the use of enhanced technology and the expansion of financial inclusion. Modern technologies, such as smartphones, are still not available to much of the poor in developing markets. Focusing on developing sophisticated technology can thus create a mismatch between advanced technology and the FI's customer base, backfiring in terms of poor uptake. It is thus important to have a solid understanding of the customer profiles and segments that the institution serves and would like to reach. For example, one of the FIs in the study created a mobile application only available on smartphones based upon the prediction that smartphones would soon overtake USSD technology. As a result, a large portion of the FI's customers that were using simple feature phones were excluded, affecting adoption and activity rates of the DFS overall.

Customers easily enroll on new digital channels, but keeping them active requires effective marketing and handholding

Figure 16: Figure 16: Customer registration and activity (in 1,000s) over data reporting period
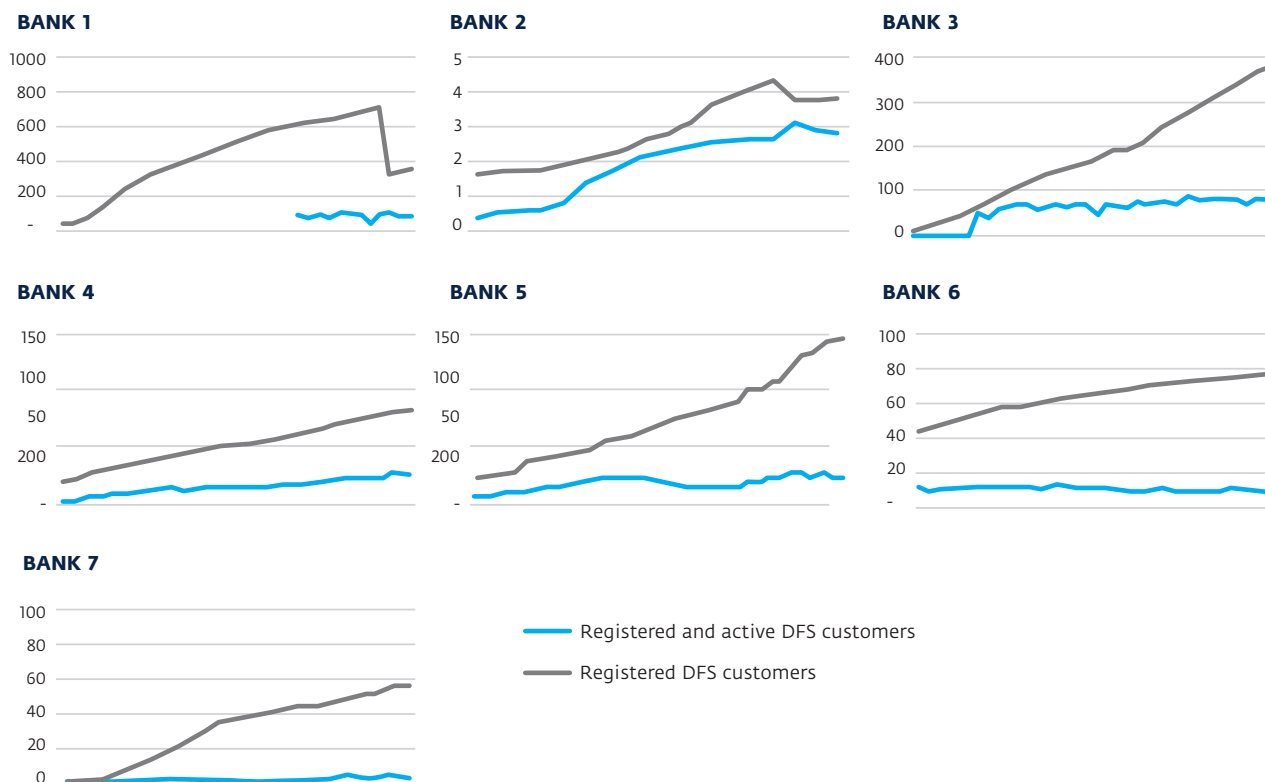
In general, customer acquisition grew during the time of the study. All FIs were successful in acquiring and increasing customers. For example, when looking at the number of customers registered for the agent banking service, three institutions benefited from implementing the digital channel as it helped to considerably enlarge their user bases. These three FIs have evolved from a mono-product to a multi-product and multi-service approach, using the new channel to offer more value added services to customers. Consequently, they have increased the share of the total customer base registered for agent banking, reaching 47 percent, 50 percent, and 53 percent respectively, at the end of 2017.

For other participating FIs, all banking customers are automatically eligible to use agents without separate registration. However, the percentage of active users of agent banking has varied, fluctuating between a low of 14 percent to a high of 74 percent in the same period for the participating FIs. None of the FIs reached 100 percent agent banking activity rate of their registered customers.

There are a variety of explanations for the low level of customer activity rates, ranging from customer perceptions and trust of the service to provider operational capacity and service offering:

- **FIs' initial focus on mainly registering clients:** As early adopters of DFS, several FIs in the study initially focused on registering clients following the MNO approach of doing mass registrations. However, once registered it has been more difficult to engage customers to become active users. For most of the institutions, newly registered customers did not initially transact at all or stopped transacting after the first or second transaction.

- **FIs offered too few services:** Most FIs only provide the minimum channel product offering, cash-in and cash-out. There was a lack of technology to collect savings from customers, and very little promotion of such services. It was a challenge to motivate active usage without a multi-service offering.

- **Customers did not trust the technology:** Another important factor for improving activity rates is to build trust in the DFS. All of the agent banking deployments in the study initially encountered difficulties with the technology and that created reconciliation and other transactional problems. It often led to an initial perception by customers that the service was not reliable, which adversely affected the adoption of the service.

This can be very damaging in the long run, and FIs should only rollout when they are sure the service is working properly.

- **FIs did not adequately promote, market and explain the services:** Most FIs in the study spent very little -- when compared to the rest of their operational expenses – on customer acquisition, marketing and promotional activities. Initially, FIs focused on doing mass acquisition and promotional campaigns that described the digital service. However, some mass promotions, e.g. field activations, radio and newspaper ads, and flyers, did not clearly state the benefits or the value of the DFS for customers. Some of these marketing campaigns also failed to communicate how to use the service, in particular those services that were linked to a mobile banking solution.

As these challenges emerged, the FIs in the study adopted a variety of approaches in response. FIs quickly learned that it was not beneficial to focus only on registering clients but that they needed to make promotion and marketing more effective. They looked at ways to better communicate and promote the value of the channel and to improve customers' technological and financial literacy. Three institutions, for example, developed specific marketing tools that showed how their digital services work rather than just describing the benefits of using the service.

The approaches used to promote the services also effected activity. For example, below the line (BTL) campaigns using one-on-one approaches such as brochures and pamphlets generally proved more effective than above the line (ATL) initiatives using mass media. The BTL campaigns were more effective because they helped customers not only through the registration process, but also to perform initial transactions while receiving support and information from field promoters. A BTL approach also tends to be more effective at directly targeting the intended audience, low income users and the unbanked. For example, one of the institutions conducted market research that showed that the FI and its digital services were largely unknown to the target market. It thus launched a BTL campaign, including awareness and educational activities, that resulted in an increased response from the target market about the FI's digital offering. ATL campaigns, on the other hand, have worked better with high-end customers, who, in this case, were not the intended audience of most of the FIs participating in the study.

Secondly, FIs also adapted their digital channels to respond to particular customers' needs. By highlighting this fact in marketing initiatives, FIs gave customers more compelling reasons for transacting through the channel.

