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# DIGITAL TRANSFORMATION OF MICROFINANCE AND DIGITIZATION OF MICROFINANCE SERVICES TO DEEPEN FINANCIAL INCLUSION IN AFRICA



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## EXECUTIVE SUMMARY

Digital financial services (DFS) are spearheading greater financial inclusion in Sub-Saharan Africa, with 338 million registered accounts in 2017 and a significant boost in penetration from 12 percent to 21 percent between 2014 and 2017. Over the past decade of market development, DFS has diversified from basic money transfer and bill payments to credit, cross-border remittances, savings, insurance, merchant payments, bulk disbursements and other value-added services like pay-as-you-go (PAYG) energy, crowdfunding, savings group and value chain digitization. Digital credit offers are growing rapidly in mature DFS markets in Africa, such as Kenya, Tanzania, Uganda and parts of West Africa. Digitization of services is no longer an option, but a race MFIs must run to stay relevant in rapidly evolving markets.

Microfinance providers are taking progressive steps to embrace digital finance, often starting with the digitization of existing products, services and operations, either by using mobile devices, partnering with a digital financial service provider or developing a proprietary agency network. Although this triggers benefits for both clients (convenience, security, faster transactions and creation of a digital footprint) and microfinance providers (increased operational efficiency, diversification of customer base with value-added products, rural outreach at a lower cost), digital finance comes with certain challenges and risks, and can sometimes represent a threat if not leveraged appropriately.

Microfinance providers have to compete with other DFS players by serving millions of traditionally un(der)served populations. Despite the progress in expanding the reach of DFS, many Africans, especially vulnerable segments like rural residents, women and the very poor remain unserved. Microfinance has traditionally focused on serving these groups and have developed methodologies for building relationships with vulnerable clients. Given the scale and rapid rise of DFS and the rural/women focus of microfinance, partnerships offer great potential to deepen financial inclusion: between microfinance providers and mobile network operators (on digital savings and loans, mobile-to-wallet interoperability, etc.) or between microfinance providers and technical services specialists and FinTechs (credit scoring solutions, blockchains, etc.).

As technology disruptions and new players change the face of microfinance, regulators need to fully comprehend this changing environment and be prepared with adequate supervision and oversight tools. Inclusive digital finance is contingent on a broader disaggregation of the financial services value chain, with banks and non-banks (including FinTech companies) assuming different responsibilities according to their area of specialization, through a web of partnerships. This could include account and client data storage, management and analytics, and many more. Regulators need to identify how to optimize synergies between digital finance and microfinance for financial inclusion, such as consumer protection for DFS, KYC, credit risk management, data privacy, innovation, reporting, financial education and other areas.

## INTRODUCTION

The expansion of mobile money, the rise of FinTechs and the introduction of blockchain, super platforms and artificial intelligence have all changed the face of financial services. Traditional financial services and channels have evolved from brick and mortar to digital. The expansion of digital financial services (DFS) has meant greater financial inclusion. The 2017 Global Findex<sup>1</sup> found that 3.8 billion people (69 percent of the adult population) now have a financial account (bank or mobile money), an increase of 1.2 billion people since 2011. In Sub-Saharan Africa, one in five adults now has a mobile money account, nearly double the penetration in 2014.<sup>2</sup>

Digital transformation is also changing the way the microfinance sector operates. Over the last 10 years, microfinance providers have been dealing with new entrants to the field (competitors or enablers), leveraging technology to disrupt the way financial services are provided to low-income and unbanked populations. Today, microfinance providers have to “adapt or die”, with adaptation ranging from digitizing existing products and services to a complete digital transformation of processes and the introduction of new products and services (either on their own or with DFS partners).

As technology evolves and new solutions for financial services emerge, important questions arise: how will regulators ensure customer data and funds are safe, financial services are high quality and regulatory requirements are met without hindering innovation?

As the Alliance for Financial Inclusion (AFI) strives to support the development of regulatory frameworks that deepen financial inclusion in Africa, we must understand the convergence of digital finance and microfinance on the continent and explore the implications for financial regulators and supervisors.

This study reveals the role of technology in enhancing microfinance services in Africa and explores the convergence of DFS and microfinance from different angles. Through extensive literature review and key informant interviews, we sought to understand the synergies between digital finance and microfinance providers in providing access to finance for low-income individuals and small businesses. The objective of this report is to present policy and regulatory recommendations that will facilitate the digital transformation of microfinance services to deepen financial inclusion in Africa.

Chapter 1 examines the transformation of traditional financial inclusion actors that have digitized their existing operations. We highlight their reasons for digitizing (the value proposition for customers and microfinance providers, or MFPs), delve into the different models MFPs can use and identify the implications (risks and challenges) for MFPs. Chapter 2 addresses digital financial service providers (DFSPs) entering “microfinance territory” and investigates how these new digital models have contributed to greater financial inclusion. Chapter 3 discusses how partnerships between traditional MFIs and DFSPs (including FinTechs) can enable financial inclusion. Finally, Chapter 4 provides recommendations and policy options to optimize the synergies between digital finance and microfinance to enhance financial inclusion.

## DIGITIZING EXISTING MICROFINANCE OPERATIONS AND OFFERINGS

For microfinance providers embracing digital finance, the **digitization of existing products, services and operations is usually the first step.**<sup>3</sup> Various options are available: digitizing processes using mobile devices, partnering with a digital financial service provider or developing a proprietary agency network to distribute existing services or products. This chapter presents the reasoning behind going digital and details the digitization options for microfinance providers, including the prerequisites, challenges and risks.

### WHY ARE MICROFINANCE PROVIDERS DIGITIZING THEIR OPERATIONS?

For most MFPs, digitizing services is no longer an option. It is now a compulsory path to remain competitive<sup>4</sup> and reach the last mile.<sup>5</sup> To foster sustainable financial inclusion, MFPs need to embrace new technologies and reconsider their business models.<sup>6</sup>

Digitization is an opportunity for microfinance providers to leverage their license, customer base and outreach to rural areas and low-income clients, which are of interest to digital financial service providers (DFSPs). Digital solutions help financial institutions deepen customer engagement and product usage, and in turn promote and increase financial inclusion. Large segments of the population in developing markets are financially excluded, and including the unbanked requires financial education and specially designed services, which microfinance providers are familiar with providing.

Digital channels make it much easier for microfinance providers to collect data, and data analytics play a crucial role in determining risk profiles for financially excluded and new customers. The burden of data management is also alleviated, as digital data can be gathered, stored, retrieved, structured, cleaned and analyzed much more efficiently than traditional paper-based methods. This helps financial institutions to lower costs, provide customer centric products, reduce fraud, identify cross-selling opportunities and expand their customer base.<sup>7</sup>

Digitized operations and alternative distribution channels bring a **range of benefits to microfinance providers and their customers** that traditional branches and paper-based banking cannot provide. Some of these benefits are listed below.

### BETTER VALUE PROPOSITION FOR MICROFINANCE CLIENTS<sup>8</sup>

**Convenience and proximity.** Digital financial services offer more convenience for customers, as they open access to a broader range of financial services (credit, but also savings, insurance and payments)<sup>9</sup> that customers can access from their doorstep, even in remote areas, eliminating the need to travel to physical branches. This can be achieved in three main ways:

- > via MFP staff visiting customers and using digital devices (mobile phones, POS, tablets) to collect savings or loan payments or facilitate clients' loan applications;
- > via agents of mobile network operators that customers can visit to perform transactions, such as cash-in/cash-out, instead of going to an MFP branch; and
- > via mobile banking, which can facilitate loan payments, regular savings and money transfers for clients that have already deposited money in their mobile wallet. Customers can also receive handy SMS reminders and alerts to repay a loan or nudge them to save money.

**Lower risks and safer funds.** DFS has made a difference in the lives of the poor, and rural customers in particular, for whom travelling to a branch is usually costly, time consuming and risky. With digital finance, clients no longer need to travel long distances with large amounts of cash in their pockets, reducing the risk of theft.<sup>10</sup>

**Faster transactions.** Digital finance enables customers to transact, save, take out and repay loans in seconds, or even pay insurance premiums, without having to travel or close their business. It can also reduce the length of microfinance group meetings. Microfinance provider Caurie in Senegal found that equipping loan officers with tablets reduced meeting times by 30 percent, allowing clients to return to their income-earning activity more quickly.<sup>11</sup>

**Digital transaction history.** DFS allows customers with no access to formal banking to begin building a transaction history, which will later enable them to access loans more easily. In the case of digital credit offered through mobile in partnership with an MNO, digital transaction history is based not only on savings and microloan repayment history, but also on airtime and mobile money activity.

### BETTER VALUE PROPOSITION FOR MICROFINANCE PROVIDERS<sup>12</sup>

**Operational efficiency.** Using digital solutions increases the productivity of MFPs as staff do not have to spend time filling out paper forms before entering data into the system (see Case Study 1: Musoni Microfinance), while introducing automated processes and using e-money for transactions reduces staff fraud, errors and the risks associated with handling cash.<sup>13</sup>

**Client acquisition and diversification of customer base with value-added services.** Equipping field staff with digital devices (smartphones or tablets) to collect savings and/or having loan officers use tablets for loan requests and approvals enables MFPs to increase the amount of savings collected from existing clients and expand their loan portfolios. The convenience of these methods may also attract new customers.

**Reaching rural areas at a lower cost.** The cost of using digital devices and operating through agents is about 25 percent lower than opening and operating a brick and mortar branch.<sup>14</sup>

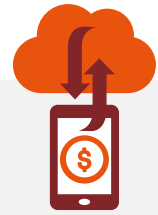
**Greater customer loyalty and retention.** Through DFS, microfinance providers can deliver a better customer experience and provide quick responses while offering similar services to those at branches.

**Additional revenues.** Introducing DFS solutions increases revenues (through savings mobilization and revenues from additional loans)<sup>15</sup> while decreasing the cost of funds (e.g. by adding a DFS channel – agency banking – FINCA Tanzania aims to achieve a 90 percent reduction)<sup>16</sup> and transaction costs for MFPs (read more about FINCA Tanzania’s experience with mobile banking in Case Study 2).

**Greater savings mobilization.** DFS provides customers with savings tools that are easier to use and access, such as loan officers who use digital field applications to collect savings on their doorstep or digital savings accessible through a mobile phone. These digital tools make the formal saving process more convenient and increases the likelihood that customers will save.<sup>17</sup>

### HOW MICROFINANCE PROVIDERS ARE DIGITIZING THEIR OPERATIONS: OPTIONS AND REQUIREMENTS

The digitization journey of financial services providers has been accelerated by the rapid adoption of internet and smartphones. Traditional microfinance providers have begun to explore ways to digitize their existing operations or assets to keep up with new technology and client demand more convenient and accessible services.<sup>18</sup> While MFIs recognize the value and necessity of digitizing their business models,<sup>19</sup> most are limited to digitizing existing operations, processes, products and services rather than creating dedicated digital products and services, forming a digital transformation team or seeing digital as their new way of doing business.



