Digital Financial Services in Africa: Beyond the Kenyan Success Story

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LIST OF ACRONYMS

BCEAO	Banque Central des Etats de l'Afrique de l'Ouest
BICEC	Banque Internationale du Cameroun pour l'Epargne et le Crédit
CBA	Commercial Bank of Africa
CEMAC	Communauté Économique et Monétaire de l'Afrique Centrale
DFS	digital financial services
EIB	European Investment Bank
FMCG	fast moving consumer good
G2P	government to person
KYC	know your customer
MFI	microfinance institution
MM4P	Mobile Money for the Poor
MNO	mobile network operator
P2P	person to person
UNCDF	UN Capital Development Fund
WAEMU	West African Economic and Monetary Union

LIST OF ACRONYMS

1   INTRODUCTION AND BACKGROUND

In early 2014, the European Investment Bank (EIB) and the UN Capital Development Fund (UNCDF) embarked on an eight country scoping mission in sub-Saharan Africa to study digital financial services (DFS) markets in each of the countries. The countries studied included Benin, Cameroon, Kenya, Mozambique, Nigeria, Senegal, Uganda and Zambia. Kenya is known globally as the DFS success story, where a single mobile network operator (MNO), Safaricom, launched a DFS called M-PESA in 2007. M-PESA was not the first of its kind. Prior to it, there were services already in existence in the Philippines, South Africa and Zambia, among others, but none have shown the same level of scalability and sustainability as that in Kenya. The purpose of this study was to assess the key success factors from Kenya that led to the almost ubiquitous use of a single mobile wallet among households, and drove financial inclusion from 19 percent in 2006 to 67 percent in 2013.

Of the eight countries studied, Cameroon, Kenya and Nigeria are not classified as a least developed country by the United Nations, but Benin, Mozambique, Senegal, Uganda and Zambia are. There are 48 least developed countries in the world, countries typically characterized by occurring lowest on the Human Development Index, having extreme poverty and high vulnerability that are measured using GDP per capita PPP, poverty rate, child mortality rate and literacy rate (see table 1 for a summary of these metrics).

Table 1
Economic indicators of the eight countries studied

	Benin	**Cameroon**	**Kenya**	**Mozambique**	**Nigeria**	**Senegal**	**Uganda**	**Zambia**
Population (in millions)	10.3	22.3	44.3	25.8	173.6	14.1	37.6	14.5
Human Development Index ranking (out of 187)	165	152	147	178	152	163	164	141
GDP per capita PPP (USD)	1791	2711	2265	1045	5601	2269	1410	3181
Poverty rate (US$1.25/day)	19%	28%	43%	61%	27%	11%	12%	42%
Literacy rate	29%	71%	72%	51%	51%	50%	73%	61%
Financial inclusion rate	20%	47%	67%	13%	60%	20%	28%	23%

Sources: United Nations Development Programme, United Nations Educational, Scientific and Cultural Organization, World Bank (latest year available)

Overall market potential varies from country to country, and the extent to which that potential can be reached depends largely on the areas that make up a DFS market. While the success of the market is not necessarily based on the 'weakest link,' if one aspect of the market is particularly challenging it can slow or limit DFS growth. All of this has implications for DFS growth, particularly for service providers whose business model is primarily based on transaction revenue. Because the populations, volumes of business and corresponding payments in least developed countries are smaller, customers will transact less than is common in Kenya and other larger emerging markets. Individuals are also poorer, transacting in smaller amounts and unable to afford higher fees. The lower volumes and fees make the value proposition for agents less attractive, particularly in rural areas. Finally, the costs of setting up and managing agents in more rural countries are higher due to poorer infrastructure.

The objectives of this study were to understand the key success factors of the Kenyan experience, how they compare to what is found in the other seven markets, the trends shaping the countries studied, and the lessons from Kenya that can be applied to expand the other countries' DFS markets. As an investment bank, EIB is interested in understanding how investment in the private sector of these countries can further financial inclusion. UNCDF, an agency of the United Nations, uses grant-based financial sector development to support millennium development goals. UNCDF's Mobile Money for the Poor (MM4P)

programme provides technical support to regulators and providers in DFS ecosystems to effect the same development outcomes as EIB. With this shared vision of financial inclusion, UNCDF and EIB cooperated throughout the scoping missions and present here the summary of the findings.

2   EXECUTIVE SUMMARY

DFS is a fast growing market across the globe. In 2013, there were 203 million registered mobile money customers and 61 million active customers (customers with at least one transaction in the past 90 days), according to GSMA's State of the Industry 2013 report. To support these customers, there are 886,000 agents, of which 52 percent are active. The most popular transaction is airtime top-up, representing 75 percent of transactions. Person-to-person (P2P) transfer is the second most popular transaction type at 18 percent. Bill payment, bulk payment and merchant payment make up the remaining types, while deposit to savings account, purchase of insurance and repayment of credit products are negligible. Only 8 of the 219 deployments are earning revenues in excess of EUR 800,000, showing that there is still a long way to go for sustainable financial inclusion.

The success of any DFS strategy depends upon its ability to add value for all of the different parties in the 'partnership ecosystem.' In order for DFS to achieve success, they must deliver value to multiple stakeholders within an ecosystem: customers, MNOs, banks, agents, financial institutions and often other companies, such as retailers or agro-dealers (see figure I). However, finding technology and business models that are workable for all parties has proven especially challenging as the actors have distinctly different business drivers. The partnerships often require a form of 'co-opetition' where the parties are simultaneously working together as well as competing with each other.

Figure I
Digital financial services ecosystem

THE CUSTOMER

THE AGENT

Financial institutions /MNOs

THE COMPANY

How do customers find value in using the service regularly?

How can agents be motivated to serve customers in order to ensure active accounts?

Other partners: How do businesses benefit in return for investing?

How do providers realize increased uptake and/or decreased costs of delivery in order for the investment in DFS to be worthwhile?

Failure to add value for any one ecosystem partner—the customer, the provider, the agent or the MNO—can ultimately result in the failure of the DFS strategy as a whole. Stakeholders' drive to collaborate in an interoperable ecosystem will likely differ strongly according to their business drivers, type of client, market share and individual strategy. Thus, each potential ecosystem partner must initially both overcome existing operational challenges and ratify its own business strategy. Defining and achieving value among all these players has proved elusive in all of the markets examined for this study, except for Kenya—at least to the extent that little to no scale and only sporadic evidence of the potential for scale and sustainability (certainly not to the extent of M-PESA in Kenya) are observed in the countries.

Structural issues, information asymmetries, business cases or legal barriers prevent effective partnerships from forming. Where any partnerships are seen, they remain quite limited. The success of a DFS ecosystem depends upon partnerships between different players that benefit both and allow the use of each other's infrastructure for last-mile delivery of financial services.