Third, FIs realized that customer onboarding needed the support of the marketing department and other branch staff. Such support included campaign materials, sales drives, calls to customers to inform them of agent banking benefits, and redirection of customers from branches to agents for faster service. Field staff of one participating FI, for example, also accompanied branch customers to agent outlets to show them how to use the services. Uptake may be boosted by increasing efforts to broaden and deepen financial literacy. In many cases, agents mentioned that customers claimed not to understand the DFS. In the case of agent banking, some FIs provided training refreshers to agents during their regular monitoring visits, in particular those agents that had been recently enrolled.

Observations from the study highlight that it takes time to build customers' trust in DFS. It has proved especially challenging in markets where Digital Financial Services were a new phenomenon and implementing FIs were first movers. FIs operating in this type of market needed to invest more in marketing, training, and handholding of clients to support the learning processes and to build trust in the digital channel. In markets where the use of DFS was more common, FIs tended to have an easier task building trust in their digital channels. Even so, effective marketing and promotion are critical to ensuring the FI differentiates their offering from existing ones.

When interviewing customers in the field, the research team found that some customers distrust digital services because they lack information about the value proposition of agent banking or because they are afraid their money will "get lost in the system" in case of connectivity issues or human error. Self-exclusion also evidently plays a role in keeping potential users away from enjoying the benefits of Digital Financial Services as some of the interviewees said they did not believe they had the technical knowledge, financial education, or affluence to use DFS.

Across all surveyed markets, lack of trust in agent banking was seen as a major barrier to the adoption of DFS. To address this, the recruitment process should identify suitable agents that are able to address customer concerns. A good practice, demonstrated by several of the FIs, is to recruit agents among the existing customer base or agents who have a previous record of working with MNOs. Having trustworthy agents also translates into branch trust - and even greater belief into the FI's overall brand. As a way to reduce branch-dependency and to create more trust through increased usage, two institutions started charging fees for transactions at branches, thus providing financial incentives for its customers to use DFS and build experience with the service.

Another way FIs built trust in the channel was to use SMS as a proof of transaction. Users value text messages that confirmed their DFS transactions. One of the institutions has partnered with an external company that develops digital marketing tools to engage customers via SMS, to further build trust and ultimately increase usage of DFS. It has also been noted that providing agents with marketing materials (same colors and similar logo) in local languages facilitates service recognition by customers and increases adoption. In the case of one FI, the agent network branding eventually developed a stronger appreciation among customers than the actual name of the institution.

Designing customer-centric products and services to distribute exclusively through the digital channel helps to drive usage and adoption

As part of the digital transformation, a financial institution's key business processes – such as loan evaluation, disbursement, and repayment, as well as savings account opening and collections – need to be reviewed, improved, and remapped according to the needs and potential uses of the new digital channel. Some new procedures will have to be created, including procedures for customer enrollment, reporting, and fraud prevention.

It is important that FIs keep users in mind when making these process improvements and changes. Users range from the institution's staff, to agents and customers. Understanding and including the user's perspective allows the institution to design processes and services that are intuitive, thus facilitating change and supporting channel adoption. In order to this, FIs will find it helpful to:

- Identify the primary users of a process and invite them to participate in process development and to provide feedback on how to simplify or improve it.

- Map out changes and discuss change with users to verify that revised processes meet the expectations of users.

- Pilot the revised processes with actual users before the revised processes are rolled out to gather additional feedback and make necessary adjustments.

All FIs in the study showed interest in creating specific financial products to be distributed exclusively through digital channels. But approaches differed. Some institutions followed a traditional approach for product development, focusing on designing products internally and then testing those products with customers. For example, for five institutions, the traditional approach led to either the abandonment or low usage of new digital product initiatives because customers did not find them valuable. Other FIs followed a more human-centric design approach for developing digital financial products. For those institutions, the first step to designing digital products was to understand who the target customers were and to learn about their motivations, fears, pain points, and existing usage or perception of technology and financial services. A second step was to segment customers for tailor-made products and services. Initially, the FIs segmented customers in terms of products (e.g. loan customers versus savings customers) but then started to segment customers by channel usage (e.g. agent banking users versus branch users), and eventually segmenting customers by needs that could be matched by products or services.

While most of the institutions started with basic cash-in/cash-out services, with time, the product offerings on the digital channel evolved to include value added services such as transfers, bill payment, nano loans, etc. These new products and services also provide opportunities to add direct revenue streams to cover operational expenses and help to make the channel self-sustainable.

For the FIs in the study, the incorporation of value added products centered around the customers and their needs, and helped to ensure adoption and stickiness.

It is important to note that the use of data is key to the ability to develop digital services responding to customers' needs. Data and information not only come from market research, but also from staff, in particular field staff such as cashiers and loan officers who know and interact with customers daily. It helps to have systems in place that enable the FIs to continuously improve services based on user feedback and operational data. One institution analyzed transactional data in combination with agent enrollment information to understand and determine the profiles of successful agents. The use of mystery shopping, surveys, and focus group discussions can also contribute valuable customer feedback on the channel.

IV: LESSONS LEARNED: ENSURING DFS SUSTAINABILITY

FIs need to understand the role of DFS in the broader business and prioritize sustainability over instant profitability

As the FIs in the study moved from planning to pilot and then to rollout, a common question asked at the board level and by senior management was "when will the DFS become profitable?". The question, however, assumes that a banking channel by its nature is an income source when that may not be the case. A channel can help generate value in other areas. The question should be rephrased to "when will the digital channel become self-sustainable," i.e. generate enough income to cover its operating expenses. Even that may only reveal a partial appreciation of the value the channel brings to the overall business.

The development of the DFS business case and the financial model to assess the long-term viability of the channel must be guided by realistic assumptions. As a nascent industry, one of the main challenges for building the business case and a financial model for a digital banking channel has been the lack of sufficient information on industry benchmarks. Benchmarks are important to craft assumptions about the eventual performance of the channel. Most institutions participating in this study were first adopters in their respective markets, with some even having to guide their markets in the development of a DFS industry.

Digital first movers are often forced to rely on their own assumptions or the experience of other ecosystem players, MNOs in the case of the nine participating FIs, to guide the development of initial business models. This approach misses, to some extent, the differences in the business nature and culture of the different players of the DFS ecosystem. For example, the MNO business model for mobile money agent deployments calls for a mass-market approach, whereas financial institutions look to serve specific market niches through their agent banking channels. This is particularly the case when developing assumptions related to outreach, customer transaction patterns such as transaction size and frequency, service offerings, and revenue generation.

Interviews conducted and information collected for this study led us to the conclusion that many FIs followed "conventional wisdom" in believing that digital channels – mainly agent and mobile banking – were inexpensive to implement and inherently cost-effective because they lacked the physical and human infrastructure required to expand through traditional bank branches. However, many of the participating institutions came to realize that although upfront investments for digital channels were not as large as for branches, other recurring operational expenses, such as commissions, technology platform maintenance, and channel management could represent significant ongoing costs for the institution.

To quantify the initial investment for a digital channel, there are four main cost categories to take into consideration:

- **Technology:** Any investments related to the acquisition of the hardware and software necessary to offer the digital channel. Investments in technology platforms can be considered as capital expenditures on a balance sheet rather than as direct expenses on the income statement.

- **Human resources:** Initial expenses for building the DFS team. This could cover head hunting fees for scouting a digital channel champion and training existing personnel to develop internal capacities. Institutions should also consider the costs of any consultant work to help in the design of the strategy or initial set-up of the channel.

- **Market research:** This relates to expenditures for market research activities to better understand users' attitudes as well as existing DFS usage patterns. This could also include upfront market research for the design and prototyping of new digital products. All institutions in the study invested in market research prior to launching a digital service.