#### CASE STUDY 1: USING DIGITAL DEVICES: MUSONI SERVICES AND MUSONI MICROFINANCE, KENYA<sup>21</sup>

Musoni Services is a microfinance software provider that provides affordable cloud-based banking to over 100 microfinance institutions in 13 countries. One of their most well-known achievements is with the MFI, Musoni Kenya.

In 2009, Musoni Services launched Musoni Kenya, the first 100 percent mobile microfinance institution, which now reaches over 40,000 customers in Kenya. In 2013, Musoni’s loan officers started using a mobile application on tablets instead of paper forms. This new app facilitated client onboarding, loan creation, business appraisals and report viewing, improving loan officers’ productivity by 68 percent (through increased caseload).<sup>22</sup>

Using mobile devices also triggered organizational change, as data entry clerks were promoted to field officers, digital information replaced paper forms and digital photos of client IDs replaced photocopies of national IDs. Efficiency improved as a result, with loan application forms shrinking from 11 to two pages, and loan turnaround time dropping from 72 to six hours.

In 2017, Musoni developed a USSD menu for customers to access balance enquiries, loan applications and customer referrals. Musoni’s solution is integrated with the Credit Reference Bureau and relies on credit scoring for automated loan decisions based on digital data collected from clients over the last four years.

The following section presents some of the digitization options microfinance providers have used to convert their existing services and operations to digital.

#### USING MOBILE DEVICES TO DIGITIZE SERVICES AND PROCESSES

A microfinance provider can use mobile or digital devices (POS, phones, tablets) to offer existing services (e.g. customer registration, loan application) at a lower cost and digitize processes to increase efficiency. The use of mobile devices allows MFP field staff to perform daily operations (replacing paper forms with digital ones), provide new services (e.g. savings collection) and use mobile agencies (mobile branches, tablets) instead of physical branches.<sup>20</sup>

### PARTNERING WITH A DIGITAL FINANCIAL SERVICE PROVIDER TO DIGITIZE EXISTING PRODUCTS, SERVICES AND OPERATIONS

Digitizing existing services can be a rough process for MFPs, especially when they lack DFS experience and/or the financial or technical capacity to move ahead. However, partnering with a digital financial provider (usually an MNO) can provide an easy solution. There are currently two strategies available to MFPs:

#### i) Partnering with a digital financial service provider to leverage assets

A microfinance provider can opt to partner with a digital financial services provider to leverage its own capital, rural outreach and branch network to act as an agent for the DFSP. As a DFS agent, branch tellers offer DFS (mobile money in most cases) on behalf of the partner (generally an MNO), and through a merchant mobile phone provided by the partner. Mobile money transactions the MFP can perform include customer registration, cash-in/cash-out, peer-to-peer transfers, electronic top-ups and bill payments. MFPs have reported it does not usually take much investment or effort as it uses existing assets.<sup>23</sup> TSCU in Liberia and Kafo Jiginew in Mali are two microfinance providers that are now acting as mobile money agents for MNOs. Since neither MFP had previous experience with digital financial services, the partnership was an easy entry point.<sup>24</sup>

#### ii) Partnering with a digital financial service provider to benefit from external assets

In this case, the microfinance provider leverages the partner's (usually an MNO or aggregator) large network of agents to allow its microfinance clients to conduct banking transactions with third-party agents instead of going to the MFP branch. The microfinance provider also gains access to the DFSP's mobile money platform, allowing its clients to transact via mobile money services at DFSP agents. Clients can register (when national regulations allow), deposit savings, repay loans, withdraw from their microfinance account and get account information using bank-to-wallet and wallet-to-bank technologies (i.e. the microfinance provider account and the digital financial services wallet/account are linked). When choosing this option, microfinance providers are motivated by greater convenience for their clients, acquiring new customers from the DFSP's customer base and reducing costs. However, MFPs are often not in the best position to negotiate with larger players, such as MNOs, to create a win-win partnership.

### CASE STUDY 2: FINCA MOBILE'S PARTNERSHIP WITH MNO AGENTS IN TANZANIA



In 2013, MFI FINCA Tanzania introduced a mobile banking channel FINCA Mobile in partnership with three MNOs: Vodacom, Airtel and Tigo. The objective was to leverage the large agent networks of the partner MNOs and provide FINCA Tanzania's low-income clients with convenient and affordable access to financial services (travelling long distances to branches was costly for clients). Through FINCA mobile, FINCA clients can perform a variety of transactions at partner MNO agents, including deposits, withdrawals, transfers, bill payments, airtime purchases, loan payments and request mini-statements.

By adding mobile banking, FINCA Tanzania aimed to reduce its operational costs, grow its customer base and expand outreach. However, partnering with MNOs involved new risks (MNO agents manage liquidity and handle KYC) and revenue sharing (60 percent of commissions go to FINCA and 40 percent to MNO agents).<sup>25</sup>

FINCA Mobile improved the customer experience, as clients no longer have to queue at busy branches and waiting time was reduced. Operational costs have also dropped, as it costs FINCA USD 0.50 per transaction via mobile at an MNO agent compared to USD 0.85 at FINCA agents and USD 1.21 at FINCA branches.<sup>26</sup>

On the regulatory side, providers now need an enabling environment in which (1) a national ID system is in place to facilitate compliance with KYC requirements; (2) there is mandatory reporting to the Central Credit Bureau for all financial players, including MFIs and cooperatives; and (3) the legal system upholds the technologies.



### DEVELOPING AN AGENT NETWORK TO DIGITIZE EXISTING PRODUCTS AND SERVICES

Developing a proprietary agency banking network is easier for microfinance providers with a large customer base, as existing customers are generally the first to transact through their MFP's agents and scale is required for the network to become sustainable.<sup>27</sup> It also requires major financial investment (in the range of USD 250,000 to 500,000). Having proprietary agents enables the MFP to control the delivery channel as they identify, recruit, train, brand and manage their agents.<sup>28</sup>

Through agents, clients can deposit, withdraw and transfer money, repay loans and pay bills. Agency banking also helps MFPs grow their customer base (through greater outreach and convenience) and improve overall access to financial services (the mission of financial inclusion).

#### CASE STUDY 3: BAOBAB SENEGAL'S AGENCY BANKING MODEL



Baobab, formerly Microcred, is a microfinance provider that created its own agent network in Senegal to expand its geographical coverage and outreach to rural areas, reduce investment in new branches and reduce congestion in branches.

Baobab belongs to an established microfinance group that aims to “become the leader of digital banking in Africa” with nine subsidiaries in Africa (Senegal, Madagascar, Côte d’Ivoire, Nigeria, Mali, Tunisia, Burkina Faso, Zimbabwe and Congo) and two in China (Nanchong and Chengdu).<sup>29</sup>

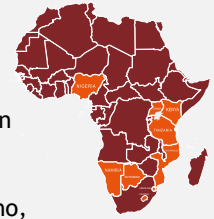
Its agency banking model uses a combination of a secure web-based agency banking platform (developed by Software Group) and a mobile application running on tablets for agents. In 2016, Baobab had more than 540 agents and 30 staff dedicated to managing the agent network.<sup>30</sup>

Each agent manages their own float and can facilitate client transactions such as deposits, withdrawals, transfers, loan repayments, bill payments and automatic loan renewals.

However, Baobab has faced regulatory hurdles. To ease client registration, agents are allowed to collect client information to set up accounts, but account opening can only be done at the branch and requires the client to visit in person.

Baobab is also trying to introduce biometrics as a way to ease the registration and identification process, but the regulator does not yet recognize biometrics for identification and signature as compliant with formal KYC requirements.

#### CASE STUDY 4: LETSHEGO'S AGENCY BANKING MODEL IN MOZAMBIQUE



Letshego is a microfinance institution established in 1998. It operates in Botswana, Mozambique, Namibia, Swaziland, Tanzania, Uganda, Lesotho, Kenya, Rwanda and Nigeria.<sup>31</sup> The MFI introduced its agency banking model, *LetsGoBlueBox*, in Mozambique in 2016. This model is designed to enhance inclusive financial services in rural areas for low-income populations that are either ignored or underserved by traditional banks and other financial services providers. *LetsGoBlueBox* incorporates a smartphone and a tablet for agents, which can be charged by solar power. The system supports digital registration of clients and transaction authentication, allowing the capture of biometrics, photos and digital signatures.<sup>32</sup>

Currently, customers are only allowed to open a basic transactional deposit account in remote areas through an agent. However, in the future, clients will have the option to “receive money from other banks and mobile wallets, withdraw, save, register for micro-insurance and apply for loans”.<sup>33</sup> The *LetsGoBlueBox* will also introduce a number of other features, including a Bluetooth printer to provide customers with printed receipts and/or statements, and financial education aids on the agent device for distribution to customers. *LetsGoBlueBox* Mozambique currently has over 200 agents.<sup>34</sup>





## IMPLICATIONS FOR MICROFINANCE PROVIDERS DIGITIZING OPERATIONS: PREREQUISITES, CHALLENGES AND RISKS

Although digitization delivers benefits for both clients and providers, it also comes with challenges and risks. Microfinance providers must have the necessary operational, technical and financial capacities to move forward,<sup>35</sup> as “digital finance (may just as well) represent an existential threat if not leveraged appropriately”.<sup>36</sup>

Table 1 presents a summary of the benefits, challenges and risks for microfinance providers digitizing their existing products and services.