2.1 Success factors in Kenya

There are a multitude of factors that led to the success of M-PESA in Kenya (see Annex 1 for the full Kenyan DFS case study). The transformative nature of M-PESA has had a deep impact on financial inclusion, and the availability of a ubiquitous payment system for almost all low-income people has spurred innovation across a variety of development sectors including agriculture, health, education and clean energy. When M-PESA was launched in 2007 by Safaricom (a subsidiary of the British-owned Vodafone), the regulatory environment played a key role. The regulator offered Safaricom a 'no-objection' letter that allowed the company to innovate, to pilot test its service without the confines of strict regulation. Nowadays, one would be hard pressed to find a regulator as open to this approach as the Central Bank of Kenya was. Most regulators across the globe have issued some form of e-money regulation that gives some guidance, to serve as a risk management measure for providers but also to prohibit certain actors from engaging in the market.

The Kenyan market was ready. Prior to M-PESA, there were limited means of transacting and conducting payments. Previous methods of doing bus transfers were unreliable, and using commercial banks was expensive and out of reach for the low-income market segment. In addition to having limited means of sending money, Kenya was struck with political violence in 2008, which catapulted use of the M-PESA service. The violence led to the disruption of normal transportation and the shut-down of formal financial services, such as ATMs. The only way for people to send money was through M-PESA.

Safaricom was well situated. It had a dominant market position, had invested large sums in marketing, and had taken its time to develop its pilot. Looking at sustainability with a long-term lens, it was able to listen to its customers and iterate the product to suit its needs. 'Send Money Home' became its primary use case after failed attempts to use M-PESA as a microfinance institution (MFI) loan repayment tool. Higher education levels and literacy rates, coupled with good infrastructure, allowed Safaricom to successfully launch its service. To date, M-PESA has 18.2 million mobile money subscribers and almost 80,000 agents across Kenya, making it the most successful DFS deployment the world has seen.

As many have already realized through failed attempts, it may not be possible to replicate the Kenyan story. Vodafone itself has not been able to fully replicate its service in other African countries in which it operates, including Mozambique and the United Republic of Tanzania. Lessons can be learned, but the 'perfect storm' has yet to happen a second time. While it's not replicable, there are lessons that can be learned. Those that have had some success in other countries have taken some of the key lessons learned from Kenya and applied them to other markets. These lessons include Safaricom's use of customer feedback in its product iteration; the simple, emotive nature of its marketing; and the sophisticated use of aggregated agents and outsourced agent management.

2.2 Summary of key findings from the 7-country comparison

2.2.1 Benin

Benin is a member of the West African Economic and Monetary Union (WAEMU), and shares a currency and central bank—BCEAO (Banque Central des Etats de l'Afrique de l'Ouest)—with seven other member states. The DFS market is considered nascent with just 400,000 registered DFS users, representing 7 percent of the adult population. The financial inclusion rate is one of lowest of the countries studied, at just 20 percent. There are large challenges with infrastructure, including poor quality of the telecommunications networks, frequent electricity blackouts, poor roads and few structured rural distribution networks. The post office is active in financial services but suffers from poor liquidity, resulting in low usage and an unviable channel for DFS. Banks and MNOs, as well as third parties, are able to offer DFS through BCEAO licensing; however, MNOs have preferred to partner with banks to offer services for ease and speed of regulatory approvals. The MNO MTN has the largest market share for mobile airtime and mobile money services, with approximately 34 percent of the market.

2.2.2   Cameroon

Cameroon is the administrative centre of CEMAC (Communauté Économique et Monétaire de l'Afrique Centrale). Only banks are able to directly offer DFS, without any allowance for MNOs. There are 2.7 million registered DFS users, representing 22 percent of the adult population. The financial inclusion rate is somewhat high at 47 percent; however, 80 percent of banks' loan portfolio is comprised of large companies rather than retail customers. These figures reveal that there is a lack of willingness on the part of banks to pursue a mass market strategy either through DFS or traditional banking services. MNOs have partnered with banks to offer DFS in the country. MTN, the largest MNO with seven million SIM subscribers, has partnered with Afriland First Bank. Orange, the second largest operator with six million subscribers, has partnered with BICEC (Banque Internationale du Cameroun pour l'Epargne et le Crédit) to offer its Orange Money service. Société Générale is also providing services that are available to subscribers of both MTN and Orange—creating a unique option for interoperability in a duopoly mobile market.

2.2.3   Mozambique

Mozambique is the least developed DFS market studied with just 550,000 registered DFS users, representing 4 percent of the adult population. The regulators provide for a bank-led DFS model, although they allow companies wishing to engage in DFS to register as non-bank financial institutions. MNOs Vodacom and mCel have formed subsidiaries with bank licenses to service the DFS market. mCel has a majority market share at 44 percent; however, none of the providers have been able to develop a viable DFS offering. The DFS market is hindered by several factors, including a low literacy rate (51 percent), high poverty rate (61 percent) and a highly rural, dispersed population, with several economic hubs that are far from each other. Together these factors make it difficult for providers to develop and manage efficient agent networks. The population is very young, with a median age of just 17, which may also be contributing to low DFS penetration.

2.2.4   Nigeria

Nigeria has a high poverty rate with approximately 27 percent of the population living on less than US$1.25/day, coupled with a relatively low literacy rate of 51 percent. Nigeria has the highest level of banked adults within the study, at 60 percent financial inclusion. The regulator does not allow for MNOs to offer their services directly, which is believed to be hindering market growth. However, MNOs are still very active through bank partnerships. The DFS market is dominated by Ecobank on the banking side. First Bank and United Bank for Africa also offer DFS, though both have performed poorly. On the MNO side, Airtel, Etisalat, Globacom and MTN have all partnered with banks in non-exclusive agreements in order to pursue their DFS strategies. The market is held back by terrorism, corruption and fraud, which have limited expansion to the country's marginalized north and eroded customer trust in DFS.

2.2.5   Senegal

Senegal is a member of and host to WAEMU as well as the regional switch, which allows WAEMU members' banking and DFS technology to speak to each other. As a result, the country has benefitted from a variety of actors moving into the market and using it as its first foray into the region and DFS market. The regulator allows for all types of providers to offer DFS, including banks, MNOs and third parties. There are 1.5 million Senegalese registered DFS users, representing 20 percent of the adult population. The total banked population is also approximately 20 percent. The three main actors in the DFS market are Orange, Tigo and Société Générale, a bank that offers a service known as Yoban'tel. Senegal is also home to various third-party providers, including the up-and-coming Joni Joni, which focuses on domestic remittances through mobile phones. Threatening the expansion of the market are the low levels of structured rural distribution systems that could support the build out and sustainability of rural agent networks. The country also has a low level of adult literacy, further hindering market growth.

2.2.6   Uganda

Uganda is the most developed DFS market in the 7-country comparison. There are 14.2 million registered DFS users, representing 77 percent of adults; however, active user rates are only 28.7 percent of the adult population. The formal financial sector serves about 20 percent of the population. Regulations allow for MNOs to offer DFS, including wallets and agents; however, banks are only able to offer mobile applications and are prohibited from having agent networks. Banks have found ways to engage, though, through partnerships and interoperability with MNOs. They provide linkages from their customers' bank accounts

to the MNOs' mobile wallets, as well as providing services to agents such as acting as 'super agents' for liquidity management. The DFS market is experiencing challenges in growth due to the lack of a national ID and poor infrastructure (including roads and electricity), particularly in the north of the country. The major DFS provider, MTN, has recently experienced high rates of fraud and system downtime, leading to a lack of trust by customers and lowering the activity rate of registered users.