- **Legal fees:** Any expenses related to obtaining regulatory approvals and licenses. This might include the cost of creating a separate company to host the digital channels, as in the case of countries that require a financial institution to have a separate company to run an agent banking business. Three financial institutions in the longitudinal study had to set up different companies to host agent banking networks to comply with local regulations. Additionally, these fees can include the cost of processing contracts for each agent, bill payment aggregators, partnering with MNOs, etc.

In the case of recurring operational expenses, the study found that the expenses categories are similar to the initial investments. Using as a base the agent banking model, the potential operational expenses for a digital channel could include:

- **Commissions:** Some digital channels such as agent banking, automated teller machines, and card payments, require FIs to pay a commission for each transaction done through a third party. For the eight participating institutions with an agent banking channel, commission expenses paid to agents played a key role in quantifying operational costs. The data from the study shows that commission expenses tend to be one of the largest costs of an agent banking channel. As a case in point, one institution with an agent network in operation for more than three years and with a high number of transactions flowing through the channel had a commission expense representing over 60 percent of the channel's overall operating expenses. For other study institutions, commission expenses tend to be the second or third biggest expense category after technology and agent management costs.

- **Technology:** This refers to any ongoing fee, such as software licenses or acquisition of hardware, including point-of-sale systems or tablets. Technology operating expenses includes any type of annual maintenance fees for the digital channel software as well as any functionality improvements that require a development fee.

- **Human Resources for Agent Management:** This cost includes the salaries and incentives for the staff to manage the digital channel, including increased HR costs for customer service support, as well as technical and transaction rectification support. Any incentive given to branch staff to promote usage of the digital channel should also fall under this expense category.

- **Marketing:** This refers to the cost of running above-the-line and below-the-line marketing campaigns to promote the adoption and usage of the digital channel.

In the case of agent banking, operational expenses are mainly driven by the number of active agents. This activity plays an important role in calculating the amount of commission expense, as well as in the level of the resources necessary to manage the agent network. Furthermore, keeping agent management costs low is important. This can be achieved by having good quality agent networks (i.e. agent activity rates over 60 percent) and keeping the agent management team small. Furthermore, it is important to note that all FIs in the study shared the strategic objective of reducing branch operational expenses by implementing agent networks. The data from the study shows that the FIs were able to reduce branch operational expenses by reducing the size of the team needed to handle daily transactions as well as reducing the number of new branches needed to reach new geographies.

In terms of the income, it can be categorized in two groups: direct and indirect. Direct income refers to the fees that an institution can charge customers for transacting through the digital channel. The financial institution should consider market conditions such as what competitors or similar DFS providers charge to set up a pricing structure that can both contribute to covering the operational costs of the service and foster customer uptake and usage.

In the study, the participating financial institutions with an agent network generated direct income from the following transactions:

- **Cash-out fees:** All institutions with an agent banking channel in the study introduced such fees. For those institutions not charging for cash-ins or not offering additional fee-based services, the cash-out fees represent the gross of the fee income generated by the channel.

- **Cash-in fees:** One institution in the study charges customers to deposit money into their accounts. Although charging customers for cash-in is not common in similar services (i.e. MNO's mobile wallets), for this institution this measure significantly contributes to covering the channel's main operational costs and to reach break-even.

- **Transfers:** Fees charged for person-to-person transfers, either over the counter or through a deposit to an account, are another way to generate fee income from a digital channel. Four institutions in this study offer the service via agents, but fees generated by this service represent only a small portion of the channel's overall income.

- **Payments:** Two institutions in the study offer some type of payment service (i.e. bill payments, school fees, government-to-people, payroll) through their agent networks. In most cases, the fees received for these payments represent a marginal portion of the income generated by the agent banking business.

- **Account Opening:** A portion of the income fees generated for the account opening should be allocated to the digital channel if new client acquisition, account opening, and KYC collection is completely done through the digital channel. At the time of the study, none of the institutions were generating revenue by opening accounts. However, two institutions in the study were exploring options to charge customers for account opening through agents.

- **Other fees:** Financial institutions can consider charging customers to perform balance checks, view mini-statements, or for general account maintenance. Two institutions in the study charge customers a small fee to check account balances at agents. None of the institutions in the study are currently charging maintenance fees for accounts that are directly linked to the agent banking channel.

Quantifying indirect income can be a challenge because it requires financial institutions to look beyond the standard income sources of the digital service as well as being able to quantify indirect income attributable to the digital channel. Most FIs in the study reported difficulties identifying indirect income sources as well as calculating and deciding on the portion of overall income to allocate to the digital service. Based on information from the nine participating FIs, it is possible, however, to identify three main potential sources of indirect income for the agent banking channel:

- **Deposit mobilization:** Through deposit mobilization, banking institutions can benefit from the difference between the lending and savings interest rates - also known as intermediation - and use a cheaper source of funds to support lending activities. By including intermediation in its financial calculation, an FI can strengthen profitability and the business case for a digital service.

- **Interest income from the digital channel:** Although many institutions have difficulties attributing savings mobilization to the agent banking channel, all institutions report that most cash-in transactions are done for loan repayment purposes. However, none of the financial institutions allocate a portion of the interest income from their agent portfolios to the profitability of the agent banking channel. The logic behind allocating a portion of the loan portfolio's interest income to the agent banking channel is to recognize the contribution of this digital channel to the delivery of loans. In two of the participating FIs, the agent banking channel established itself as the main outlet for loan repayments. It can be inferred that without the channel, servicing those loans might not be possible or could be costlier for the institution.

- **Cross-selling of services:** The ability to cross-sell other products should also be considered as a potential indirect income for a digital channel. For example, the distribution of nano loans through an agent network generates interest income to the financial institution. Part of that interest income should be allocated to the agent network, especially when it is the main channel for distributing and servicing those loans.

The calculation and analysis of indirect income streams for the digital channel should be used in the context of understanding the profitability of the channel and its progress towards break-even. However, the indirect income calculation might not be used for formal accounting purposes, such as putting together financial statements or reports to regulatory bodies.

Additionally, it is important to emphasize that income is driven by the number of customers adopting and using the service. Therefore, it is essential to address operational problems that might hinder the adoption and usage of the channel.

Digital channels allow FIs to operate in locations that would have been too costly to serve with branches

The study shows that six financial institutions in the study experienced some level of benefits from the channel, including cost savings and growth opportunities. The agent banking channel contributed to cost reductions in the following areas:

- **Cash-handling:** Three institutions reported that the agent network contributed to a reduction in costs associated mainly with transportation, insurance and dealing with counterfeit bills.

- **Branch operational expenses:** Due to less client traffic at branches, four institutions were able to reduce the number of tellers, which lowered the operational costs of branches.

- **Transactions:** One of the FIs found conducting a transaction at an agent was 25 percent less expensive than at a teller. Another realized a 17 percent cost savings per transaction when using agents for deposit mobilization.

It is also important to note that agent banking has significantly contributed to the growth - in terms of clients and portfolio - of five of the institutions in the study. Three institutions in the study stopped relying on physical branch market expansion because they found agent banking to be a more cost-effective way to improve both market penetration and expansion.

Innovation can be a driver to reach channel sustainability

Innovation has been key for reaching channel self-sustainability. From the study, the two FIs that are currently covering their operational expenses have both been innovative and unafraid of challenging conventional wisdom:

- **Questioning the reasons for not charging for cash-ins:** One of the two institutions currently charge customers for doing cash-ins at agents. Agent cash-in transactions are traditionally free for customers; but they can generate a large operational expense due to the need for paying agents' commissions for this service and costs associated with liquidity management. Although the initial reactions of customers to the new cash-in fees were negative and led to a decline in transactions of around 30 percent, the FI decided to continue with the fee and roll it out to all its agents. After more than a year with the new cash-in fee and improving the way this new fee is communicated to clients, the FI is seeing the bold strategy bear fruit by reaching operational break-even of the agent banking channel for the first time in the last quarter of 2017.