TABLE 1: BENEFITS, CHALLENGES AND RISKS OF DIGITIZATION FOR MICROFINANCE PROVIDERS

BENEFITS	CHALLENGES	RISKS
<ul style="list-style-type: none"> <li>&gt; Greater outreach and portfolio diversification at a lower cost</li> <li>&gt; Operational efficiencies/lower cost per transaction:               <ul style="list-style-type: none"> <li>- Lower loan origination/decision costs</li> <li>- Streamlined/automated reporting to regulators, donors</li> <li>- Increased loan recovery/reduced PAR (via SMS alerts)</li> <li>- Reduced fraud/loss from cash handling</li> <li>- Better internal controls and governance</li> </ul> </li> <li>&gt; Improved customer service and experience (faster, more convenient, more individualized)</li> <li>&gt; Improved risk management and compliance (enables analytics, transaction monitoring, risk data aggregation)</li> <li>&gt; Data submissions/integration with credit reference bureaus</li> <li>&gt; Enables APIs for others to access MFI client information and for MFI to link to other institutions</li> </ul>	<ul style="list-style-type: none"> <li>&gt; External challenges:               <ul style="list-style-type: none"> <li>- Lack of affordable, adequate technology/platform providers<sup>37</sup></li> <li>- Uncompetitive technology market with artificially inflated costs for local hardware</li> <li>- Poor infrastructure (electricity, connectivity)</li> <li>- Low digital and financial literacy requires consumer education to build trust</li> <li>- Business continuity</li> <li>- Data safety, security and protection requirements</li> <li>- Regulatory restrictions/lack of clarity on use of cloud services</li> </ul> </li> <li>&gt; Internal challenges:               <ul style="list-style-type: none"> <li>- Inexperienced personnel lacking necessary skills</li> <li>- Data migration from paper or outdated systems</li> <li>- Lack of leadership buy-in</li> <li>- Change management within organization (buy-in at all levels, learning curve to use technology)</li> <li>- Operational agility: re-engineering processes to permit full digitization</li> <li>- Budget constraints (e.g. no budget for staff training and ongoing support)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>&gt; Operational risks:               <ul style="list-style-type: none"> <li>- Technology (delays integrating data from mobile devices to core banking system; theft/vandalism/loss of devices)</li> <li>- Business continuity (loss of data)</li> <li>- Data security, hacking, breaches</li> <li>- Agent non-compliance/abuse</li> </ul> </li> <li>&gt; Consumer protection risks:               <ul style="list-style-type: none"> <li>- Transparency and adequacy of paperless disclosure</li> <li>- More lending (due to easier and faster origination, greater outreach) leading to overindebtedness, unsuitability</li> <li>- Data privacy and security (easier to sell, transfer digitized information)</li> <li>- Inadequate customer recourse (poorly trained staff/agents)</li> </ul> </li> <li>&gt; Strategy risk (e.g. rushed expansion without proper planning and capital base)</li> </ul>

## DIGITAL FINANCE REACHES MICROFINANCE AND CONTRIBUTES TO FINANCIAL INCLUSION

Over the last decade of market development, DFS has expanded access to financial accounts and diversified from basic money transfer and bill payments to merchant payments, bulk disbursements, credit, savings insurance and value-added services like PAYG energy, crowdfunding, savings group and value chain digitization. Most DFS target the mass market and, despite progress in reaching the previously un(der)served, DFS users remain disproportionately male, young and urban,<sup>38</sup> in contrast to the traditionally female microfinance demographic.

Digital finance delivered through mobile phones and agent networks has dramatically reduced the cost of providing financial services to the mass market in Africa.<sup>39</sup> Commercially motivated DFS providers – MNOs, financial institutions or FinTechs – have entered the market to grow their customer base, diversify revenue streams or boost brand loyalty.<sup>40</sup> The transaction-based fee structure of DFS<sup>41</sup> has fueled an ‘inclusive’ drive to maximize transaction volumes along money transfer corridors. As a result, financially excluded groups like rural residents, low-income earners, microentrepreneurs and women, have gained access to DFS, albeit at lower rates than their urban, salaried, male counterparts.<sup>42</sup>

Over the last decade, **product<sup>43</sup> and business model evolution<sup>44</sup> have generated a greater variety of formal financial services** available to the formerly unbanked. Although cash-in and out (74 percent to 75 percent of transactions), airtime purchases and bill payments (4.5 percent and 15.3 percent of outgoing transactions, respectively) remain dominant, digital finance offerings are diversifying to merchant payments (8.8 percent of value),<sup>45</sup> bulk disbursements, credit,<sup>46</sup> savings<sup>47</sup> and insurance.<sup>48</sup> Moreover, third parties, aggregators<sup>49</sup> and FinTechs have leveraged digital finance to offer value-added services like PAYG energy,<sup>50</sup> layaway financing,<sup>51</sup> crowdfunding<sup>52</sup> or alternative lending,<sup>53</sup> savings group<sup>54</sup> and value chain<sup>55</sup> digitization.

Funders, seeing the potential of digital finance to serve the poor at scale, invested in DFS deployments (e.g. M-Pesa,<sup>56</sup> Orange,<sup>57</sup> MTN<sup>58</sup> and Airtel<sup>59</sup> to name a few) to help expand access for the excluded. Governments around the world, including Africa, have increasingly integrated DFS into their national financial inclusion strategies<sup>60</sup> and are enhancing

DFS regulations. Some governments, like India, Pakistan, Rwanda, Tanzania, El Salvador, Peru and Ethiopia, have set specific financial inclusion targets (e.g. distribution points in rural areas, number of women customers), although they are not obligatory or enforceable.

Despite impressive gains in the number of registered accounts in Sub-Saharan Africa (338.4 million in 2017), rural and female customers remain the hardest to reach and the largest untapped demographics for DFS providers. The scant evidence available<sup>61</sup> suggests that access to DFS among these most disadvantaged populations remains limited. Moreover, only about a third of the accounts (121.9 million) are 90-day active,<sup>62</sup> indicating there is room for DFS products to be more tailored to user needs.<sup>63</sup> Efforts should now focus on broadening access to and expanding usage of the full suite of digital financial products.

### THE CONTRIBUTION OF DIGITAL FINANCE TO FINANCIAL INCLUSION

#### GROWTH IN REGISTERED ACCOUNTS

A decade after it first emerged, DFS is at the forefront of progress in financial inclusion in Sub-Saharan Africa. With MNOs, banks and third parties increasingly offering DFS through diffuse agent networks, the number of registered mobile money accounts in Sub-Saharan Africa has skyrocketed from 0.2 million in 2006 to 338 million in 2017.<sup>64</sup> According to the 2017 Global Findex, mobile money penetration in the region nearly doubled from 12 percent to 21 percent between 2014 and 2017. In countries like Côte d’Ivoire, Tanzania, Uganda, Ghana, Senegal and Zambia, gains in financial account ownership have been fueled primarily by mobile money.<sup>65</sup>

#### EXPANDED DIGITAL SERVICE OFFERINGS

The range of DFS has diversified from P2P transfers and bill payments in 2007 to merchant and bulk payments, credit, savings, insurance and value-added services.

**Merchant payments.** Digitization of micro and small merchant payments has been dubbed the “forgotten path to financial inclusion”<sup>66</sup> given their potential to expand small/informal businesses’ access to finance by creating financial histories,<sup>67</sup> which are subsequently used to offer credit, insurance and other financial services.<sup>68</sup> Merchant payments are increasingly accessible through basic phones (SMS or USSD technology) as well as smartphones (NFC or QR code technology) across Africa.<sup>69</sup>

**Bulk disbursements.** Digitizing bulk disbursements, like social welfare,<sup>70</sup> salaries or humanitarian payments,<sup>71</sup> is a direct way to target the most disadvantaged and vulnerable populations and entice them to use DFS. According to the 2017 Global Findex, digitizing government payments could accelerate progress toward universal financial access since two-thirds of the world’s 60 million unbanked adults who receive government payments in cash have a mobile phone.<sup>72</sup>

**Credit.** Digital credit products have proliferated in East Africa<sup>73</sup> and are being rolled out across the continent.<sup>74</sup>

Instant, automated and remote<sup>75</sup> digital loans are generally smaller amounts (less than one dollar to a maximum 300 dollars on average), shorter term and more expensive than traditional bank products.<sup>76</sup> Customers access loans through USSD or smartphone apps<sup>77</sup> that leverage their phone usage, digital finance transactions and social media data for credit scoring.<sup>78</sup> Some aspects of early digital credit product design, marketing and distribution have raised serious concerns about consumer protection,<sup>79</sup> particularly of low-income clients.<sup>80</sup>

#### BOX 1: DIGITAL CREDIT IN KENYA AND TANZANIA

A new large-scale study of digital credit reveals that 35 percent of phone owners in Kenya<sup>81</sup> and 21 percent in Tanzania<sup>82</sup> have taken digital loans. In both countries, digital borrowers are disproportionately younger men in urban areas. Digital borrowers are also much more likely to have a bank account than non-borrowers, pointing to the additive nature of digital credit.<sup>83</sup> Some 13 percent in Kenya and nearly a third of borrowers in Tanzania have defaulted, with around half reporting late repayment at least once in both countries. Poor understanding of terms, negligence or deprioritization of small, impersonal and “invisible” loans<sup>84</sup> are among the reasons for high default rates. Digital credit integration into credit referencing systems could expand access to finance for previously unbanked customers by building formal credit histories. At the same time, defaults on even minuscule loans may negatively affect borrowers’ ability to access formal financial services in the future.<sup>85</sup>

**Savings.** The latest GSMA Global Adoption Survey found that 22 percent of providers offer digital savings, pension or investment products.<sup>86</sup> Digital savings rates are increasing, particularly in East Africa, fueled by bundled savings loan products.<sup>87</sup> There are also growing efforts to digitize savings groups.<sup>88</sup>

**Microinsurance.** Digital finance and technological innovation are helping microinsurance providers overcome some of the challenges of serving low-income populations sustainably.<sup>89</sup> New data (e.g. call records, mobile money, social networks) and sophisticated analytics, digital platforms that automate insurance brokerage and claims processing, partnerships (mobile microinsurance)<sup>90</sup> and index-based insurance enable providers to expand their reach, get ample information about consumers and find creative ways to address the needs of low-income customers.<sup>91</sup>

**Pay-as-you-go (PAYG).** PAYG financing for clean energy products offers a quality of life improvement opportunity and a potential stepping stone to formal savings, insurance and credit. Iterative PAYG payments build customers’ confidence in digital finance and transaction histories. Paid-off assets can be used as collateral to access financial services. Leveraging advances in large dataset analytics, FinTechs and financial institutions could offer highly tailored financial services to PAYG clients.

**Layaway financing.** Allowing people with low incomes to contribute small instalment payments toward a future purchase can be a powerful tool for securing (agro) business investments<sup>92</sup> as well as consumer goods.<sup>93</sup> Because it reduces liquidity and shifts reward to some point in the future, this financial service may be best suited to productive assets.

**Crowdfunding/alternative lending.** Global expansion of crowdfunding platforms, although not as prevalent in Africa,<sup>94</sup> can contribute to financial inclusion by lifting financing constraints for underserved individuals and micro, small and medium enterprises (MSMEs), stimulating innovation and creating new investment to build assets.<sup>95</sup> While P2P lending is the dominant form of crowdfunding in Asia Pacific, the US and Europe, donation- and reward-based crowdfunding (which have lower risks for participants) are more common in East Africa.<sup>96</sup>

**Savings group digitization.** Groups that save and borrow from their savings exist in one form or another (SACCOs, tontines, credit unions, merry-go-rounds, etc.) in most underbanked countries in Africa.<sup>97</sup> Digitizing the financial transactions of savings group members can introduce them to digital finance, build confidence and transaction history, and offer operational benefits, such as transparency, security and cost savings for the group.<sup>98</sup>

**Value chain digitization.** Digital value chain finance, although in its infancy in Africa, has tremendous potential to support financial inclusion for farmers and make financial transactions more efficient (bulk payments, digital loan disbursements and collection), remove barriers to financial service provision (digital savings for inputs, digital agricultural insurance, digital credit) and improve market opportunities (digital trading platforms, digital invoice discounting, digital warehouse receipts).<sup>99</sup> Although value chain digitization is a colossal undertaking with significant market readiness requirements,<sup>100</sup> new lessons from East Africa<sup>101</sup> can inform ongoing and future efforts.