2.2.7 Zambia

The financial sector of Zambia is dominated by foreign banks, mostly South African. However, only one national bank—Zambia National Commercial Bank (known as Zanaco)—is engaged in mass-market DFS. There are three MNOs: two foreign (Airtel and MTN), which offer DFS, and one national (Zamtel), which does not engage in DFS. Mobile payments came early with Celpay, a now-defunct payment service provider, in 2002. Zoona, a third-party service provider opened in 2009, and is now considered a great success story. There are 2.8 million registered DFS users, but only 2.4 percent of the adult population are active users. Aside from Zoona, all DFS providers face challenges with high inactivity rates, and have struggled to devise and market a product that is tangible and useful. Regulations are supportive of innovation with prudential customer protection, with all types of providers able to offer services to some extent and with the regulator taking a 'watch-and-learn' approach to market regulation.

3   KEY FINDINGS ELABORATED

The **theory of change** in DFS focuses on making **shifts** between stages of market development, moving from inception to start-up to expansion and eventually to a mature and consolidating market. There are coordinated actions that will push DFS from inception to a point where societies become 'digital' and the industry is consolidated, as illustrated in figure II.

Figure II
Mobile Money for the Poor's theory of change

Inception to start-up

- Regulator permits bank or non-bank DFS with agents to launch
- A 'transformative' DFS launched
- Non-bank agents activated
- Basic services available (wallets, bill payments, airtime, cash-in/cash-out)
- **> 1% active users/ adult population**

Start-up to expansion

- Regulator has guidelines specific for DFS
- Several transformative and competing services launched
- >20 active agents per 100,000 adults
- Simple financial services available (loan repayments/ disbursements, bank-wallet link)
- **> 5% of active users/ adult population**

Expansion to consolidation

- Specific laws/regulations for DFS enacted, know-your-customer (KYC) adapted to DFS
- DFS providers compete aggressively for clients
- >140 active agents per 100,000 adults
- Advanced financial services available (credit, insurance, savings)
- **>35% active users/ adult population**

3.1   Ecosystem development

To understand where an industry is within this market theory, a framework can be applied to various components that jointly determine the potential of the market. Using the **honeycomb**, the market can be seen to be composed of the following influencing factors: policy and regulation, delivery infrastructure, providers, agent networks, high volume and customers (see figure III). Each factor contributes to ecosystem development and is required to complete and transform a DFS market.

3.2   Policy and regulation

Policy and regulation refer to the regulatory framework within a country that governs the delivery of DFS. A regulatory framework involves several different aspects, typically including financial inclusion policies to promote financial

Figure III
**Mobile Money for the Poor's honeycomb**
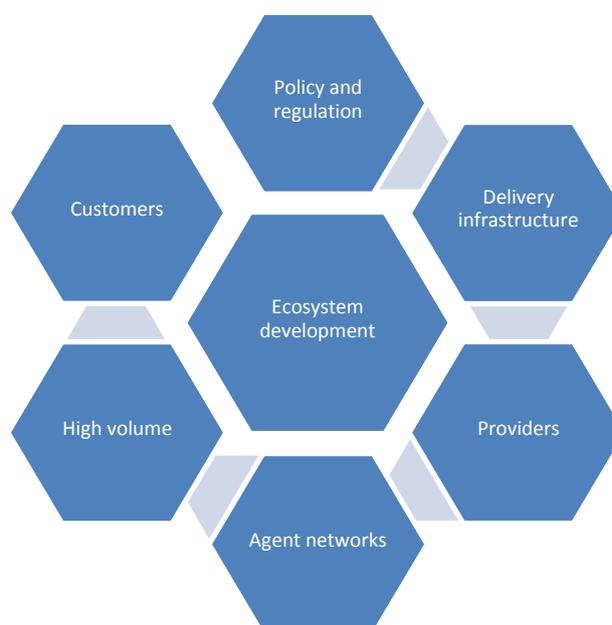
services for the poor, and policies and guidelines to govern and supervise specific aspects of DFS—such as e-money issuance, agent networks, know-your-customer (KYC) and customer protection. These policies and guidelines ultimately govern what types of institutions can offer DFS, to what extent and in which contexts. A regulatory framework for DFS is typically issued by the country's central bank; however, in some cases, the communications regulator may also be involved, as it traditionally supervises MNOs.

What is common among the countries studied is that each one lacks a comprehensive set of guidelines for the governance of DFS, with each having some preliminary regulations that allow for DFS start-up but that lack sufficient information to adequately guide providers on the allowances and limitations of DFS provision. In the beginning of Kenya's evolution toward DFS, there were no guidelines for DFS and the central bank issued a 'no-objection' letter to Safaricom that allowed it to pilot test the DFS without guiding regulations. This approach, known as 'watch and learn,' allowed the operator to innovate and experiment, despite it being an MNO and a non-regulated financial institution. The Kenyan regulator has stated that this approach was not taken out of naiveté, but rather it was an intentional approach to first observe effects and then introduce appropriate regulation. However, the regulator did not offer the same approach to banks wishing to engage in the DFS market, which caused several players to see it as an uneven playing field. On the other hand, one could say that, without this allowance, Safaricom may not have been able to launch its service and achieve the same scale of financial inclusion.

Within the seven countries studied, only Uganda shares a similar MNO-led model (see figure IV). Cameroon and Nigeria have bank-led models, while Benin, Mozambique, Senegal and Zambia allow all actors—including non-MNOs and banks—to operate DFS to some degree. Of the seven countries, Uganda (the other MNO-led model) has the highest penetration of active DFS users, so one might argue that an MNO-led model can lead to higher financial inclusion. MNOs do have an advantage over banks due to their very large existing subscriber base, high levels of brand awareness, existing distribution networks of airtime resellers, and efficient internal procedures for rapid customer registration. However, conclusions should be made with caution as other factors may be at work.

Figure IV
Types of regulation
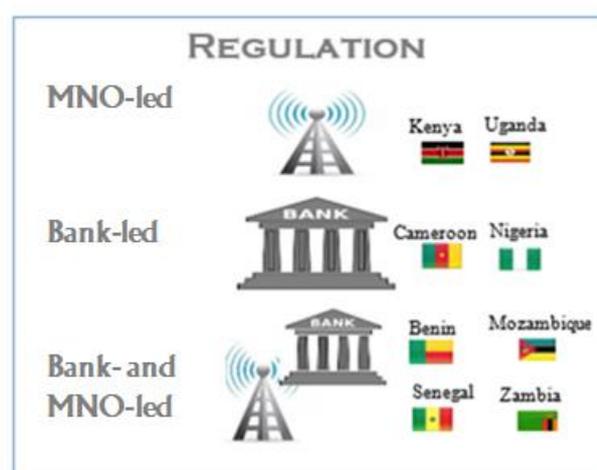
Interestingly, MNOs are active in DFS across the seven countries. Even in countries that are bank-led by regulation, MNOs have partnered with banks in order to offer their service. In contrast, the study did not observe banks partnering with MNOs in countries that are considered MNO-led for the direct delivery of services. In Uganda, even though they cannot offer DFS directly, banks have found a way to play a supporting role by offering agent liquidity management services and integrating with MNO mobile wallets.