- **Designing new services to cross-sell through the digital channel:** Two FIs decided to explore another approach to reach channel self-sustainability by cross-selling nano loans. The nano loan product is exclusively offered through agents. These loans are generating enough interest revenue to cover a good portion of agent network expenses – including agent commissions – and pave the path to making the agent channel self-sustainable.

It is important to communicate and explain to customers and agents the reasons for price changes. Agents should be seen as an ally when communicating fee changes and FIs should ensure agents are well trained to respond to customers' questions about new fees. As an example, one FI in the study – after revising its fee structure and facing adverse client reaction – decided to hold open forums with agents to present the reasons for changes in fees and listen to customers' concerns.

The business case for savings mobilization is yet to be proved, but evidence suggests a positive impact

Savings mobilization was a strategic motivation for the implementation of a DFS for most of the institutions. From the study we know that deposit transactions for loan payments are most common. However, it is important to also forecast and track cash-in transactions for savings-only purposes to assess the effects in savings mobilization of the digital channel. Although the potential to mobilize savings through a digital channel is theoretically high, due to system limitations, that potential could not properly be quantified for most of the financial institutions in this study.

Two institutions tracked the portion of cash-ins for savings. One institution did not see any direct increase in savings mobilization for agent banking users over the course of the study. The other, however, reported a seven-fold increase from January 2017 to December 2017. The same institution also experienced a 17 percent cost savings per savings transaction through the digital channel. In addition, the total savings portfolio more than doubled after the launch and roll-out of digital channels at three FIs.

PRESENT PROGRESS AND OUTLOOK

This section zooms into each of the participating institutions individually in order to summarize their DFS journey and suggest what lies ahead. The team also found some common trends among all the participating FIs:

1. All of the institutions fully launched their first digital channels, and all of the channels are operating and expanding. In some cases, these channels established as the main distribution channel for the FIs as per the transaction volume handled by the channel (see Figure 17). Many of the FIs are planning or already piloting further digital delivery channels.

2. FIs are developing new products and services to distribute via their new channels (utility bill payments, nano loans, savings collection, etc.). FIs are also developing partnerships to offer these products and services.

3. Two institutions are on the way to channel self-sustainability – mainly achieved through fee income from new products, revision of fee structures, etc.

4. FIs are also developing partnerships to integrate digital channels with other DFS solutions (e.g. mobile wallets, payment aggregators).

5. The banks are testing adopted DFS approaches (agent kiosks, roving agents).

Figure 17: MFIs' shares of DFS transactions via digital channels as of December 2017

| 39,7% | 60,9% | 37,5% | 74,2% | 43,3% | 36,9% | 30,9% |
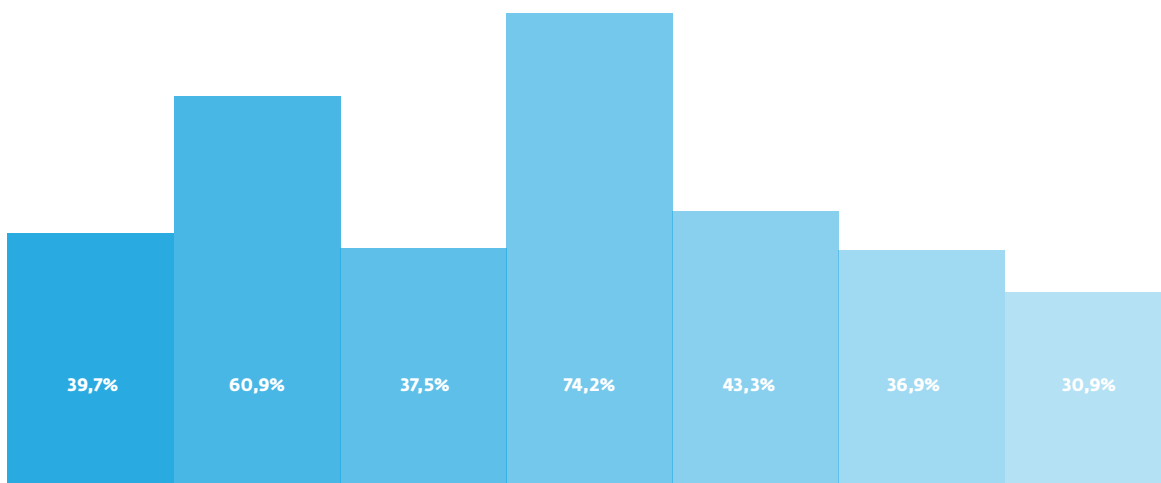
AccèsBanque Madagascar

AccèsBanque Madagascar started planning their agent banking channel several years ago, however, it took over two years to gain regulatory approval to launch. That delayed their plans and inflated their costs. At the end of 2017, they piloted the channel with 10 agents, and in 2018, it was officially launched under a new wholly owned subsidiary, targeting existing SME clients to act as agents. Since the launch is fairly new, it is difficult to determine the long-term sustainability of the channel, although it has been well received by the 90,000 customers of the bank and is viewed by management as key to their long-term growth and competitiveness in the market. During the wait for approval, AccèsBanque took the time to develop a risk management strategy and a customer engagement strategy that will support its initiative going forward and ensure steady growth with a viable offering.

AccèsBanque's future strategy revolves around three pillars: digital channels, digital processes, and user experience. It is investing in both a data warehouse to build business intelligence capability, and in social media and call center channels for customer support. The new digital strategy also foresees growing into a full-service bank, including digitization of back-end processes such as loan applications and Customer Relationship Management (CRM). This effort will link all customer data to help the bank better understand and serve its customers as well as reduce the risk profiles. Many facets of this strategy are grounded in the agent network as the main digital channel for customer interactions. The data and digitization will allow the bank to become customer-centric; to better service both the customers and the agents, to build meaningful products, and to provide efficient and responsive service.

AB Microfinance Bank Nigeria

AB Microfinance Bank Nigeria began offering digital financial services in 2015, providing debit cards, a mobile application, cash-in/cash-out via a third-party agent network, and correspondent banking to allow customers to repay loans and withdraw cash through other banks. Central to the deployment is a partnership with a local supplier, eTranzact, which provides the whole channel infrastructure including software, switching, card solutions, and an agent network for the bank's digital services. Technically, its accounts are also integrated with the eTranzact "Pocketmoni" wallet, allowing customers seamless access to mobile wallet transactions.

AB Microfinance Bank is a nationally licensed microfinance bank with about 93,000 active customers. AB Microfinance Bank sees its key competitors as being the low-end players in the mainstream banking sector. The banking regulator has a clear financial inclusion mandate and the bank's commercial banking competitors are also starting to invest in this sector, targeting the same small business customer base.

Overall the organization has found digital transformation to be a positive experience of strategic importance in order to remain competitive, even though uptake has been lower than forecasted, especially for the debit card product. Nevertheless, about 21 percent of its customers are active on the mobile application and more than 40 percent of the bank's financial transactions are now conducted out of the brick-and-mortar branches. Central to the growth of the DFS is the delivery of the group omni-channel strategy, which allows customers to use the mobile, online, agent, and branch channels interchangeably from the same account. As AB Microfinance Bank prepares for this, it is also working to support infrastructure such as process efficiency and improvements in CRM, web design, call center, and data infrastructure. Better customer understanding and segmentation is needed. To meet that need, new business intelligence (BI) staff has been recruited and a firm has been engaged to work on data-based analytics for scoring. Work is underway to deploy point of sale (POS), to pilot cashless e-branches, to develop financial credit scoring, and create an overdraft facility for its customers. With several years of customer data on file, the marketing team plans to build future campaigns around key customer segments by making more use of digital marketing, such as pro-actively promoting the benefits of core products and digital channels.