#### SHORTCOMINGS AND OBSTACLES TO DIGITAL FINANCIAL INCLUSION

Although mobile money account growth and penetration have seen impressive overall growth, this growth has been disproportionately among men and urban residents. In 2016, GSMA found a 19.5 percent gender gap in mobile money account ownership in Sub-Saharan Africa.<sup>102</sup> In 2017, it reported that just over a third (36 percent) of mobile money users were women.<sup>103</sup> Rural penetration remains a major challenge. According to GSMA, in 2017, mobile money providers in predominantly rural markets captured only 22 percent of the addressable market. Similarly, most recent Financial Inclusion Insights surveys from Africa show persistent gaps in mobile account registration penetration in rural versus urban areas: in Benin (6 percent vs. 18 percent), Ghana (18 percent vs. 23 percent), Kenya (69 percent vs. 81 percent), Rwanda (18 percent vs. 46 percent), Tanzania (48 percent vs. 72 percent), and Uganda (40 percent vs. 63 percent).<sup>104</sup> Additional efforts are needed by all DFS stakeholders to drive uptake among hard-to-reach populations.

Equally important is stimulating the use of a full range of digital financial products. In 2017, GSMA found that only about a third of accounts in Sub-Saharan Africa (121.9 million) were 90-day active in 2017.<sup>105</sup> In 2015, it reported that the majority of digital accounts remain empty<sup>106</sup> with the bulk of funds simply passing through, even when regulators have mandated that interest be paid on digital balances.<sup>107</sup> These are both signs that DFS products could be refined to better meet user needs.<sup>108</sup>

Product design, consumer (digital) literacy, financial education, awareness, trust, connectivity, distribution infrastructure and enabling regulations, all affect the uptake and active use of DFS products. For example, operational challenges and transaction fees create barriers to the uptake of merchant payments.<sup>109</sup> Significant policy (e.g. KYC, data privacy, traceability of funds), contextual (e.g. infrastructure, recipient literacy) and operational

(e.g. system integration, aggregator capacity and sustainability,<sup>110</sup> agent/merchant fraud, interoperability) challenges continue to hinder widespread adoption of bulk disbursements.<sup>111</sup> Inconvenient illiquidity features,<sup>112</sup> limited use cases for digital balances, lack of interoperability, unintuitive product design at odds with traditional money management practices,<sup>113</sup> psychological barriers to savings, and lack of trust or information<sup>114</sup> restrict the digital savings behaviour of low-income DFS customers.<sup>115</sup>

## THE BENEFITS, CHALLENGES AND RISKS OF DIGITAL FINANCE

Table 2 summarises the benefits, challenges and risks associated with the expansion of digital finance into the microfinance market.

TABLE 2: BENEFITS, CHALLENGES AND RISKS OF DIGITAL FINANCE

BENEFITS	CHALLENGES	RISKS
<p><b>For customers:</b></p> <ul style="list-style-type: none"> <li>&gt; Growth of formal accounts/e-wallet ownership rates</li> <li>&gt; Product diversification and value-added services</li> <li>&gt; Increased privacy, speed, convenience, choice</li> <li>&gt; Access to finance for MSMEs through merchant financing, crowdfunding, value chain digitization</li> <li>&gt; Agent networks: a business opportunity for MSMEs, an increasingly shared financial service distribution channel and convenient access points</li> </ul> <p><b>For providers:</b></p> <ul style="list-style-type: none"> <li>&gt; Additional business line/revenue source</li> <li>&gt; Product/feature innovation (e.g. bundling of credit and insurance)</li> <li>&gt; Diversification of providers (banks, MNOs, FinTech) increases potential for partnerships</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Service disruptions from inadequate system security and stability, poor telecommunication services, lack of investment, particularly in remote areas</li> <li>&gt; Operational challenges managing agent networks: training, illiquidity, churn and compliance,<sup>116</sup> particularly in remote areas</li> <li>&gt; Limited last-mile penetration</li> <li>&gt; Technical difficulties implementing interoperability</li> <li>&gt; Lack of clear value proposition for clients to switch from cash to digital<sup>117</sup></li> <li>&gt; Lack of feasibility studies and research on client needs and behavior, leading to insufficiently customer-centric product/services<sup>118</sup></li> <li>&gt; Weak consumer protection and absent or inadequate recourse mechanisms</li> <li>&gt; Low digital and financial literacy among underserved and financially excluded</li> <li>&gt; Limited capacity to implement sophisticated credit scoring analytics and tailor products sufficiently to the needs of different customer segments</li> <li>&gt; Provider reticence in sharing data leads to partnerships rather than transactional marketplaces, limiting addressable market for product innovations<sup>119</sup></li> <li>&gt; Growing number of regulatory agencies concerned about DFS: coordination challenge</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Exclusion of most vulnerable groups (remote, illiterate/oral,<sup>120</sup> phone-less)</li> <li>&gt; Discrimination against traditionally underserved groups, scoring algorithms mirroring historical biases<sup>121</sup></li> <li>&gt; Lack of interoperability</li> <li>&gt; Financial integrity: AML/CFT compliance or insufficient customer due diligence</li> <li>&gt; Consumer risks: <ul style="list-style-type: none"> <li>- Inability to access funds when system is down</li> <li>- Loss of funds held by non-prudentially regulated providers</li> <li>- Inadequate product disclosure of fees, terms and conditions</li> <li>- Unethical practices (aggressive marketing, overindebtedness, abuse)</li> <li>- Loss of confidentiality, account hacking, data theft<sup>122</sup></li> <li>- Mistaken transactions due to low digital financial literacy</li> <li>- Vulnerability to phishing schemes, social engineering scams<sup>123</sup></li> <li>- Insufficient agent liquidity and agent fraud<sup>124</sup></li> </ul> </li> <li>&gt; Crowdfunding risks (adverse selection, inadequate information, inexperienced funders, technology failure, cyber risks, lack of due diligence)<sup>125</sup></li> <li>&gt; Inability to accommodate new providers into existing regulatory frameworks</li> <li>&gt; Failure to effectively regulate and supervise rapidly evolving digital finance landscape</li> </ul>

## EMERGING SYNERGIES AND PARTNERSHIPS BETWEEN DFS PROVIDERS AND MICROFINANCE PROVIDERS

To expand financial inclusion, microfinance providers can form partnerships with digital financial service providers, such as MNOs,<sup>126</sup> technical providers (software or credit-scoring providers) or FinTechs, to leverage each other's assets and strengths, offer value-added products and deliver them efficiently. MFPs bring their banking license, market knowledge and risk management experience, while MNOs provide a platform, recognised brand and large customer base. Technical service providers can offer technical expertise while FinTechs have an IT system, capacity for innovation and agility. Benefits for clients include greater choice, tailored products that meet their needs, efficient delivery, and the ability to build a credit history and saving habits.

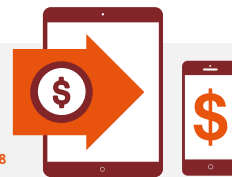
Risks for institutions include lack of knowledge and resources, an unbalanced relationship, potential target market shift, privacy risk, image and credibility risk and poor customer service. Risks for clients include lack of awareness and understanding, low trust and engagement, literacy issues, vulnerability, data privacy and low uptake and usage.

### TYPES OF PARTNERSHIPS AND THEIR BENEFITS

#### MICROFINANCE PROVIDER/MNO PARTNERSHIPS FOR MOBILE BANKING SERVICES

In this type of partnership, the microfinance provider seeks to leverage the MNO's mobile money platform, technological expertise, recognised brand and customer base to provide clients with a new product they have developed jointly (e.g. digital credit). The MNO meanwhile seeks to increase the range of services it provides to its customers by leveraging the microfinance provider's license to provide financial services like collecting savings and providing credit. Product diversification is expected to ensure customer loyalty and potentially widen the customer base of both parties. More parties can be added to this partnership depending on the nature of the service to be delivered. For example, a software provider if a new platform or software are being developed, or a credit scoring provider when offering digital credit and savings.<sup>127</sup>

#### CASE STUDY 5: FINCA TANZANIA AND HALOTEL LAUNCH MOBILE SAVINGS PRODUCT HALOYAKO<sup>128</sup>



*HaloYako* was launched in September 2017 as part of a partnership between the MFI FINCA Tanzania and the MNO Halotel. Although FINCA Tanzania “was the first MFI in Africa to launch an MNO-led savings product,”<sup>129</sup> however, this is the fourth<sup>130</sup> digital credit and savings product in Tanzania.<sup>131</sup>

FINCA's objectives were (1) to mobilize savings to lower their cost of funding and (2) to increase their customer base. Issa Ngwegwe, Managing Director of FINCA Tanzania,<sup>132</sup> said, “It took FINCA 20 years to reach 900,000 clients; within two weeks of launching *HaloYako*, 30,000 people have opened accounts. This goes to show how financial technology plays a critical role in lowering transaction costs and expanding access to financial services”. Three months after launch, *HaloYako* had reached 100,000 users, with customer deposits and withdrawals continuing to increase.<sup>133</sup>

Halotel's objectives were to attract new customers since it was the last MNO to enter the market and had launched its mobile money service (*HaloPesa*) less than a year before launching *HaloYako*. Using *HaloPesa*'s USSD menu, customers can register and start saving at regular, automatic intervals to reach a specific savings goal.<sup>134</sup>

For both parties, the *HaloYako* savings program is an opportunity to learn about customer behavior before integrating a credit feature in 2018.<sup>135</sup> Mobile money and savings behaviour will be used as proxies for making loan decisions. A third-party credit-scoring provider will assess credit worthiness.

From a regulatory point of view, FINCA did not encounter any issues as the Bank of Tanzania encourages new initiatives that contribute to financial inclusion. FINCA only had to inform the Bank and present the product features and functionalities to obtain approval.



### MICROFINANCE PROVIDER/TECHNICAL SERVICE PROVIDER PARTNERSHIP

MFPs may form partnerships with technical service providers (and/or credit scoring providers) when pursuing new services for which they do not have the technical expertise. Technical service refers to specialized external expertise that is used to either help establish a new institution or enable an existing institution to achieve specific goals. Specific digital solutions for MFPs include core banking systems, software, browser-based interfaces, client relationship management systems, tablets for loan officers with online and offline options, POS devices, mobile banking platforms and assessment tools, among others.<sup>136</sup> With the MFPs purchasing, leasing or agreeing to receive the services, the parties establish a client-supplier relationship.<sup>137</sup> Software providers are ‘silent’ partners, supporting MFIs with a customized technical solution/ software component for the new service.