One of the most thorough regulations reviewed in this study is that of BCEAO, under the legislation of WAEMU, of which Benin and Senegal are members. BCEAO has issued DFS guidelines that allow for all types of institutions, including banks, MNOs and third parties, to issue e-money. Providers need only to apply once to be allowed to operate within the region, reducing the barriers to entry and limiting investment costs for regional expansion. BCEAO promotes financial inclusion and has set a target of 30 percent of adults to be formally included in the financial sector by 2020. To support this goal, BCEAO has released regulations governing e-money issuance, payment systems, agent networks, KYC, consumer protection and anti-money laundering/combating the financing of terrorism. BCEAO has also supported the development of a regional clearing house and switch, which is discussed in the 'Delivery infrastructure' section of this report. The collaboration and pooling of resources from WAEMU member states has led to increased investment in the capacity of the regulator and ultimately an improvement in the market potential for DFS, though it has not yet led to high use.

3.3   Delivery infrastructure

Infrastructure for the development of the DFS market refers to physical infrastructure, such as roads and electricity to support rural agents, as well as cell-sites for mobile and data connectivity. It also covers financial infrastructure, such as national payment systems infrastructure (switches), which allows for transaction clearing among providers.

The presence of a national switch, as seen in Nigeria, Senegal and Uganda, may be a contributing factor for those four countries, which show promising DFS markets. Cameroon, Mozambique and Zambia do not have widely-used national switches, and all three are in the early stages of start-up for a DFS market. A national switch can be a large contributor to interoperability since it allows users from one bank to use the infrastructure of another, but it can also be associated with high-end market development as it is mostly the previously banked, well-off customers that require this flexibility, along with cheque clearing and international remittances.

Mozambique, the poorest performing DFS market in the study, is especially challenged by infrastructure. With most banks and branches located around Maputo, Mozambique generally offers little access to financial services. Access will likely be the greatest challenge for all providers in the market given the infrastructure issues. Other industries also lack distribution networks, and very few retailers are able to cover the three economic regions of the country. All the MNOs are making the dual effort to grow their networks outside of Maputo and to expand geographic reach, which necessitates the expansion of airtime distribution. By the same token, the economic corridors in Mozambique are spread far apart in the different provinces, posing a challenge to the set-up and maintenance of agent business for the MNOs.

In the Kenyan case study, physical infrastructure was cited as being a contributing factor to the development of the DFS market—in particular, it was noted that the country had well-established road networks, rural electrification and mobile network coverage, as compared to other African countries. In terms of the seven countries studied, Benin, Mozambique, Nigeria, Uganda and Zambia were all cited as having poor infrastructure that inhibited growth. Still, Nigeria and Uganda are the best performing DFS markets within the scope of this study, showing that there is not a direct linear relationship between infrastructure development and the overall performance of a DFS market. An exception, however, may be the case of Mozambique, where infrastructure is particularly challenged and there may be a directly attributable hindrance to ecosystem development.

3.4   Providers

Providers in the market offer platforms for DFS. They are primarily made up of MNOs and banks but can also include third-party service providers, value-added service providers and adjoining players such as retailers and other companies. The performance of the providers is generally gauged through the number of active customers they have using their different products and services. With the guidance of regulators, providers offer services to the market and compete for market share, sometimes engaging in partnerships and 'co-opetition.'

'Co-opetition,' a combination of cooperation and competition, becomes increasingly prominent as markets develop and move into the expansion and consolidation phase. At a minimum for DFS to begin, MNOs require banks to hold their float and banks require MNOs to issue a 'short-code' (e.g.,*123#) for their customers to access their account over a mobile phone. As the market progresses, more advanced forms of partnerships develop and the MNOs and banks, as well as third parties, may start to provide more integrated services, while at the same time competing for the same customers. Partnerships begin to develop in order to be able to offer things like agent management, liquidity management, and second-generation products such as savings, loans and insurance, as well as to share agent networks and achieve direct interoperability between wallets and accounts (push and pull services).

3.4.1   Structure
Providers are categorized into three main groups: MNOs, banks and third-party operators. There are striking differences in the way each of the three typically operates, and those global trends are seen in most markets studied in this report.

MNOs in the DFS market are typically very large foreign companies that have launched DFS in several countries, including Airtel (India), Essar (United States of America), Etisalat (United Arab Emirates), Millicom-Tigo (Sweden), MTN (South Africa), Orange (France) and Vodafone (United Kingdom)—all of which dominate the African telecommunications market. In addition to the major regional players, there are some formerly state-owned MNOs offering DFS, such as Cameroon Telecommunications (known as Camtel) in Cameroon, mCel in Mozambique and Uganda Telecom in Uganda, although typically they tend to have smaller market shares and be less aggressive in the DFS market.

Foreign national banks operating within the countries studied, such as Barclays and Standard Chartered, tend to follow a pattern opposite to that of foreign national MNOs, with the larger banks being less interested in DFS as they typically focus on higher-end markets. Nationally-owned banks are more likely to be attracted to mass-market strategies such as DFS. The only exception to this pattern is the regional or international MFIs such as FINCA and Accion that are much more interested in using DFS to expand their businesses but, in most cases, lack capacity and systems to do so. MFIs are still struggling to identify their role—as a direct provider, as agent, as super agent, as liquidity provider, or as innovator that rides the mobile rails.

In each of the markets studied there are typically two to three MNOs but many more providers of banking services, with the numbers of licensed banking institutions ranging from 9 to 25. Each country typically has dozens more MFIs, cooperatives, credit unions and other types of licensed financial institutions such as remittance and foreign exchange providers. While the number of bank providers in a country is typically higher than the number of MNOs, the largest three to five banks tend to control the majority of the market.

Third-party service providers are becoming increasingly relevant in the market and showing that they can compete with large MNOs and banks for some of the DFS market share—most notably, Zoona in Zambia and Joni Joni in Senegal. While both of them are considered relatively small at the moment, their approach to the market is innovative and they are quickly gaining market share, as well as the keen interest of the international community. Zoona's agent-led model is further elaborated in the 'Agent networks' section of this report.

In Kenya, the establishment of M-PESA has attracted many more providers into the market that benefit from availability of a mobile payment system (see figure V on next page).