Risk management is an important area of development and the bank's risk strategy is moving from a credit risk focus to a wider range of categories. In particular, new fraud prevention policies are being implemented, including a drive for greater automation of some processes. Aware of the risk associated with a single IT and infrastructure supplier, new partnerships are being sought.

AccessBank Tanzania

AccessBank Tanzania launched its digital service at the end of 2014, and has continuously improved and extended the service since. The original customer offering included a USSD-based mobile account and an agent network for cash-in/cash-out. Banking agents are not permitted to register new customers in Tanzania, so the bank created the position of Customer Marketing Officers (CMO) to recruit new customers directly in the field. The introduction of transfers between its mobile account and the largest MNO wallets in Tanzania allowed AccessBank customers to use MNO agents, greatly increasing agent access. More recently, group savings, mobile-accessed loans, and agent overdraft facilities have been piloted, among other initiatives.

AccessBank Tanzania recognizes that it faces direct competition from a number of banks actively deploying mobile and agent banking. Nevertheless, more than 55 percent of its 62,000 active customers are registered for the services and more than 60 percent of the bank's transactions are now conducted via mobile app and agents. While bank branches remain important for high value customers, opening new branches is expensive, and AccessBank is now focusing on extending its geographical reach by growing its agent network, with limited branch expansion. Agent recruitment has been greatly improved in 2017 by a change in regulation, and agent applications no longer need direct approval from the central bank. The institution is in the process of more than doubling the size of its agent network. It also plans to create a special category of agents that can collect registration documentation from potential new customers and collect loan application documentation from existing ones. Following the pilot, selected agents are being given access to short-term overdrafts to assist with float management. In addition, the CMOs are being replaced by Relationship Officers that will combine the roles of CMO and loan officer.

Tanzania has seen several high-profile cases of DFS fraud recently, and the institution's strategy to protect its customers and its business from such incidents involves creating a comprehensive program of staff training and raising customer awareness of safe practices. There are also plans to automate controls and key business processes that are currently being done manually.

Product development is a priority for AccessBank Tanzania, and several new initiatives are planned. A new mobile wallet platform is in development that will add smartphone access to the current USSD channel, allowing customers access to a full suite of account management functionality. AccessBank admits that this solution will initially focus on more affluent smartphone users but it is expected to spread as ownership grows. A digital lending service is under development, based upon automated credit risk assessment. The "Kikundi" group lending account is being rebranded and relaunched with improved targeting on key savings groups such as church and company groups.

Advans Cameroon

Advans Cameroon has adopted a digital approach since 2016, to support its strategic objectives of mobilizing deposits and increasing satisfaction of its more than 70,000 customers. To improve clients' service accessibility, the agent network is deployed across the country and provides cash-in/cash-out, account information, and transfers between accounts, all focusing on high-quality partners as well as customer experience. Operations are performed in real time using a secure digital application linked to Advans' core banking system. In line with its strategic objectives, complementary "outlets" have been deployed in remote areas to increase clients' access. These outlets handle customer registration, loan applications, and other administrative tasks normally managed at branches. Outlets do not handle cash, which is managed through the network of agents. In addition, to encourage customers to frequently save, "mobile collectors" visit clients in the field on a daily basis to collect savings deposits, using the same digital application as agents. They perform a service similar to traditional "susu" collectors.

Advans' innovative digital approach has proven successful in growing the number of savers and the frequency of deposits. The agent network now accounts for a substantial proportion of the institution's mobilization of deposits. More than two years after the launch of agents, almost half of the institution's overall cash transaction volume is conducted through the agent network and mobile collectors. As a result, Advans is reviewing the size of its branch network. In order to reduce costs, Advans may diminish the size of some branches and rely on alternative channels for cash services in the future. In addition, further geographic extension will be through the development of mini-branches or cashless outlets only. Both models are relying on the agent network. All employees of the institution are fully engaged in the change process, and aware that it benefits the general efficiency of operations, also offering the opportunity for personal development through a new scope of work linked to these innovations. To both, promote the new services and effectively engage all employees, "operation flotte" involves all the institution's staff having to undertake monthly door-to-door field activities. Finally, Advans' digital roadmap also includes integrating with local MNO wallets to provide transfers between accounts and MNO wallets (so called "bank to cash"), although this has suffered some delays for regulatory reasons. These DFS activities are central to the organization's engagement to increase client accessibility and satisfaction with Advans' services, to improve productivity, and to reduce costs. As its digital financial services grow, Advans is planning to update the tools and processes for risk monitoring.

Advans is becoming increasingly customer-focused and recognizes the need to better understand the new savings activity that its DFS activity is bringing about. In addition, it wishes to grow its client-base of young entrepreneurs, especially women. Quarterly market studies and analysis is conducted in order to better understand customer behavior, needs, and preferences.

FINCA DRC

FINCA DRC was founded in 2003 and, with more than 270,000 customers, is the largest microfinance institution in DRC. In 2011, it was the first institution in the country to pioneer agent banking and it now has a relatively mature agent network of more than 1,300 agents, which is still growing. The agent network is currently responsible for more than 80 percent of its transaction volume. Agents can perform cash-in/cash-out, loan repayments, bill payments, and transfers between accounts. Agents are given POS devices to process transactions. FINCA has used field staff to sign up clients, collect biometrics, and create personal relationships during the recruitment process, but soon will leverage the agents to also perform these processes.

A major component of FINCA's mobile banking strategy is to develop a mobile banking solution that can be accessed by USSD and smartphone app. Users will be able to pay bills and transfer funds to FINCA and mobile wallet accounts. A new mobile savings and loan service is being created for existing customers and as a means of attracting new customers. This activity will be supported by improved performance and monitoring tools, increased staff training, and a new monitoring and alert system that is currently in development,

As MNO wallets become popular, some have been integrated with FINCA accounts, opening up a wider range of agents to customers for cash transactions. In addition, this allows FINCA to develop a micro savings and loan product for M-PESA users in partnership with Vodacom. The product will be similar to M-Shwari in Kenya. The first step will be to launch a nano savings product, followed by micro-loans of increasing size as the automated customer risk scorecard algorithm is validated. For larger loans, FINCA sees this as a recruitment tool, advising applicants to visit a local branch. For the last 2 years, FINCA has been acting as Superagent for the MNO wallets, assisting with their agent liquidity management. Many FINCA agents also offer MNO wallet services and currently need to keep a separate float for each. The multiple floats add to the agents' liquidity challenges. FINCA has identified an opportunity to act as the holding account for all agent services so that agents would need only one float that could be used in real time for any network, or for FINCA transactions.

LAPO Microfinance Bank Nigeria

LAPO Microfinance Bank is a leading Nigerian MFI with over 400 branches in 34 of the 36 states in Nigeria. Its customer base of over three million is split between individuals and group members who benefit from the bank's credit and savings products. With ambitious growth targets, LAPO started an agent banking pilot in May 2017 to determine how DFS can support its business targets. Through the service, which was recently rolled out, agents are able to perform cash-in/cash-out and register new customers for mobile banking. As a result of the pilot, LAPO's focus has moved from quantity to quality, concentrating on agents that are able to represent the bank's business to a high standard and provide excellent customer service. Agent quality controls for its 238 agents will be implemented and new processes developed to monitor performance.

LAPO recognized that field staff need to be more involved in the agent network than they were in the pilot. The reporting line of agent relationship officers has changed to the branches and area officers, and eventually zonal Agent Network Managers will be recruited. Understanding the importance of partnerships, LAPO is creating a partner manager role to target agent recruitment of specific retail categories such as petrol stations and the Nigerian postal service. In addition, LAPO is seeking to partner with the payment processing company Interswitch to enable bill payment collection.