### MICROFINANCE PROVIDER/FINTECH PARTNERSHIP

This is the most complex and fruitful type of partnership, with both partners seeking to build on each other’s strengths.<sup>138</sup> MFPs bring their brand and reputation, customer base, customer data and market experience, robust infrastructure (branches or agents), risk management experience, capital and license to provide financial services. FinTechs bring modern IT systems, specialized solutions and technological expertise and customer data analytics. FinTechs also bring a culture of innovation, a disruptive mindset and agility and speed to market. Together, these parties can provide scalable and innovative solutions and more accessible and improved products and services, while better mitigating risk.<sup>139</sup>

These partnerships are more than a mere client-supplier relationship; both parties are equally involved at all project stages, including decision making on key aspects of the project.<sup>140</sup> Often, FinTechs partner with MFPs to overcome regulatory requirements (i.e. license to provide financial services), which can be difficult for startups or companies in early stages of development to meet.

### CONTRIBUTION OF DIGITAL FINANCE AND MICROFINANCE PARTNERSHIPS TO DIGITAL FINANCIAL INCLUSION

In Sub-Saharan Africa, more than half of all digital innovation is driven by FinTech companies (56 percent), followed by financial services providers (18 percent), NGOs (13 percent) and technology services providers (nine percent).<sup>143</sup>

### BENEFITS FOR CUSTOMERS

The development of new technologies facilitates financial inclusion by making it possible for financial institutions to provide a broad range of DFS that are easy to adapt to fit the needs of various segments, including the poor and unbanked.<sup>144</sup> This can create a **more compelling offer for clients**, who can choose products and services that better **address their needs**, such as mobile money, digital savings, digital credit, payments and insurance.<sup>145</sup> Competition is also **expected to drive down prices** and pass on the benefits to customers, although this is yet to be demonstrated.

### CASE STUDY 6: AN MFI AND FINTECH PARTNERSHIP LAUNCHES DIGITAL CREDIT IN SENEGAL<sup>141</sup>



MFIs play a crucial role in the distribution of financial services and enhancing financial inclusion. Thanks to their extensive presence and infrastructure in the field, they can be a good potential partner for FinTechs that have recently entered a market and want to expand their services.

In Senegal, a long-established MFI and a FinTech are currently working together to launch a digital credit product.<sup>142</sup> The FinTech is contributing technology and expertise, providing credit scoring, distributing the new product through their service points network (agents) and supporting the MFI with the development of a communication and marketing strategy. The MFI provides a microfinance license and field presence, which gives access to rural customers.

In building this partnership, the FinTech faced challenges with the MFI’s older information systems that made integration a difficult task. This is affecting the credit scoring algorithm to determine loan amounts, as the credit scoring system uses both client data from the MFP’s management information system and the FinTech’s decision-making solution.

**Partnerships between microfinance and digital finance providers are opening new doors to financial inclusion by offering more tailored products delivered more efficiently.** These partnerships are primarily (50 percent) formed to develop products for **low-income customers**.<sup>146</sup> Other innovations focus on products created for a **specific sector**, mainly MSMEs (19 percent) and farmers (18 percent). A smaller number are trying to **link financial products to health, energy, education and housing** (12 percent).<sup>147</sup>

Some providers (such as FINCA Tanzania) are using technology to **foster savings habits** among low-income customers, encouraging regular savings through customer engagement techniques based on behavioral economics.

### RISKS AND CHALLENGES TO MITIGATE

Forming a partnership with another institution to provide digital solutions can be an efficient way to increase financial inclusion. However, it is not without risks, and these need to be tackled at both the institution and client level with the mitigation strategies described below.

#### Institutional risks and challenges

According to Fern Software (a technical provider interviewed for this study that works with MFIs going digital), one of the main obstacles to increasing financial inclusion through new DFS are “legacy systems” that hold back FinTech applications. This includes a **lack of knowledge and resources at the provider level**, namely, a lack of relevant expertise (56 percent), access to resources (53 percent) and incompatibility of legacy

systems with new applications and delivery channels.<sup>148</sup> Capacity building (training, peer learning, etc.) and technical assistance from experts can help to address these issues.

**Digital technology-related risks** can include disrupted service and loss of data (due to lack of connectivity). This involves being unable to transact due to systems being down, with possible additional **privacy risks or security breaches** from digital transmission and storage of data.<sup>149</sup> To mitigate digital risks, financial institutions need to have a **clear action framework** in place in case of a security breach, as well as “**new methods of threat detection, analysis, and elimination**”.<sup>150</sup>

**Insufficient liquidity or float at an MNO agent** can prevent customers from performing transactions while also affecting the **image and credibility of the partner microfinance provider**, which must send its clients to the DFS provider’s agents instead of its own branches, resulting in **poor customer service**. Agent liquidity management rules can help prevent these issues, however; for example, allowing the DFS provider’s agents to receive liquidity at the microfinance provider’s premises or the provision of agent overdraft or digital credit.

#### Client risks and challenges

**Lack of awareness** is a challenge that arises in the early stages of launching a digital product. Since clients need to **understand** the benefits of a product or service and how to use them, **client education** needs to be embedded in the digital product and services strategies of partner microfinance and digital finance providers. Microfinance providers are well aware of these challenges and can leverage their main assets – loan officers and customer relationships – to provide the necessary education. Having digitized loan reimbursements and savings collection, some MFIs have transformed group meetings into education opportunities or touch points with loan officers to maintain the trust relationship.<sup>151</sup>

**Using digital solutions does not automatically render physical interactions with MFI staff unnecessary**. If technology assures convenience, meeting with staff can **build trust and deepen customer engagement**. This is even more relevant with unbanked and underbanked customers who are not familiar with the financial options available to them. Having staff in the field could be decisive for attracting new customers.<sup>152</sup> For example, when an MFI partners with an MNO to offer digital credit, MNO agents are the first contact point for customers. To ensure a smooth customer journey from registration onward, the MNO and MFI should first train agents to support customers.<sup>153</sup>

Other challenges are **low rates of literacy and financial literacy** among rural clients, which must be tackled through **financial education** to prevent digital products from creating financial exclusion rather than inclusion. MFIs try to provide customer education face-to-face through roving agents or digitally. Letshego seeks to **enhance financial literacy through DFS using a self-guided module**<sup>154</sup> that assists clients with digital solutions and helps them understand which financial solutions

can better address customers’ financial needs based on customer profiles.<sup>155</sup>

**Novelty risks** could make customers who are not familiar with the digital world **vulnerable to exploitation and abuse** from digital providers or their agents. Not all digital services are subject to the **consumer protection policies** that apply to banks and financial institutions. As discussed in chapter 4, providers are working on responsible digital finance guidelines and principles, and regulators on consumer protection regulation.

Products launched in the market must **respond to customer needs**. Responsible design and delivery of digital loans and non-credit services, including user-centric design, recourse mechanisms, informed consent, consumer protection, education and products integrating both a savings and loan component are all mitigation strategies.

**Inadequate privacy and client data protection** poses a threat for all customers, particularly customers who are poor<sup>156</sup> and have low levels of education. Responsible use of customers’ digital data is therefore critical in DFS.<sup>157</sup> Effective consumer protection guidelines are vital to improving consumer trust and confidence, which can lead to increased uptake and usage. As per AFI’s Guideline Note No.13: “Consumer protection regulations tend to pursue the following broad objectives: i) to ensure that consumers have enough information to make informed financial decisions; ii) to prevent unfair practices by service providers; and iii) to ensure that consumers have access to recourse mechanisms to resolve disputes.”<sup>158</sup>

When it comes to digital credit and digital credit scoring, the customer’s digital data is the core element in the scoring algorithms, although they are not always aware of it.<sup>159</sup>

**Regular use** of DFS services is the next frontier. Active use of DFS products is currently at 36 percent (an improvement from 26 percent in 2012).<sup>160</sup> Partner microfinance and DFS providers must address this through the design of customer-centric products, customer engagement and education, while regulators must create an enabling regulatory framework.

As the digital revolution continuously reshapes the traditional microfinance industry, there is still much to be done to ensure digital services are adopted and used regularly to support financial inclusion, while providing customers with convenience, security and effective consumer protection<sup>161</sup> in a rapidly evolving market.<sup>162</sup>

## BENEFITS, CHALLENGES AND RISKS OF DIGITAL FINANCE AND MICROFINANCE PARTNERSHIPS

Table 3 summarises the benefits, challenges and risks associated with partnerships between digital finance and microfinance providers.

TABLE 3: BENEFITS, CHALLENGES AND RISKS OF DIGITAL FINANCE AND MICROFINANCE PARTNERSHIPS

BENEFITS	CHALLENGES	RISKS
<ul style="list-style-type: none"> <li>&gt; Greater financial inclusion               <ul style="list-style-type: none"> <li>- More efficient service delivery processes (faster, cheaper, streamlined)</li> <li>- New and more tailored products and services</li> <li>- Alternative credit scoring</li> </ul> </li> <li>&gt; Data-driven marketing, operations, risk management</li> <li>&gt; Ability to shape customer behavior through behavioral choice architecture and product design</li> <li>&gt; Increased competition, decentralization, including innovative API-enabled partnerships<sup>163</sup></li> <li>&gt; Greater specialization in product design, distribution, sales and management</li> <li>&gt; Opportunity for RegTech-automated compliance and regulatory reporting</li> <li>&gt; Integration with credit reference bureaus and other market information systems</li> </ul>	<ul style="list-style-type: none"> <li>&gt; All challenges in Table 2, Chapter 2</li> <li>&gt; Multiple regulators, overlapping jurisdictions with gaps (i.e. some institutions unregulated)</li> <li>&gt; Lack of standards for features, disclosures, data protection</li> <li>&gt; Lack of interoperability fractures addressable markets<sup>164</sup></li> <li>&gt; Technical challenges of integrating (sometimes inadequate/unstable) MFI systems with other platforms<sup>165</sup></li> <li>&gt; Minimal human interaction and lack of physical cash undermines consumer trust and confidence<sup>166</sup></li> <li>&gt; Consumer learning curve with digital interfaces, particularly among formerly excluded groups</li> </ul>	<ul style="list-style-type: none"> <li>&gt; All risks in Table 2, Chapter 2</li> <li>&gt; Strategic risk for traditional financial institutions</li> <li>&gt; Regulatory arbitrage risk<sup>167</sup></li> <li>&gt; Compliance risk arising from fuzzy lines of responsibility between partnering entities with regards to:               <ul style="list-style-type: none"> <li>- consumer protection</li> <li>- AML/CFT safeguards</li> <li>- data security and protection</li> </ul> </li> <li>&gt; Operational risks (cyber security, third party dependency and management, legal)</li> <li>&gt; Micro-level risks:<sup>168</sup> <ul style="list-style-type: none"> <li>- credit risk</li> <li>- leverage ratios</li> <li>- liquidity risk</li> <li>- maturity mismatch</li> </ul> </li> <li>&gt; Macro-level risks:<sup>169</sup> <ul style="list-style-type: none"> <li>- unsustainable credit growth</li> <li>- contagion risk due to increased interconnectedness</li> <li>- incentives for greater risk-taking by incumbent institutions</li> </ul> </li> </ul>



# RECOMMENDATIONS FOR REGULATORS TO ENHANCE SYNERGIES BETWEEN DIGITAL FINANCE AND MICROFINANCE PROVIDERS

Digital transformation in the financial sector challenges regulators to enable innovation and channel it toward financially excluded or underserved populations, while protecting consumers and the financial system. This chapter lays out the preconditions, the key regulatory issues requiring attention and the tools and approaches regulators may employ.