Financial service providers are 'integrators' when they add DFS as a delivery channel for an existing line of products—for example, a bank can use mobile money to offer financial services. 'Innovators' are new entrepreneurial products or ventures launched with a business model that is purely DFS based—for example, Musoni, the cashless MFI. 'Bridge builders' are application developers that specialize in DFS integrations for financial and payment services—for example, Kopo Kopo, a Kenyan company that helps merchants to accept mobile payments.[1]

In some of the markets studied, the regulators required MNOs to set up separate companies to operate their DFS. This set-up is believed to create more efficient systems, but this study did not find conclusive evidence in this regard. In other countries, not within the construct of this study, MNO/bank joint ventures and acquisitions (e.g., BPI Globe BanKO in the Philippines, Econet Wireless and Steward Bank in Zimbabwe and Telenor and Tameer in Pakistan) have shown to be effective models for creating scale and sustainability.

An emerging trend in Africa is the presence of international payment system providers such as Visa, MasterCard and PayPal. Each has made investments in the market through technology acquisitions and provider partnerships, and are likely to become important players in the future.

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[1] Kendall, Jake, Philip Machoka, Claire Veniard and Bill Maurer, 'An Emerging Platform: From Money Transfer System to Mobile Money Ecosystem,' Legal Studies Research Paper Series No. 2011-14, University of California, Irvine School of Law.

Figure V
Ecosystem actors in Kenya

3.4.2 Conduct

In Kenya, Safaricom's market share at launch was 79 percent. Its dominant position in Kenya allowed Safaricom to leverage its large customer base, which is frequently cited as one of the key factors to the success of M-PESA. With its primary use case of 'Send Money Home,' it was almost always the case that both the user and the recipient were Safaricom SIM holders, allowing for ease of uptake of the service. In the case that both users were not with Safaricom, the recipient could use an over-the-counter transaction for withdrawing the funds upon receipt of the SMS confirmation. Aside from Safaricom in Kenya, MTN in Uganda also had a dominant market share, which may have accounted for its early success. In all of the remaining six countries studied, the leading MNO typically had just 50 percent of the market, and it was likely to be a foreign national or regional player such as Airtel, MTN or Orange. In the long term, not having a dominant player may become less relevant as providers begin to work together and interoperate, such as the case in the United Republic of Tanzania.

Partnership depends on 'co-opetition.' Safaricom has partnered with two banks to offer wallet + services: Equity Bank for the provision of M-KESHO, a savings-led product; and Commercial Bank of Africa (CBA) for M-Shwari, a micro-credit product. The partnership between Safaricom and CBA has been largely more successful than the Equity Bank partnership, which may be attributed to key differences in the user experience and marketing, further detailed in the 'Product specifications' section of this report. Safaricom has not been as willing to partner with other MNOs in the market, and in fact, Airtel took Safaricom to court over its unwillingness to integrate its M-PESA product with other mobile wallets.

In the other countries studied, there are several examples of MNO/bank interoperability. In Nigeria as well as in Uganda, MNOs are each integrated with several banks. In both countries, the bank partnerships were born of necessity in order to follow central bank regulations dictating who can offer what services. Therefore, the intention of these partnerships was not to expand on the existing product offering, as was the case with the Safaricom partnerships, but rather to gain market entry.

When going alone, without partnership, MNOs tend to be much more successful than banks in terms of scalability. MNOs have several major advantages over banks. MNOs have perfected the model of micro-payments through their airtime distribution networks. In each of the countries studied, as well as in countries all over the world, MNOs have set up vast distribution networks to sell prepaid airtime cards in the tiniest of quantities, often as little as EUR 0.20 per card, and still figured out how to make it profitable. In addition, their business models are based on extracting value and profit from the base of the pyramid and the mass market, whereas banks rarely, if ever, envisage themselves as ubiquitous amongst all households in a country.

3.4.3 Performance

The performance of all the markets studied is significantly lagging behind that of Kenya. Uganda is a close second with 77 percent of adults registered on DFS platforms, with the rest averaging about 20 percent registered and about 5 percent active users. Within this limited data set, it seems clear that MNO-led models are outperforming bank-led models. However, while the breadth of financial inclusion is greater with MNO-led models, it cannot be said that the depth is also greater. MNOs are limited to providing mobile wallets that can basically hold balances, send transfers and do payments. Without partnerships with banks, insurers and other innovators, integrators and bridge builders, the mobile wallet's capability of addressing deeper financial inclusion will stay limited.

3.4.4 Product specifications

Before M-PESA, there was a suite of needs that were not being addressed by the financial market in Kenya. The services that were offered by the traditional banking sector were expensive and took a long time to deliver. Though cash transfers and remittances were very common, the cost to send money was exceptionally high. As a result, the introduction of M-PESA resulted in a dramatic shift in the channels people used (see figure VI for the shift in domestic remittance channels from 2006 to 2009 to 2013—when the DFS channel was used for 91.5 percent of domestic remittances).[2]

Figure VI
Domestic remittance channels in Kenya
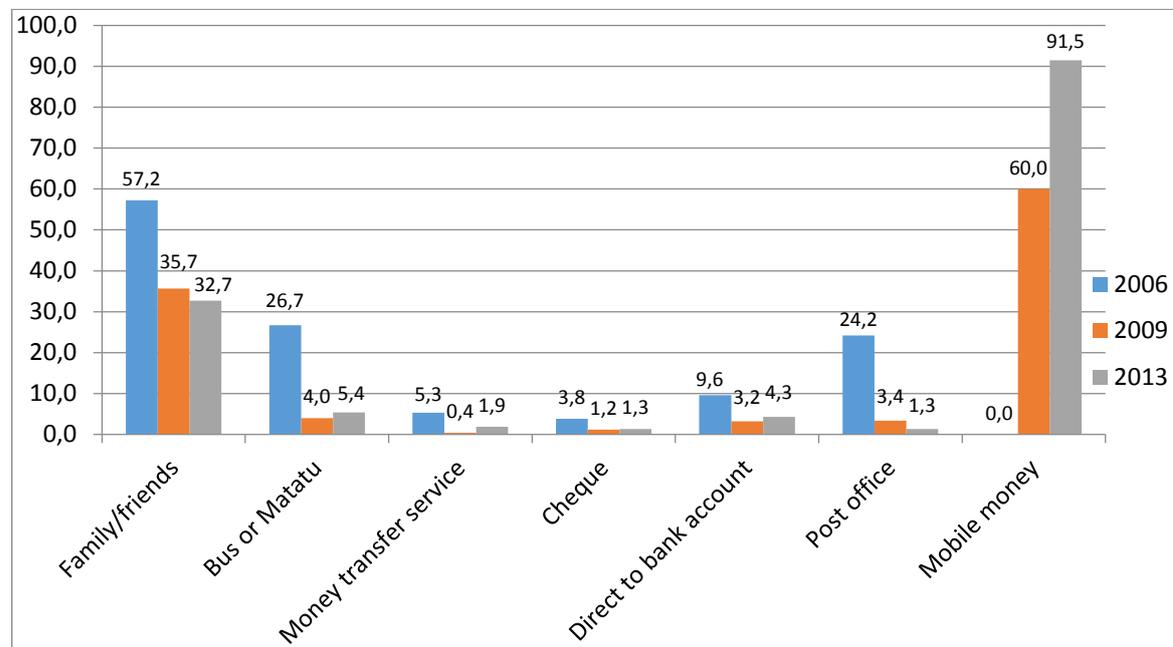
[2] FSD Kenya and Central Bank of Kenya, *FinAccess National Survey 2013: Profiling developments in financial access and usage in Kenya*, October 2013.