The pilots clearly identified the need for staff education about DFS, and several training sessions have already taken place in the Benin training center; these are being extended to create a formal training program. LAPO is also developing online training via an e-learning platform. A pro-active change management process is being developed, with branches involved in agent management and staff reassured that their jobs are not at risk.

LAPO's future developments include bill payment via Interswitch, and provision of MNO airtime top-up. Based upon customer feedback, a debit card linked to a savings account is being developed from which customers can access their loans, among other things.

Baobab (MicroCred) Madagascar

Baobab Group is a credit-focused network of financial institutions targeting the MSME sector. Baobab Madagascar was one of several Group companies to launch the "Baobab" agent banking network. It has proven so successful that the whole group and its subsidiaries have rebranded as Baobab. The strategic driver for Baobab Madagascar was to extend access to new deposit accounts cost-effectively. This was accomplished using a shared technology platform, linked to agent laptops and tablets with biometric customer identification. Agent liquidity was facilitated by providing agents with MNO wallets. When the regulator froze agent expansion for several months, the bank focused on improving agent quality, resulting in increased agent usage and productivity despite a halt to network growth. At the end of 2017, almost half of the active customer base of 53,000 was actively using the agent points, accounting for 43 percent of the total cash transaction volume. The recently launched "Taka" nano loans that can only be accessed via agents are also increasing the popularity of the agent channel and the additional loan income offsets a significant proportion of the agent management costs, helping the digital channel to get close to self-sustaining.

Baobab Madagascar intends to pursue its digital strategy with a focus on achieving profitability and launching new digital products. A priority is to grow the agent network and thereby increase geographical coverage. This includes the creation of exclusive agent kiosks using lessons from a pilot at the Senegal affiliate. To increase agent traffic and income for both parties, "bank-to-cash" is planned, allowing customers to send electronic vouchers that can be cashed out by recipients without a bank account. Agents will also be able to offer over-the-counter bill payments for utility bills. As a consequence of agent expansion and the rising popularity of agents, Baobab Madagascar has decided not to open more branches, and existing branches may be rationalized or turned into agent management hubs.

Baobab Madagascar accounts are now integrated with the Orange Money wallet, substantially increasing customer access to cash-in/cash-out; and connection with the other MNO wallets is in progress. In addition, there have been ongoing discussions with Orange about partnering to provide a micro- savings and loan service like M-Shwari in Kenya, and a contract for collaboration has been signed. A mobile banking app for smartphones is on the institution's roadmap but as a lower priority. The group has received funds to develop advertising on Facebook, the only social media currently used in Madagascar. The option of trying once again to introduce cash-in fees (as charged by Baobab Senegal) is also under consideration, but management is cautious because the fees were poorly received last time they were tried.

Baobab (MicroCred) Senegal

Baobab Senegal has a similar DFS implementation strategy to its Madagascar sister company, launching the "Baobab" agent banking network, then changing its company name to Baobab and adopting a long-term digital strategy. One key difference is that Baobab Senegal is used by the group as an incubator for new ideas. The bank is committed to a customer-centric digital strategy that provides core services more efficiently to its more than 300,000 customers; extends its reach via agents; and uses DFS to provide new services. The network's 500 agents are linked to the nearest branch, and the branches are closely involved in the agent management process.

Because of profitability issues, Baobab Senegal took the bold decision to start charging customers for deposits at agents. It was the only institution in the study to do so. That decision led to a short-term drop in usage, though volume recovered over time, and by the end of 2017, more than one third of the bank's cash transaction volume went through agents. The experience also led Baobab Senegal to launch a successful agent overdraft facility that was originally designed to offset the agents' reduction in income but ultimately allowed agents to serve more customers. With an improved commercial footing the institution is developing a number of new initiatives. A team of designers has been recruited to work in the field mapping customer behavior and identifying ways to improve the user experience for new and existing products and services.

Bill payments are to be added to the agent OTC services and the bank is in negotiations to partner with a local payment aggregator for utility bill payments. That is expected to attract new customers rather than be a major source of revenue. Automated credit scoring is being piloted prior to roll out, and this is happening in parallel with the development of an improved data warehouse, both for this project and to inform CRM activities. Planned SME overdraft facilities and flexible guarantees will also benefit from this project. Recognizing the importance of partnerships in this sector, discussions are underway with retail banks and MNOs with wallets to enable account transfers. Senegal has a large diaspora, and it is hoped that the major money transfer organizations will integrate with Baobab Senegal as a destination for remittances.

The institution has successfully piloted so-called "agent kiosks," i.e. exclusive and dedicated agents in small Baobab outlets focusing on customer registration. Agent kiosks use the PULSE application via tablets, which is substantially faster than the account opening process at branches. It is also developing a mobile application for its customers.

Urwego Bank (UOB) Rwanda

Urwego Bank, formerly UOB, is a Rwandan microfinance bank offering a full suite of banking services to its more than 300,000 customers. Over the course of this study, HOPE International, a Christian faith-based nonprofit organization, acquired majority shareholding in Urwego from Opportunity International, a non-profit development organization. Urwego provides a USSD mobile banking channel and an agent network of 158 active agents branded mHose. The primary objectives for the digital channel are furthering financial inclusion, removing cash handling from loan officers, recruiting new customers, and driving efficiency. In February 2019, more than 70 percent of its group customers' loan repayments were collected via agents.

Urwego has updated its strategy and is taking a step-by-step approach to improving its processes with the goal of converting all group loan disbursements and repayments to mHose. Addressing internal buy-in for the digital strategy has been a key component of making mHose successful. To enable a smooth transition, agent liquidity needs to be improved and Urwego is considering a number of options to facilitate this. As agents take a more prominent role in service delivery, Urwego has empowered branch staff in the management of mHose, scaling down the role of the head office. New customers currently have to enroll at a branch, but going forward, agents will be able to register them immediately unlocking some of the bank's services while KYC is being fully processed. Along with improvements in DFS, Urwego has retooled its fundamental credit origination and recovery systems and procedures.

CONCLUSIONS

The main objective of this study was to understand if Digital Financial Services could help financial institutions expand their markets and provide financial services to excluded segments of the population. It also sought to examine scale and outreach of digital channels as well as their impact on the institution's overall operations. For this purpose, the study worked closely with nine FIs in seven countries in Sub-Saharan Africa to document their experiences in the design, piloting and rollout of their digital offerings. In the documentation of these experiences, the research team was able to identify important lessons for other FIs exploring the use of DFS. Those findings center around four main areas:

Strategy and business case

The study demonstrates that digital strategies should not be static and must be responsive to customer feedback as well as changes in market conditions. The strategic objectives of the participating FIs evolved over time as the institutions gained a more comprehensive view of the benefits of digitization.

Initially, the strategy for implementing digital channels focused on increasing the institutions geographic footprints and expanding their client bases – especially in rural areas – while keeping the cost of expansion low. However, the path towards those goals was not always clear. For example, financial institutions that were aiming to expand beyond brick-and-mortar did not initially realize the level of investment they needed to make in technology and personnel, and how those costs would affect the DFS business case. That underestimation was due in part to FIs' misperceptions regarding business growth and the lack of peer information necessary to build a business case. Furthermore, as the digital ventures matured new areas gained more relevance, such as focusing on improving operational efficiencies, providing better customer experience, and offering a wider range of financial and non-financial services.

Nevertheless, the findings from the study show that at least three FIs have become successful with their DFS operations, demonstrating that Digital Financial Services are financially viable and can help FIs grow their businesses by reaching new clients, increasing deposits, and reducing operational costs. However, the remaining FIs in the study are still fine-tuning their strategies.

Internal buy-in

The FIs in the study realized the importance of obtaining the buy-in of staff for the digital venture. The institutions noted that they could have a good strategy, but this would be worthless if the strategy was not supported internally. All of the participating FIs faced different degrees of internal resistance to their digital channels.