## EXPECTATIONS OF REGULATORS AND CURRENT INITIATIVES

Based on conversations with key informants (microfinance and digital finance providers), the following expectations of policymakers were identified across all countries of operation:

- > **Providing a clear regulatory framework and guidelines** for agency and mobile banking.
- > **Supporting innovations through controlled tests/experiments**, such as alternative credit assessment models, allowing DFSPs/FinTechs to offer credit, enabling partnerships between DFSPs and MFPs and more dialogue with regulators to enable DFSPs and MFPs to explain their products and services to policymakers.
- > **Reducing entry barriers:**
  - Allowing more market players by easing licensing and eligibility criteria (e.g. capital requirements); and
  - Proportionate regulatory frameworks (e.g. tiered KYC).
- > **Aligning key regulatory areas:** agency banking, consumer protection and mobile lending.
- > **Providing guidance (clear rules) on new areas of digital finance:** biometrics, digital credit, client data protection requirements, data security and cloud-based systems (until regulation becomes a necessity).
- > **Consider allowing eligible and worthy MFIs to collect savings and provide other financial services** (to ensure their competitive advantage when forming a partnership). This could be contingent on factors such as sufficient capital, institutional readiness, internal risk management and control mechanisms and the nature of their license.
- > **Building the institutional capacity of regulators** to enable them to understand the latest technological innovations and solutions and come up with enabling regulatory frameworks (Bank of Tanzania's work has been praised by market players).

## REGULATORY ENABLERS TO MAXIMISE SYNERGIES BETWEEN DIGITAL FINANCE AND MICROFINANCE PROVIDERS

Synergies between DFSPs/FinTech providers and MFPs arise from mutually beneficial partnerships; responsible product innovation aligned with customer needs; product distribution through digital channels; leveraging agent networks; and clear, proportional rules of the game. Regulators can push these forward by providing clear frameworks and fostering an environment that stimulates innovation while balancing risk.

## REGULATORY PRECONDITIONS ENABLING THE DIGITAL TRANSFORMATION OF MICROFINANCE

While the digital transformation of microfinance is inconceivable without basic financial, electricity and communications infrastructure, as well as enabling market dynamics on both the demand side (e.g. demographics, literacy, phone ownership, etc.) and supply side, this section focuses primarily on the regulatory preconditions that enable it.

Regulators aiming to enable the digital transformation of microfinance need to put a **regulatory framework for DFS** in place. This framework should provide a regulatory window for **non-bank e-money issuers** and other types of **innovators** to offer DFS and use **agents** to deliver these services. This window is often not provided under payment system regulatory frameworks (e.g. Côte d'Ivoire, Ghana, Kenya, Tanzania), but may consist of **e-money or mobile money guidelines** (e.g. Uganda), along with **agency banking/mobile banking regulations** (e.g. Ghana, Kenya, Rwanda, Senegal, Tanzania, Uganda). The DFS framework should specify minimum entry requirements and safeguards<sup>170</sup> while ensuring a level regulatory playing field for market participants offering similar services.

**Tiered know-your-customer (KYC) rules** allow DFS providers to offer accounts while reducing the risk of money laundering and terrorism financing. A recent Financial Action Task Force (FATF) report<sup>171</sup> recommends the use of tiered customer due diligence systems that cater to low-income, unserved or underserved groups (e.g. accounts with transaction size or balance limits, or geographic restrictions subject to minimal KYC requirements). In parallel to relaxing KYC stringency for low-risk accounts, creating national identity systems could further ease the KYC burden. The most notable recent example of how digital identity systems can spur financial inclusion is India's Aadhaar system.<sup>172</sup>

**Allowing partnerships between regulated MFI and DFS providers** might require removing obstacles to or clarifying the **regulatory framework for outsourcing** (beyond agents). Inclusive digital finance depends on a broader disaggregation of the financial services value chain, with banks and non-banks (including FinTech companies) assuming different responsibilities (according to their area of specialization) through a web of partnerships. In most African countries, there is no specific regulatory framework for outsourcing, which can lead to delays or failure by the regulator to approve promising new products or channels based on partnerships. Types of outsourcing

often seen in DFS include account and client data storage, management and analytics and many more.

Having clear outsourcing rules may not only spur innovation, but also ensure that outsourcing happens in line with best practices/standards for risk mitigation and liability retention (by the provider). Partnerships between digital and microfinance service providers may be particularly valuable for the financial inclusion of vulnerable segments, especially women, given MFIs' history of targeting these demographics and studying their financial needs.

### MEASURES TO FOSTER SYNERGIES BETWEEN DIGITAL FINANCE AND MICROFINANCE

#### Coordinate with all relevant regulators to address policy and regulatory gaps and conflicts

Partnerships between traditional financial institutions and new entrants (MNOs, FinTechs, agent network managers, specialized financial institutions) drive digital financial inclusion. New business models and service offerings (e.g. service bundles) may fall under the purview of multiple regulatory bodies, with some businesses entirely outside the current perimeter of financial regulatory authorities. Effective regulation and supervision of digital finance therefore involves coordination between central banks, financial supervisors and all other relevant regulatory authorities, such as telecommunications, competition and consumer protection agencies.<sup>173</sup>

Coordination enables regulators to harmonize and update their frameworks to address gaps, lack of clarity and inconsistencies.<sup>174</sup> Aligned and coherent financial inclusion policy and regulatory and supervisory frameworks create ideal conditions for healthy innovation by improving the competitive environment, clarifying the rules of the game and ensuring they are applied consistently.

#### Ensure credit information is shared

Credit information sharing can facilitate financial inclusion by reducing the cost of borrowing and increasing competition between institutions. Regulators should mandate that all regulated credit providers participate in credit information sharing to improve creditworthiness assessments and avoid arbitrage, and push for the inclusion of positive credit information (i.e. not only on default, but on the full loan history of borrowers). Including digital credit<sup>175</sup> in reporting to credit bureaus and/or collateral registries could benefit a large number of low-income borrowers and help them build their credit history in the formal financial sector. However, since some credit information systems can only accommodate longer term, sizeable loans with monthly installments, integrating large volumes of short-term, minuscule digital loans may pose practical challenges.

### BOX 2: THE EFFECT OF SIMPLIFIED KYC ON MFI-MNO PARTNERSHIPS

While integral to expanding access to formal financial accounts for individuals who cannot meet stringent identification requirements, DFS transaction limits could hinder partnerships between DFS and microfinance providers. In Swaziland, for example, MNO e-wallets have a daily limit of \$300 and a monthly limit of \$2,000 to allow for simplified KYC. The limits, however, create an impediment to digitizing MFI loan disbursements above those thresholds. The Central Bank of Swaziland, the Financial Services Regulatory Authority and the Microfinance Unit are currently reviewing options to facilitate MFI-MNO partnerships, while maintaining adequate AML/CFT safeguards. One solution could be adding another tier of KYC for MFI clients.

### BOX 3: CREDIT INFORMATION SHARING IN TANZANIA AND KENYA

Bank of Tanzania considers credit data sharing key to creating greater synergy between microfinance and digital finance. The country's two credit reference bureaus primarily cover the banking sector, with one of them including some information on mobile loan products offered by MNOs in partnership with regulated institutions. However, this data is not complete as microfinance loans are completely missing. Given the importance of microfinance and digital credit, both in terms of customer numbers and default rates, Bank of Tanzania believes that credit reference bureaus should collect loan information from all credit providers: MNOs, MFIs, SACCOs and FinTechs.

In Kenya, the 2013 Credit Reference Bureau Regulations require commercial banks and deposit-taking microfinance banks to report their entire loan portfolios of performing and non-performing loans to one of the country's three credit reference bureaus. Commercial bank digital loan products like M-Shwari (Commercial Bank of Africa), EazzyLoan (Equity Bank) or KCB M-Pesa are covered by the regulations. However, a 2016 Central Bank of Kenya Circular acknowledged compliance was imperfect and urged institutions to follow the regulations.<sup>176</sup> For example, based on the information provided by one credit bureau, M-Shwari did not begin submitting positive information until mid-2016, more than three years after it launched. While not required by law, some unregulated digital credit providers (e.g. Tala and Branch) opt to submit information to the credit reference bureau(s) to gain access to their databases. The completeness and accuracy of the information submitted by unregulated providers is difficult to assess.

### Use risk-based approaches to balance risks and opportunities

Balancing financial inclusion goals with those of financial stability, financial integrity and consumer protection requires a **proportionate risk-based regulatory approach**<sup>177</sup> that weighs the risks and benefits against the costs of regulation and supervision. In DFS, proportionality applied to AML/CFT, agent, data security, data protection, responsible use of big data<sup>178</sup> and consumer protection regulations has enabled innovative business models, delivery channels, products and services to emerge.<sup>179</sup> For example, enabling rules for data management and the use of open APIs and interoperability (at the right moment of market development) can stimulate next-generation product development.<sup>180</sup>

**Data security requirements** should be technology-neutral, proportional and focused on managing operational and cyber risks, which can be exacerbated when multiple institutions are involved. Regulators should clarify requirements for data and cybersecurity (including contingency and insurance for cyber attacks), business continuity and disaster recovery, as well as risk management rules on the use of third-party cloud computing services, such as data storage and processing. Providers themselves are requesting clarity on these issues. The CEO of Musoni Services suggests: “Regulators should provide clear guidelines about cloud banking including business continuity, data protection rules, security rules, managing backups.”

**Proportional data protection regulations** must protect customer data while enabling innovation based on digital data. The ability to collect, analyze and share personal data responsibly is critical to client-centric product development. At the same time, customers should be entitled to privacy, confidentiality, protection from excessive collection, unauthorized use and disclosure of their data and meaningful consent for data collection and use. Client data that has been used for innovation in financial services includes their digital footprints from financial and non-financial transactions. As such, big data governance, disclosure and analytics should also be regulated to protect consumers.<sup>181</sup>

**Robust but proportional consumer protection** requirements are crucial to guard against abuse of groups new to formal financial services, particularly those with lower incomes and literacy levels. Consumer protection frameworks must be proportional to avoid creating excessive compliance costs that exclude customers, but comprehensive enough to cover transparency (clear, simple, standardized, full disclosure of terms, fees, commissions), recourse (appropriate, accessible complaints and dispute resolution mechanisms, including channels for escalation), fair treatment (non-discrimination), consumer funds protection (procedures for losses resulting from unauthorized/mistaken transactions) and responsible lending and debt collection practices (fair pricing, safeguards against overindebtedness, aggressive marketing).<sup>182</sup>

### BOX 4: POLICIES TO FOSTER THE DIGITAL ECONOMY, PROMOTE INNOVATION AND DRIVE INCLUSION

Beyond harmonized, clear, proportionate and enforceable regulatory frameworks, policies to promote the digital economy more broadly can also accelerate the digital transformation of microfinance. Investments in **payments and credit infrastructure** (whether public or market-driven) as well as **internet and mobile infrastructure** can lower costs for providers and stimulate financial inclusion. Similarly, **reforming tax regimes and import restrictions** on key hardware (e.g. mobile phones, POS devices, ATMs) can reduce barriers to innovation and the adoption of new technologies. Public incentives can boost digital financial flows through digitizing social and administrative payments.<sup>188</sup> Sound **competition policy** (e.g. anti-trust rules, fair access to infrastructure, anti-predatory pricing) and **measures to level the playing field** (e.g. consistent application of prudential rules, revisions to the regulatory perimeter to avoid arbitrage and gaps) will also stimulate innovation and market efficiencies.