Compared to other East African markets between 2006 and 2009, Kenya has shown the most drastic change in sending methods. A large proportion of the money-sending population started using DFS, and there was a significant reduction in using informal methods. Comparatively, in Uganda and the United Republic of Tanzania, behaviour change has been much slower.[3]

Financial institutions have become more involved, especially as bulk payments and bill payments have grown. There are more than 12 banks in Kenya with linkages to the M-PESA system. However, according to the United States Agency for International Development, current bank linkages with M-PESA are less about innovation and more about adaptation by financial institutions for linking to the M-PESA platform.[4] M-KESHO, a savings product from Equity Bank, is an example of early product innovation. M-Shwari, which offers microloans through a linked bank account at CBA, is a more recent example. Since launching M-Shwari in November 2012, KSH 7.8 billion (approx. EUR 65.8 million) have been disbursed to about four million customers.[5]

M-Shwari has had relatively more success than M-KESHO because the M-Shwari product could be initiated effectively as part of the existing M-PESA menu of services; this ease of accessibility made M-Shwari much more attractive. In contrast, M-KESHO required an applicant to go to a branch or an agent to present ID and open an account. Another difference between the products related to their initial emphasis: M-Shwari emphasized access to credit, whereas M-KESHO emphasized savings. At first glance, this difference in product presentation might seem to explain the difference in product uptake. Yet, savings balances with M-Shwari have far outpaced loan demand—even though it is easy to borrow, especially up to the value of the client's savings balance. A final difference lies in marketing; although detailed figures are unavailable, it is evident that much more was spent on marketing for M-Shwari than for M-KESHO, which must be considered as a contributing factor to M-Shwari's relative success.

While Equity Bank still offers the M-KESHO product, they are not actively marketing it as they have recently launched their mobile virtual network operator strategy that backs off of Airtel's infrastructure in order to offer Equity Bank SIM cards and mobile accounts. The new strategy will also leverage data analytics for new loan offerings in order to compete with the M-Shwari/M-PESA offering. Equity has invested heavily in the strategy and wants to focus on mobile and branchless banking for the next phase of its business evolution.

Within the countries studied, not one is offering a range of products as sophisticated as the ones being integrated with M-PESA in Kenya. Most offer first-generation products such as P2P transfers, bill payments and airtime top-ups, while a few are experimenting with second-generation products such as savings, loans and insurance. In Kenya, one can see all manner of service providers, across a multitude of sectors, latching onto the M-PESA platform or other DFS platforms to offer value-added services to poor and low-income consumers.

3.4.5 Product positioning and marketing

In most of the countries studied, analysis and interviews revealed that there was very little market research (public or private) available on customer financial behaviour. Banks tend to focus on higher-income segments, while MNOs are not always interested in funding research on financial behaviour (rather, their interests are with airtime usage behaviour).

Identifying the emotive nature of money, and understanding the customer pain points, is imperative to effective product development, positioning and marketing. Safaricom did not conduct extensive market research prior to piloting the service. However, the pilot was monitored very closely and extensive field research was conducted. Formal interview-based research revealed a willingness to pay by users for the service and cited the lack of other competitive money transfer offerings as a key reason.[6] Data was also

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[3] Weil, David, Isaac Mbiti and Francis Mwega, 'The Implications of Innovations in the Financial Sector on the Conduct of Monetary Policy in East Africa,' International Growth Centre, July 2012.
[4] Accenture, 'It's Better Than Cash: Kenya Mobile Money Assessment,' November 2011.
[5] Payments Afrika, 'Safaricom and CBA Launch Ambitious Plan to Grow M-Shwari Customers,' 10 February 2014.
[6] International Finance Corporation, 'M-Money Channel Distribution Case – Kenya,' March 2009.

monitored in order to see how people were adapting the service to their own needs, and to then develop the service accordingly.

In most of the markets studied, very few players—with the exception of smaller, more innovative and savvy providers—are conducting market research and using data analytics to understand their customers' behaviour.

M-PESA started off as a pilot to allow for microfinance loan repayments, as Safaricom was looking for a viable use case for mobile payments. However, as the pilot was underway, Safaricom staff noticed that customers were actually using the system more to send money to one another than to repay their loans. Forgoing formal market research, but rather observing and reacting quickly in an entrepreneurial fashion, Safaricom depended upon organically derived market intelligence and an ability to create feedback loops to signal important pain points. Safaricom adjusted its strategy quickly and made P2P money transfer the main product as they scaled up M-PESA, resulting in the famous 'Send Money Home' tagline. Understanding and responding to the customers' pain point, which was different from the original hypothesis, allowed M-PESA to succeed.

Safaricom's experience has shown that understanding potential customers' pain points is vital to proposing a viable alternative to informal or formal financial services, as is the need to build platforms that speak to current customer behaviour, rather than trying to force new behavioural patterns.

3.4.6 Financial models

Banks typically base their business models on interest revenue and collect deposits as a means of funding their portfolios; fee revenue is not a primary financial driver for them. This approach is in direct contrast to the financial models for DFS where fee revenue and, in some cases, float revenue or reduced distribution costs are used to build viability. For MNOs, adjacency can be a business driver. Adjacencies (non-financial service revenue) are important drivers for DFS platforms, especially those developed by MNOs. Safaricom, for example, generates an estimated EUR 1.29–EUR 4.50 profit per customer from churn reduction and reduced distribution costs through its ownership of M-PESA.[7] The advent of M-PESA created a 'sticky' proposition by which customers would stay longer with and remain more loyal to Safaricom, instead of switching to another MNO.

For banks and third parties interested in DFS, alternative financial viability models must be examined as they don't have the opportunities for adjacency in the same way MNOs do. Banks and third parties employ usage-based models to achieve financial viability, sourcing transaction revenue for business income. Banks have the added advantage of being able to hold their own float, and thereby earn interest through deposit investments, or further increase revenue through lending to their existing customer base. In many cases, banks also turn to DFS in order to reduce foot traffic in their branches and increase outreach to new market segments. Transaction costs for banks when customers transact at an agent point are estimated to be about half of what they are at a branch.[8]

3.5 Agent networks

Agents are the cornerstone to any DFS. They allow customers to access their account from any small kiosk or rural store, where they can cash in and cash out from their account without needing to access traditional physical banking infrastructure (known for having limited outreach and high operational costs). Agent networks typically are independently owned and operated by small entrepreneurs who are paid a commission for each transaction or account opening. The success of a DFS implementation is often dependent on the activity and health of the agent network—in particular ensuring that agents are ubiquitous in all regions, are adequately trained, have marketing capacities, are prudently managed and have sufficient liquidity available, in both cash and electronic form, to service the transaction needs of

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[7] Voorhies, Rodger, Jason Lamb and Megan Oxman, 'Fighting poverty, profitably: Transforming the economics of payments to build sustainable, inclusive financial systems,' Bill & Melinda Gates Foundation, September 2013.
[8] CGAP, 'Understanding the business bank case in branchless banking,' February 2012.

customers. In most countries, rural agents tend to do more cash-out transactions than urban agents, and vice versa, as a result of P2P transactions that typically follow an urban-to-rural flow. In Kenya, this use case was heavily marketed at the onset of M-PESA through the tagline 'Send Money Home,' with corresponding marketing that showed urban workers sending money to their rural and agriculture-dependent extended families.