The most common resistance came from branch staff, who in some cases felt as if their jobs were threatened by the digital transformation. Some staff fears were justified as FIs did not always properly communicate the rationales for the changes or how the DFS could positively impact their daily tasks.

Hence, to obtain the buy-in of staff and overcome fears, the participating FIs started to put in place different change management approaches that included better communication with staff, training opportunities for employees, and empowering branch staff to have responsibility for the success of the DFS.

Data

The most successful DFS implementations in the study used strong data-driven approaches to improve customer service experience, design better products and/or to monitor operations. While most of the institutions started with basic cash-in/cash-out services, the FIs understood the need to offer a wider range of digital products to expand customer adoption and increase the volume of transactions. For this purpose, the use of data played a key role, in particular for the development of products that needed a fully digital experience. Additionally, three FIs employed data to better monitor operations. For example, one of these FIs experimented with agent segmentation and predictive tools using transactional data to better support agent liquidity management, which in the long term, helped to improve customer experience.

DFS management

Most of the FIs in the study started their DFS offering from scratch. Agent banking was the most common Digital Financial Service deployed in the study. For these deployments, FIs needed to build the internal capacities (people, processes and systems). The task of building these capacities was not easy for most FIs. Also, the costs for these capacities were largely underestimated, in particular DFS staff management costs. Another challenge identified in the study was finding the appropriate liquidity management approach. That was a trial and error process for the FIs.

In terms of agent banking, the study noted the importance of finding the right size of the network. Most FIs in the study have learned to prioritize quality over quantity. The most successful agent networks in the study are not necessarily the largest. The agent networks that focus on high quality active agents rather than high numbers of agents have proven to be the most financially viable. This is well demonstrated by the case of one financial institution. Despite a number of external factors that forced it to close 25 percent of its agent network, a strategic decision to focus on agent quality resulted in its DFS business continuing to grow.

Additionally, agents must be properly trained and rewarded for their efforts otherwise they tend to not stay with the FI or do not properly sell the digital service. Hence, FIs need to ensure that there are sufficient clients visiting each outlet and that the commissions that agents earn are competitive.

The study also intended to document the impact of savings mobilization on DFS. The results on this aspect are mixed. First, the potential to mobilize savings through a digital channel is in theory high. For example, the size of the savings portfolio for most of the participating FIs grew during the time of the study. Some of this growth seems to have a similar trend as the growth of DFS. However, this relationship was not properly proved and quantified because of system limitations. Only two institutions in the study have data that allows for tracking the savings trends of customers, with one bank showing a great potential for saving mobilization as well as a reduction in the costs of managing those savings.

ANNEX: REGULATORY OVERVIEW OF STUDY COUNTRIES

	RELEVANT BANKING REGULATION	DFS REGULATION	CHALLENGES

CAMEROON	• FIs supervised and regulated by the Bank of Central African Countries (BEAC) with powers delegated to the Central African Banking Commission (COBAC)
	• MFIs are members of the National MFI Association (ANEMCAM).
	• Three categories of MFIs with specific governance rules:
	  o SACCOs and Credit Unions
	  o Deposit-taking MFIs
	  o Credit-only MFIs
	• Foreign transactions are prohibited for MFIs.
		• Mobile money regulation (2011): Only credit FIs are habilitated to issue mobile money after approval from the BEAC
		• MNOs are specifically regulated and supervised by the Telecommunication Regulator (ART)
		• Multi-banking (2014): Conditions for mobile money providers to make their mobile banking systems interoperable via a dedicated multi-banking structure (switch)
		• BEAC suspended all mobile money transfers outside the CEMAC zone in June 2017.
			Strict bank-led model
			MNOs and Fintechs need to partner with banks in order to provide mobile money services. Although the law does not forbid the delivery of mobile savings and mobile loans, mobile money services offered by banks are still limited to money transfers, airtime purchase, and bill payments.
			
			Limited mobile money regulation
			The mobile money regulation provides limited guidelines regarding the activity of MNOs in the space. It does not define the types of mobile products which are allowed, nor does it specify KYC requirements over mobile money clients. No chapter is dedicated to the regulation of agent activities.
			
			Prudential norms represent a burden to finance SMEs
			MFIs have mostly short- / medium-term financial resources.

DRC	• FIs regulated and supervised by Banque Centrale du Congo (BCC)
	• Five categories of FIs:
	  o Banque
	  o Coopérative d'épargne et de crédit
	  o Caisse d'épargne institution
	  o Financière spécialisée
	  o Société financière
	• Two categories of MFIs:
	  o Micro-credit Enterprises (cannot collect savings)
	  o Microfinance Companies (can collect savings)
	• Only Microfinance Companies are subject to prudential regulation of BCC.
	• BCC manages a credit bureau for commercial banks, there is no credit bureau for MFIs.
	• KYC principles are reinforced with stronger emphasis on incoming and outgoing transfers than deposits
		• BCC released a regulatory framework on e-money: (Directive #24, 2011): It allows non-banks to set up a subsidiary to provide e-money services.
		• E-money is provided by MNOs (considered as "Financial Companies" licensed and regulated by the Banking Law.
		• Money transfer companies have extensive networks and are widely used (a barrier for DFS in a cash-based economy).
		• MFIs are authorized to distribute electronic money.
			Challenges according to IMF:
			• Banking Law to be revised soon for strengthening prudential regulation and empowering BCC (liquidation of banks in bankruptcy)
			• BCC is generally weak with serious gaps in terms of AML/CFT
			• National Payment System is being strengthened but remains weak, notably in terms of guarantees
			• The regulatory framework for e-money ought to be reviewed to improve competition and improve customer protection.

	RELEVANT BANKING REGULATION	DFS REGULATION	CHALLENGES
MADAGASCAR	• FIs supervised and regulated by the Commission de Supervision Bancaire et Financière (CSBF) of the Central Bank of Madagascar (Banky Foiben'i Madagasikara) • Banks are members of the Professionnal Association of Banks (APB). • MFIs are member of the Professional Association of MFIs (APIMF). • MFIs can be cooperatives, credit-only and deposit-taking institutions. • MFIs cannot operate in foreign currencies, issue cheque books, perform foreign money transfers, and exchange.	• Financial service providers can directly offer mobile money services upon formal agreement from the CSBF. • Non-financial service providers have to create a separate entity licensed by the CSBF. • Mobile money providers cannot directly deliver services which are not defined by the law. • Mobile loans and remunerated savings are explicitly	**The new mobile money framework is not fully implemented; persistence of the old informal mobile banking system** A new law (Law 2016-056) is regulating mobile money and mobile money providers as the first legal framework for mobile money ever implemented in Madagascar. Prior to this law, providers had started processing mobile money transactions and offering mobile money products following informal instructions from the CSBF. These instructions imposed an exclusive-agent model, whereby agents could only operate in the name of one financial provider. Financial providers then started to operate mobile money through Banking Operations Intermediary and exclusive agents. The new law does not impose any restriction as far the activity of agents is concerned. **79 percent of the population lives in rural areas** where financial access is limited. Coupled with a limited awareness of mobile services in general, this poses a challenge to the development of DFS.