Focusing on **financial education for low-income and hard-to-reach populations**, as well as **women’s financial inclusion**, can be powerful since they represent the majority of those financially excluded.<sup>189</sup> **AFI has issued guidelines<sup>190</sup> on promoting women’s financial inclusion** through setting explicit policy objectives and sex-disaggregated targets; collecting and analyzing sex-disaggregated financial data; reforming legal and regulatory frameworks to enable innovation for women’s inclusion; refining consumer protection regulations to ensure they are gender sensitive; improving financial education and literacy; and implementing gender equality policies to eliminate discriminatory laws and practices.

### Enforce existing regulations through effective supervision

Many countries have already adopted a number of DFS-enabling regulations, such as consumer protection,<sup>183</sup> agent<sup>184</sup> and digital credit<sup>185</sup> regulations. However, **DFS supervision and enforcement of DFS regulations may be weak** due to limited regulator capacity and expertise, siloed supervision approaches, inadequate resourcing and competing priorities. This could lead to lack of compliance with key regulatory requirements, including those created to protect DFS and microfinance consumers. Perfecting regulatory frameworks to minimize gaps and inconsistencies will have limited impact unless supervision is also improved.

The emergence of **RegTech** (regulatory technology solutions) and **SupTech** (technology for regulation and supervision) present an opportunity to improve the quality of supervisory data while lowering compliance costs for providers and creating business opportunities for innovators.<sup>186</sup> Unencumbered by legacy systems, African countries could **leapfrog into data-driven supervision** by encouraging providers to use technology for automated

compliance monitoring; risk management, including transaction monitoring and fraud detection; better identity management systems; and automation of all processes to comply with regulatory reporting requirements.<sup>187</sup> SupTech adoption could, for instance, help supervisors abandon inefficient and costly ‘template-based’ data collection in favor of fully automated processes that reduce compliance costs for providers while increasing the quality and the scope of the data collected for supervision purposes. Investments in connectivity infrastructure must happen early to enable these solutions. Ultimately, supervisory effectiveness rests upon the supervisor’s **capacity, knowledge, skills, powers and tools, and financial and human resources** to keep up with the rapidly evolving digital finance space.

### REGULATORY APPROACHES TO IDENTIFYING AND ADDRESSING OBSTACLES TO DIGITAL FINANCE AND MICROFINANCE

To pursue financial inclusion goals effectively, regulators should ensure their policies and regulations are evidence-based. This would involve collecting and analyzing better data, including gender- and geographically-disaggregated data on digital finance, microfinance accounts and usage. Regulators also need to enhance their capacity and knowledge to follow and understand the risks and opportunities of new developments in technology, DFS and microfinance, and adapt their regulations and supervision accordingly. Practical steps for achieving this are presented below.

#### COORDINATION INITIATIVES

**Establishing coordinating mechanisms** allows regulators to work together on identifying and addressing regulatory inconsistencies and gaps. A recent AFI survey<sup>191</sup> revealed universal recognition of the importance of coordination in driving financial inclusion, and a **variety of coordination mechanisms – commissions, steering committees, task forces, dedicated coordination units** – that have been established across Africa and Asia. These bodies tend to assemble representatives from the central bank, the non-bank financial institution’s supervisory agency, Ministry of Finance and other ministries, insurance regulatory agency, telecommunications regulatory agency, capital markets regulatory agency, bankers’ association and microfinance association. To be effective, these bodies require high-level backing, a credible leading institution, senior-level members, a balance of size and inclusiveness, private sector representation, capacity and resourcing.

**Specialized units or working groups** can be used to explore emerging issues. For example, the Banque Centrale des États de l’Afrique de l’Ouest (BCEAO) has set up a FinTech working group to study emerging FinTech solutions in the West African region and their implications for the regulatory framework. Regulators may also consider setting up product-specific interagency working groups, particularly for complex bundled insurance and credit products that cross the boundaries and competencies of individual authorities.

#### BOX 5: TANZANIA’S COORDINATING STRUCTURE AND APPROACH TO STAYING INFORMED OF SECTOR DEVELOPMENTS

Tanzania’s National Financial Inclusion Framework (2018-2022)<sup>34</sup> has the following five priorities: “provision of digital ID to all adult Tanzanians; a tiered Know Your Customer (KYC) regime to enable lower KYC hurdles on opening low-value accounts; any-to-any digital payments to enable full interoperability between all bank accounts and mobile money wallets; rural agent growth to serve the cash in/cash out needs of all customers in their community; and service innovation for market awareness of the needs to drive relevance in financial offers”.

Tanzania’s Financial Inclusion Coordination Structure includes the National Council (NC), which provides overall strategic direction and oversight, the National Steering Committee (NSC) responsible for management and quality control, the National Technical Committee (NTC), which initiates, implements and reports on progress, and the Secretariat, which coordinates and supports the committees.

The National Council is informed of industry developments through:

- > Reports from private sector and public sector members of the National Technical Committee;
- > Reports from members of the Microfinance Network;
- > Nationally representative FinScope surveys, conducted every three years;
- > Bespoke studies on key topics (e.g. a census of financial products available on the market to assess barriers to uptake and usage); and
- > Centralized financial inclusion database completed by all sector regulators and reviewed and validated by industry bodies, which contains gender-disaggregated data on clients, accounts, transactions and other information required to track progress against the National Financial Inclusion Framework.

**Source:** Interview with BoT and <https://www.afi-global.org/sites/default/files/publications/2017-12/NFIF%202018-2022.pdf>

Formal, transparent and open **public-private dialogue (PPD)** with industry players (including financial institutions, MNOs, MFIs and FinTechs), researchers, development partners and regulators from high- and low-resource countries will remain crucial to improving regulator knowledge and understanding of new financial and technological solutions and their implications for regulation and supervision.<sup>192</sup> Even without granting approvals, regulators should stay abreast of new initiatives to keep up with the market and be informed of pilot results and implementation.

## LESSONS

**International collaboration and sharing experiences** is important as it allows regulators to learn from their peers. AFI has facilitated this collaboration and learning through the Joint Learning Program, which offers critical exposure to different countries and approaches to help regulators envision possibilities in their own markets. AFI's working groups – Consumer Empowerment and Market Conduct (CEMC), Financial Inclusion Strategy (FIS) Peer Learning Group, Financial Inclusion Data (FID), Proportionate Application of Global Standards (GSP), Digital Financial Services (DFS) and SME Finance (SMEF) – have and continue to provide thought leadership and guidance to regulators around the world.

In addition to informal learning, regulators are increasingly participating in **classroom training and capacity building initiatives related to DFS**. For instance, BCEAO is developing training on interoperability for its different offices and has recently cooperated with the Toronto Centre, CGAP and UNCDF to train the Banking Commission's supervisors on digital finance supervision, as the Commission recently assumed the responsibility of supervising e-money issuers. Similar training on DFS supervision has been delivered in Ghana, Tanzania and Zambia for several supervisors in the region. Others, like Bank of Uganda, have received training on the risks associated with DFS, and several regulators have sent staff members to relevant international training courses, including the digital finance track provided by the Boulder Microfinance Institute in Turin.

## EXPERIMENTATION

'**Regulatory sandbox**', a framework that enables small-scale testing of innovations in a controlled environment under regulator's supervision,<sup>193</sup> has become a buzzword. Regulatory sandboxes provide a space for innovation, help regulators reveal and address regulatory shortcomings, and strengthen relationships between regulators and private sector innovators. However, sound sandbox design (objectives, eligibility criteria, timing), implementation and follow-up actions require a lot from the regulator. In Africa, where regulators' capacity and resources are already stretched, sandboxes may detract from more important priorities, such as creating enabling legal and regulatory frameworks, establishing basic market infrastructure or even dealing with financial stability issues in the banking sector.<sup>194</sup> Regulators lacking the capacity or authority to set up sandboxes may simply choose to "wait and see" or "test and learn" to better understand risks and benefits prior to regulating innovative products and providers.<sup>195</sup>

Other mechanisms to improve interaction and mutual learning between regulators and innovators, such as **Tech Hubs and Accelerators**, are also gaining in popularity among regulators and donors across Africa.<sup>196</sup> Although not necessarily set up by regulators, these innovation spaces **offer regulators an opportunity to interact with startups** and learn about projects being groomed to enter the market. Bank of Tanzania is currently considering stepping up engagement to establish a National Tech Incubator to encourage the development of tech solutions for regulatory reporting and develop demand-driven products centered around consumer needs.

## STRUCTURED REGULATORY ASSESSMENTS

The **I-SIP** approach developed by CGAP<sup>197</sup> is a structured analytical framework to identify and analyze the links between financial inclusion, stability, integrity and consumer protection to help policymakers maximize synergies and minimize tradeoffs. Applying I-SIP involves clarifying definitions, adopting a structured approach to identifying linkages, inter- and intra-agency collaboration, regular data collection and analysis, consultation with service providers and evidence-based policy adaptation.

**Regulatory impact assessments (RIA)** are comprehensive and systematic evaluations of the positive and negative impacts of proposed or existing regulations mainly used in developed countries. The OECD recognizes that thorough RIAs may not be feasible in developing countries where methodological and operational difficulties are common, resources (human, financial, informational) and capacities constrained and assessment politics not always objective.<sup>198</sup> Nonetheless, CGAP has recently applied a simplified "RIA-Lite" methodology to determine the impact of State Bank of Pakistan digital finance policies on financial inclusion, stability, integrity and consumer protection in Pakistan.<sup>199</sup> Although limited in scope, the exercise gauges regulatory effectiveness and offers evidence-based recommendations for future policy reforms. As such, it can be useful for low-resource countries seeking to improve their financial inclusion policy and regulatory frameworks.