Since agents are the front line of the DFS business, providers rely heavily on commission incentives to drive activation and transactions for potential customers. Many countries are witnessing what is known as the 'sub-scale trap,'[9] whereby agents are not conducting enough transactions to incentivize them to train their staff, keep sufficient liquidity and recruit new customers for DFS. As a result, customers do not use agents because of lack of awareness or agents' inability to perform transactions, leading to a 'chicken-and-egg' problem.

M-PESA's agent network has evolved over time in Kenya, leading to the most robust and consistent customer experience today.[10] As such, agents can be considered to be one of the key drivers of the M-PESA success story. In the beginning, Safaricom selected 400 of its largest airtime resellers to act as agents. Over time, though, it began including smaller airtime resellers, maintaining a direct contractual relationship with all of the agents while contracting the management of the agents to a third party. Third-party management ensured adherence to standards for training, marketing, KYC, etc. and resulting in a consistent customer experience. In 2009, Safaricom recognized the role of 'agent aggregator,' a role similar to 'super agent' (common in traditional distribution models in the field of fast moving consumer goods [FMCGs] such as Coca-Cola and Unilever) that manages a layer of sub-distributers and in return receives a share of their commission. The technology used by Safaricom allowed agent aggregators to be classified in their systems and commissions to be automatically settled separately in the accounts for agent aggregators and sub-agents.

In this study of seven sub-Saharan countries, only Uganda is utilizing agent aggregator relationships. Correspondingly, it has the largest agent network of the countries studied, with over 25,000 agents. Also unique to Uganda is the fact that the MNOs, particularly MTN, are actively using banks to support their agent networks by acting as super agents and providing liquidity to the agent networks. In Benin and Senegal, MFIs have expressed great interest in providing agent services for the DFS providers. However, it was observed in this study that MFIs may face challenges due to their limited hours of operation (similar to banks) and their staff being salaried and not given commissions for each transaction and account opening they perform. In contrast, small rural retailers, who traditionally stay open in the evenings and on weekends, are sole proprietors and receive commissions directly for their work.

The pre-existence of structured and organized distribution networks seems to have significant impact on the viability of robust DFS agent networks. Benin, Mozambique and Zambia, the three least developed DFS markets in the study, do not have well-developed systems for rural distribution, such as retail goods stores, agricultural input suppliers and post offices—all of which are important distribution networks for rural development. In contrast, Cameroon, Nigeria, Senegal and Uganda all have well-developed rural distribution networks, and are the four best performing DFS markets in the study.

Three countries in the study (Benin, Cameroon and Senegal) are using post offices as a means for rural agent networks. However, all three are experiencing difficulties as the liquidity levels of the post offices are not sufficient to meet the demands of their rural customers.

Third-party service providers such as Joni Joni in Senegal and Zoona in Zambia are employing, with great success, their own agent networks, with special focus on the agent as their customer. In particular, Zoona has an agent network of 600 agents, with very high activity rates per agent and an equally high median monthly income of EUR 800 per agent. Zoona provides its agents with full support, including start-up loans

[9] Mas, Ignacio and Daniel Radcliffe, 'Mobile Payments Go Viral: M-PESA in Kenya,' *Yes Africa Can: Success Stories from a Dynamic Continent*, World Bank, August 2011.

[10] CGAP, 'M-PESA's Evolving Agent Network Structure,' 2010.

to purchase 'pop-up' kiosks and start-up e-value. Zoona heavily relies on data to monitor and track the activity of its agents to provide pre-emptive support. Zoona values its agent network above all else and is slowly but methodically growing, with a target of 1,000 agents by the end of 2014. In early 2014, Zoona partnered with Airtel to share agents. The partnership has not been fully operationalized as the two companies continue to have challenges aligning their incentives and business models. Zoona's customers are currently conducting over-the-counter transactions, with the technology held by the agent. Zoona is interested in launching its own wallet service as well as integrating with banks that do not have their own agent network, but it will develop in that direction.

3.6   High volume

The 'High volume' section of the honeycomb refers to payments that are made in bulk that could drive massive adoption of DFS, similar to the ways salaries and government social payments have driven adoption in the West of (now almost ubiquitous) bank accounts and opened the door to formal financial inclusion. High volume involves government-to-person (G2P) payments, such as social cash transfer payments and civil servant salaries, as well as business-to-person and person-to-business payments, such as agricultural and FMCG value-chain payments and bill payments for utilities. In least developed countries, there are relatively lower volumes of person-to-business payments and relatively higher volumes of G2P payments than in more developed countries.

In Kenya, high volume payments were not a driver of mass customer adoption. However, there is evidence from countries such as Brazil, Pakistan and the Philippines that it can have impact not only on increasing active DFS use but also on building sustainability from the provider and agent perspective. Brazil paved the way for financial inclusion by offering recipients of its social cash transfers programme the option to receive payments through a no-frills account, accessible through 36,000 agents across the country. As of October 2011, 11 million families of 12.9 million total families chose to receive their payments through a branchless account, representing 60 million people or 30 percent of the population.[11] Even though cross-selling to this customer base is being pursued, it is believed that, from the provider perspective, financial viability is only available early on when governments pay fees to the providers for the service.[12]

Of the countries studied, only Nigeria is actively using DFS to conduct large-scale G2P payments, although the study revealed that all countries have the potential to convert existing payments to digital format. In some countries, such as Uganda and Zambia, value-chain payments are being pilot tested through DFS on a limited scale. In Zambia, Zoona is using its agent network to accept payments from small retailers that are receiving and selling products from a brewery. In Uganda, Orange (the smallest MNO in the market) is trying to find a niche in agricultural value-chain payment by working with buyers to act as super agents and using their wallets to pay farmers upon purchase of their harvests.

3.7   Customers

Customers are at the centre of DFS market expansion. There are several geographic, demographic and socio-economic indicators that may affect uptake of services. In Kenya, which is not considered a least developed country, there is a relatively higher literacy rate and GDP per capita than in the countries studied for this report—this finding is considered to be one of Kenya's key factors for success (see figure VII for a comparison of literacy rates). There is also a relatively high number of people who own mobile phones, compared to those banked by the formal financial sector, in Kenya and all seven of the other countries studied. Across the study, financial inclusion rates range from 13 percent to 67 percent. In contrast, mobile phone penetration rates ranged from 67 percent to 92 percent, with the exception of the relatively low penetration rate of Mozambique at 34 percent.