	RELEVANT BANKING REGULATION	DFS REGULATION	CHALLENGES
NIGERIA	• The banking sector, including MFIs, is regulated and supervised by the Central Bank of Nigeria (CBN) • In 2012, CBN launched National Financial Inclusion Strategy, which set targets to reduce financial exclusion to 20 percent by 2020.	• Slow uptake of DFS: CBN's 2009 "Guidelines on Mobile Money Services in Nigeria": long excluded MNOs from providing mobile money • Now there are 21 licensed mobile money operators. • Biometric Bank Verification Numbers (BVNs) were introduced by CBN but responsibility of implementation with the banks – which requires significant financial investments • Three-tiered KYC regime enables financial service customers who are unable to satisfy all KYC requirements to still access financial services, albeit with limited transaction thresholds	• Over 60 percent of Nigeria's population is residing in rural and remote areas, most affected by financial exclusion. Challenges identified by the Sustainable and Inclusive Digital Financial Service (SIDFS) initiative of the Lagos Business School:[16] **(i) Consumer Constraints to DFS** Adoption: economic factors, lack of financial knowledge and awareness, lack of access to digital devices; **(ii) Insufficient market understanding on provider side:** many are misguided by market size, limited knowledge about unbanked segments **(iii) multiplicity of ID systems** and their low enrollment numbers **(iv) Low consumer protection and need to build safer DFS ecosystem,** including pricing, complaints and dispute resolution, cybercrime, data protection **(v) Insufficient interoperability on supply side,** e.g. lack of a unified agent framework or regulations guiding agents' provision of financial services **(vi) Lapses in the telecommunications infrastructure,** especially the expansion of telecoms infrastructure to rural locations, or locations that don't yet have a proven business case for commercial investment

16 *See "DFS in Nigeria: State of the Market Report (2016)":*
https://www.digitalfrontiersinstitute.org/resources/item/dfs-in-nigeria-state-of-the-market-report-2016

	RELEVANT BANKING REGULATION	DFS REGULATION	CHALLENGES
RWANDA	• Banking sector (including microfinance Institutions) is regulated and supervised by the National Bank of Rwanda (BNR) Three categories of MFIs: • Credit-only MFIs have to comply with simplified prudential norms defined by the BNR • SACCOs with a value of deposits higher than RWF20 million ($27,000) and Limited Corporations providing saving and credit services are required to operate under the rules and prudential norms defined by the BNR. • SACCOs with a value of deposits below RWF20 million ($27,000): Deposit taking SACCOs - Governed by laws on saving and credit cooperatives • Umerenge-SACCO (the biggest Sacco's network in Rwanda with initially 416 branches) consolidation process aimed at consolidating U-SACCOs at the District Level • The consolidation is expected to commence in 2017 and will be a precursor to the establishment of an Apex Cooperative Bank for the SACCO network to further enhance financial strength of the network as well as service delivery (especially as a channel to the national payment system)	• Rwanda's regulatory environment has been identified as one of the drivers of enhanced digital financial inclusion as it enables various entities (including bank and nonbank formal providers) to offer mobile financial services. • Agent banking is permitted and both mobile operator-led and bank-led mobile financial services are permissible models, subject to licensing by the NBR. • Banking agents can accept deposits, conduct cash-out services, and process a few transactions. Although nonbank agents originally could conduct only cash-in/cash-out operations, the list of permissible activities has expanded over time. • E-money agents are permitted to provide cash-in/cash-out services and to conduct account opening. • In addition to issuing e-money, non-bank e-money issuers may engage in an array of services (payments, transfers, cash-in/out, savings, loans, insurance, etc.).	**Sector supervision and microfinance practices** The role played by the BNR and RCA (Rwanda cooperative Agency) in the supervision of the microfinance sector has to be clarified to avoid overlaps. microfinance bank performances should be included in the national microfinance sector statistics to take into account their important and growing role in the industry (microfinance sector - excluding microfinance banks - accounts for 5.9 percent of total financial sector asset versus 66.6 percent for bank sector). **Interoperability** • In 2014, the National Bank of Rwanda issued a policy on interoperability highlighting the long-term vision for interoperability in Rwanda but it hasn't been put in place yet. • In 2017, Access To Finance Rwanda launched a call for proposals to develop a business plan for interoperability of DFS as mobile money operators are currently working under a closed-loop, not allowing transactions across different mobile operators. **Other** • The current microfinance law is not really favorable to MFIs registered as "limited by shares" versus cooperatives.

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SENEGAL	• FIs Regulated and supervised by Banque Centrale des États de l'Afrique de l'Ouest (BCEAO) • Financial Intelligence Unit, called CENTIF, focuses on AML/CFT issues • The Observatoire de la Qualité des services bancaires, the first one in the UEMOA, has been launched	• Agency banking regulations are in place for banks (but are reported to be very constringent) • Non-banks (i.e. MNOs) authorized to issue e-money if they obtain the license to operate as e-money issuer • E-money issuers must partner with a licensed FI to offer loan / savings product directly • Bank do not need license to become e-money issuers • MNOs become more independent from banks and flexible in developing their mobile money offerings (i.e. second-generation DFS, such as credit, savings and insurance) • MNOs are regulated by l'Autorité de régulation des télécommunications (TIC) et des postes du Sénégal (ARTP)	• Decentralized Financial Systems Law Impedes access to finance for SMEs • MFIs' revenues from non-savings and credit-related services cannot surpass 5 percent of their total revenues which is perceived by MFIs as a limitation to grow DFS • Money transfers by MNOs cannot be done outside the WAMU • There are few regulatory measures to effectively enforce client protection. **Agent banking** • There is no regulation for Agent Banking for MFIs. • i.e.: it is unclear what financial institutions can do to use the agent networks of over-the-counter providers to collect deposits and reimburse/disburse credit **CGAP, 2016:** • The annual interest rate caps on credit offered by banks and MFIs of 15 percent and 24 percent, respectively, may hinder the development of digital credit – when compared to the high interest rates charged in Kenya. • Some regulatory aspects remain unclear or incomplete, including know-your-customer requirements, identification, agent banking regulation, and access to the USSD channel.

	RELEVANT BANKING REGULATION	DFS REGULATION	CHALLENGES
TANZANIA	• FIs Regulated and supervised by Central Bank, Bank of Tanzania, (BOT) • Fragmented financial sector, involving over 50 banking institutions, over 100 MFIs and 5,500 SACCOs	• DFS has a favorable environment, but outlook is uncertain • There are clear regulatory guidelines for mobile money regulation: o Mobile Money is governed by "The National Payment Systems Act 2015: Electronic Money Regulation." o Agent Banking is governed by "Guidelines on Agent Banking for Banks and Financial Institutions, 2017": gives detailed eligibility rules for potential agents as well as ongoing agent due diligence and audit requirements, agents are not permitted to accept, issue or otherwise deal in cheque transactions • Interoperability: is mandated (for P2P transfers) and has been live for some time. In 2014, Tanzania became the first country to introduce an industry-led interoperability scheme between mobile money wallets for P2P domestic remittances. Consumers can transfer money between the four leading mobile wallets at no extra charge. Interoperability is currently based upon bilateral agreements between MNOs and financial institutions. • Distribution: Tanzania has a larger mobile money agent network than Kenya, and much of it is controlled by three main agent aggregators: Selcom, Maxcom and Cellulant. These organisations also provide their own OTC services at their agent outlets and the OTC market is thriving with an estimated 4.7 million users of remittance and bill payment services. • Tanzania tends to be an early adopter of DFS innovations and a wide range of DFS services are available and have become popular.	**KYC implementation:** Consumer access to financial services is moderately favorable. National identity cards have been issued by the National Identification Authority (NIDA) since September 2016, but coverage still appears to be low, with an estimated 47 percent of adults with no ID. For KYC purposes, banks are instructed to "verify customer's identity using reliable, independent source documents, data or information." **Competitive Environment:** The competitive landscape is advanced and MNO-led. Strong competition between the 3 main MNOs has driven DFS innovation in Tanzania. Mobile money usage has grown to rival Kenya, but in a more competitive environment. Banks have been slow to offer DFS, partly due to regulatory constraints in the early days, and much of their presence is via partnerships with MNOs.

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