## CONCLUSION

Digitization and the convergence of DFS with microfinance is inevitable. Digital finance innovators are working to deepen DFS offerings and use, with digital credit as a key focus. With the rapid evolution of technology in the provision of financial services, regulators need to enhance their capacity and knowledge to keep pace with developments in technology, DFS and the microfinance sector. This understanding will enable them to develop and adapt proportionate regulatory and supervisory frameworks that enhance financial inclusion while mitigating the risks associated with DFS expansion.



## DEFINITIONS

Throughout this report, the term “microfinance provider” is used rather than “microfinance institutions” to include other providers, such as microfinance deposit-taking institutions, SACCOs, credit unions or microfinance banks.

The following definitions are used throughout this report and for the sole purpose of this report.

TABLE 4: DEFINITIONS<sup>200</sup>

CONCEPTS	DEFINITIONS
<b>Bulk disbursements (bulk payments)</b>	<p>Bulk disbursements allow organizations to make payments to groups of people in real time. The GSMA defines bulk payments as a one-to-many transfer.</p> <p>Source: NetHope report on Mobile money bulk payment products<sup>201</sup></p>
<b>Credit scoring</b>	<p>Automates the loan application approval process by predicting the likelihood that the applicant will develop repayment problems.</p> <p>Source: UNCDF MicroLead Toolkits.</p>
<b>Digital credit or mobile credit</b>	<p>Lending through mobile phone and digital infrastructure that involves limited in-person contact (with the agent only). The client has both a mobile money account and a digital (bank) account with the financial provider. The client can apply for a loan directly on his/her mobile phone and gets scored automatically and approved. Disbursement is made into the mobile money account of the client and can be cashed out at an agent or can be retained in mobile money account to perform transactions, such as P2P transfers, bill payments and merchant payments. Reimbursement is performed via a mobile phone (and an agent to convert cash into e-money), pushing money from the mobile money account to the digital credit account. These loans are also called nano loans since amounts typically range from US\$0.50 to \$500.</p> <p>Source: UNCDF MicroLead Toolkits.</p>
<b>Digital field applications (DFAs)</b>	<p>Digital field applications (DFAs) include tools such as tablets, smartphones and other devices that are used to digitize microfinance field operations.</p> <p>Source: Digital Field Applications: Musoni Case Study.<sup>202</sup></p>
<b>Digital financial inclusion (DFI)</b>	<p>The use and promotion of digital financial services (DFS) to advance financial inclusion. The essential components of digital financial inclusion (DFI) are a digital transactional platform, a device used by the customer to electronically connect to this platform and perform financial transactions, the use of retail agents for the customer to transact from and the provision of a wide range of financial products and services.</p> <p>Source: AFI Guideline Note No.19.</p>
<b>Digital financial services (DFS)</b>	<p>Financial services provided to clients through alternative distribution channels [e.g. mobile phones (smartphones and feature phones), internet, ATMs, POS terminals, NFC-enabled devices, chips, electronically enabled cards, biometric devices, tablets and any other digital system] that have developed over the past 10 to 15 years. Can be either financial institutions or non-bank financial institutions, such as payment service providers and mobile network operators. They offer a broad range of financial services that may be accessed through digital channels and/or over the counter (payments, credit, savings, remittances and insurance). They usually recruit their own agent network.</p> <p>Source: UNCDF MicroLead Toolkits.</p> <p>DFS models usually employ agents and the networks of other third-party intermediaries to improve accessibility and lower the overall cost of service delivery. The digital financial services (DFS) concept includes mobile financial services (MFS).</p> <p>Source: AFI Guideline Note No.19.</p>

TABLE 4: DEFINITIONS (CONTINUED)

CONCEPTS	DEFINITIONS
<b>Digital financial service provider (DFSP)</b>	<p>Can be either financial institutions or non-bank financial institutions, such as payment service providers, mobile network operators, FinTechs, etc. They offer a broad range of financial services that may be accessed through digital channels and/or over the counter. They usually recruit their own agent network.</p> <p><b>Source:</b> UNCDF MicroLead Toolkits.</p>
<b>Digital savings or mobile savings</b>	<p>Savings performed through mobile phone and digital infrastructure. The client has both a mobile money account and a digital (bank) account with the financial provider. The client can save on an interest-bearing account (usually sitting with a financial institution or with a provider with a banking license) by pushing money from their mobile wallet to their digital savings account. The account can only be accessed via mobile phone (not at the financial institution's branches) and deposits can be performed via agents who convert cash into e-money. There are basic savings accounts and target savings accounts (also called term savings or locked savings) in which customers can choose to save a certain amount for a certain period of time and get rewarded for reaching the target. The account can be locked (either automatically by the provider or voluntarily by the customer) until the target is reached. Interest paid to customers is in the range of two percent to six percent per annum, a little higher for target savings accounts.</p> <p><b>Source:</b> UNCDF MicroLead Toolkits.<sup>203</sup></p>
<b>Electronic money (e-money)</b>	<p>"A monetary value represented by a claim on the issuer that is stored in electronic form, including magnetic; issued immediately against delivery of funds of an amount not less than the monetary value issued; and accepted as means of payment by persons or entities other than the issuing institution."</p> <p><b>Source:</b> UNCDF MicroLead Toolkits.</p>
<b>FinTech</b>	<p>A contraction of "financial technology".</p> <p><b>Source:</b> AFI Guideline Note No.19.</p> <p>FinTech companies are businesses that leverage new technology to create new and better financial services for consumers and businesses.</p> <p><b>Source:</b> UNCDF MicroLead Toolkits.</p> <p>Use innovative business models and technology to enable, enhance or disrupt financial services.</p> <p><b>Source:</b> EY UK.<sup>204</sup></p> <p>FinTech includes companies of all kinds, which may operate in personal financial management, insurance, payments, asset management or other areas.</p> <p><b>Source:</b> UNCDF MicroLead Toolkits.</p>
<b>Microfinance providers (MFP)</b>	<p>These include microfinance institutions (MFIs), as well as other providers, such as microfinance deposit-taking institutions, SACCOs, credit unions or microfinance banks. They are characterized by the delivery of financial services (i.e. savings, microloans, group lending, group savings) to poor, unbanked and low-income clients.</p>
<b>Microfinance institutions (MFIs)</b>	<p>Institutions that provide financial services to poor and low-income populations, requiring little or in some cases no collateral.</p>
<b>Mobile banking</b>	<p>The use of a mobile phone to access banking services and perform financial transactions by clients themselves, directly on the client's financial institution account. This covers both transactional services, such as transferring funds (send, deposit, withdrawal, loan reimbursement) and non-transactional services (e.g. account balance check). Deposits (cash-in) and withdrawals (cash-out) still require an agent as an intermediary.</p> <p><b>Source:</b> UNCDF MicroLead Toolkits.</p>
<b>Mobile financial services (MFS)</b>	<p>Financial services provided to clients through mobile phones and mobile devices (e.g., tablet). The term is gradually being replaced with digital financial services (DFS), which is a broader term that also covers other distribution channels.</p> <p><b>Source:</b> UNCDF MicroLead Toolkits.</p> <p>Mobile financial services include mobile banking (m-banking), mobile payments (m-payments), mobile money, mobile insurance, mobile credit and mobile savings.</p> <p><b>Source:</b> AFI Guideline Note No.19.<sup>205</sup></p>



TABLE 4: DEFINITIONS (CONTINUED)

CONCEPTS	DEFINITIONS
<b>Mobile money</b>	<p>A type of electronic money (e-money) that is transferred using mobile networks and SIM-enabled devices, primarily mobile phones. The issuer of mobile money may, depending on local law and the business model, be an MNO, a financial institution or another licensed third-party provider.</p> <p><b>Source:</b> AFI Guideline Note.</p>
<b>Mobile network operators (MNOs)</b>	<p>Companies with a government-issued license to provide telecommunications services through mobile devices. Mobile penetration rates are measured by the number of SIMs in circulation as a percentage of the total national population.</p> <p><b>Source:</b> UNCDF MicroLead Toolkits.</p> <p>Due to their experience with high-volume, low-value transactions and large networks of airtime distributors, MNOs are critical players in the expansion of digital financial services.</p> <p><b>Source:</b> AFI Guideline Note No.19.</p>
<b>Pay-as-you-go (PAYG)</b>	<p>General definition: Pay-as-you-go (PAYG) is a system in which a person or organization pays for the costs of something when they occur rather than before or afterward.</p> <p><b>Source:</b> Collins Dictionary.<sup>206</sup></p> <p>Definition in relation to clean energy (solar): PAYG is a digital financing technology that allows end users to digitally pay for solar energy in weekly instalments. PAYG is a pioneering, game-changing digital credit system that removes the initial financial barrier to solar energy access by allowing consumers to make a series of modest payments to purchase a week's worth of solar energy rather than paying upfront for the entire solar lighting system.</p> <p><b>Source:</b> Energypedia website.<sup>207</sup></p>
<b>Regulatory sandboxes</b>	<p>Regulatory sandboxes are testing grounds for new business models that are not protected by current regulation or supervised by regulatory institutions.</p> <p><b>Source:</b> BBVA.<sup>208</sup></p> <p>The Central Bank of Bahrain defines regulatory sandboxes as follows: "A Regulatory Sandbox (Sandbox) is a framework and process that facilitates the development of the FinTech industry in a calculated way. It is defined as 'a safe space in which businesses can test innovative products, services, business models and delivery mechanisms without immediately incurring all the normal regulatory and financial consequences of engaging in the activity in question.' Financial products/services based on new technologies, or new permutations of existing technologies, can be tested in the Sandbox without the burden of heavy regulations and licensing."</p> <p><b>Source:</b> Central Bank of Bahrain.<sup>209</sup></p>

## ENDNOTES

### INTRODUCTION

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## DEFINITIONS

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## APPENDIX


TABLE 5: KEY INFORMANT INTERVIEWS

NUMBER	COUNTRY	NAME	ORGANIZATION	TYPE OF ORGANIZATION	POSITION
1	Tanzania	Olaf Becker	FINCA Tanzania	MFI	COO
2	Senegal	Martin Richet	Baobab (Microcred) Senegal	MFI	DFS Manager
3	Botswana	Chris Low	Letshego	MFI	CEO
4	UK	Eamon Scullin	Fern Software	Software Provider	CEO
5	Netherlands/ Kenya	Cameron Goldie Scott	Musoni Services	Software Provider	CEO
6	Senegal	Daouda Deme	InTouch		Project Coordinator, Digital Credit
7	Tanzania	Nangi Massawe	Bank of Tanzania	Central Bank	Principal Bank Officer in the Real Sector and Microfinance Department
8	Swaziland	David Mfanimpela Myeni	MicroFinance Unit		National Programme Director
9	Senegal	Gisèle Cathérine Ndoye	BCEAO	Central Bank	Chef du Service de la Modernisation des Systèmes de Paiement
10	Uganda	Mackay Aomu	Bank of Uganda	Central Bank	Director, National Payments Systems Department
11	USA	Aiaze Mitha	Tiixa	Credit Scoring Provider	Chief MFS Officer



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