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[11] CGAP, 'CGAP G2P Research Project: Brazil Country Report,' 2011.
[12] David Porteous, 'Is There a Business Case for Offering Services to G2P Recipients?' 14 March 2012. Available from http://www.cgap.org/blog/there-business-case-offering-services-g2p-recipients.

Despite high rates of poverty and low literacy levels in the seven countries studied, customer demand is consistently high. The people, who want to conduct transactions, borrow, save or access insurance have many pain points that are very prevalent and knowingly affect people's everyday lives. As discussed in the 'Providers' section of this report, understanding and addressing these pain points through marketing of DFS could lead to a higher conversion of demand to active DFS use.

Customer trust issues with a service provider have also been shown to have significant negative influence on the activity rates of DFS users. Nigerian and Ugandan providers have suffered from significant customer and staff fraudulent activities that have reduced customer confidence and resulted in lower numbers of active users.

Figure VII

Literacy rates of the eight countries studied
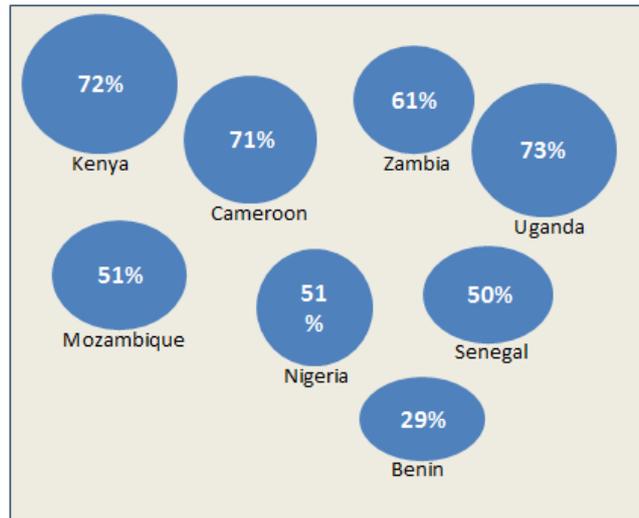
4 CONCLUSIONS

DFS have been a runaway success story in Kenya. Understanding the success factors and bearing in mind the specific aspects of the Kenyan experience is useful when benchmarking other African markets—though, as detailed in the case study, the unique and non-replicable combination of factors in Kenya prevent broad benchmarking. However, the lessons that emerge from this nascent industry may be helpful to keep in mind when considering the long journey other markets are about to embark on as they build DFS businesses.

Providers will need to consider how best to build customer-centric platforms and products to create a truly viable business proposition. Given that each market is unique, taking the time to understand and analyse social, economic and cultural factors will help immensely in developing appropriate products that address customer pain points and meet customer needs. In addition to client demand, taking into account key drivers of a DFS ecosystem will provide insight into appropriate product development opportunities for their businesses. As ecosystems develop, DFS can assist providers in scaling their businesses by growing fee revenue through new transaction products, reducing the cost of funds for banks by growing their deposit base and eventually growing their interest revenue through their ability to offer loans to previously untapped markets, as seen by CBA and Equity Bank in Kenya.

Anticipating the future of DFS may indicate where to find the real debt and equity investment opportunities. Some of these investment opportunities may become feasible only with parallel investment in grant-based technical assistance programmes such as UNCDF's MM4P. Development banks, commercial banks and social investment funds can work together with donor institutions to leverage the effectiveness of debt- and equity-based financing to build viable, sound, scalable and sustainable DFS ecosystems that promote financial inclusion at the base of the pyramid.

Of the eight countries studied, MM4P has chosen to enter four of them (Benin, Senegal, Uganda and Zambia) with the support of the Bill & Melinda Gates Foundation and The MasterCard Foundation. In keeping with the financial-sector development approach, UNCDF's strategy for MM4P is to support the DFS ecosystem, working to facilitate the key market shifts from start-up stage to full-expansion stage as described in figure II. This effort will involve working with providers, regulators and all other stakeholders in order to overcome constraints to market expansion and increase customer adoption.

All four of the countries selected for programme implementation are considered least developed countries. It is clear from the study that **building a sustainable business is actually much harder and costly than previously thought**. Least developed country providers will need more time, financing and assistance to achieve success and break even.

MM4P will take a long-term approach to market development, and views the future of DFS in Africa as one of convergence via interoperability, partnership, customer-centric product innovation, and movement beyond country borders. Regulators are likely to push for banks and MNOs to work together and provide customers with seamless ability to move money between accounts and across providers. The emergence of smaller, niche players is also on the horizon as markets develop and require technology providers that can build connections between providers.

5 ANNEXES

The Kenyan Digital Financial Service Ecosystem: A Case Study

A UN Capital Development Fund - European Investment Bank Study

2014

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List of figures and tables

List of acronyms

CBA   Commercial Bank of Africa
CBK   Central Bank of Kenya
DFS   digital financial service(s)
MNO   mobile network operator
P2P   person to person

1   INTRODUCTION AND BACKGROUND

Few technologies have seen the viral and impressive uptake as that of M-PESA's digital financial service (DFS) in Kenya. In a country where 17 million people (40 percent of the total population) actively use the service, M-PESA is more than just a household name.[1] From taxis to airline tickets to instant microloans, the service pervades daily transactions. The Kenyan DFS ecosystem has blossomed, using M-PESA's platform as a foundation—the system includes prepaid products, consumer financing and the digitization of countless services. It is estimated that around 31 percent of the country's gross domestic product flows through M-PESA.[2]

The advent of DFS has shown positive impact by activating local and rural economies through increased money circulation, business expansion and employment opportunities.[3] According to the FinAccess National Survey, financial inclusion—access to a formal financial service—improved from 19 percent in 2006 to 67 percent in 2013, which coincides with the rise of DFS in Kenya. Among rural populations in Kenya who reported access to any one or a combination of financial services (i.e., from banks, savings and credit co-operatives, microfinance institutions, DFS providers or informal groups), 54.2 percent reported using DFS providers—a figure more than twice that of those who claimed usage of informal groups or banks.[4] It would be reasonable, then, to deduce that DFS have had the greatest impact on improved access to financial services in rural areas of Kenya. In addition, DFS agents have significantly increased the

Kenya key facts
Population: 44 million[a]
Adult population: 19.5 million[b]
Gross domestic product: EUR 30 billion[c]
Financial inclusion, 2013: 67%[b]
Financial inclusion rate, 2006: 19%[d]
Mobile coverage: 95%[e]

a. Central Intelligence Agency, 'The World Factbook: Kenya,' 2013.
b. FSD Kenya and Central Bank of Kenya, *FinAccess National Survey 2013: Profiling developments in financial access and usage in Kenya*, October 2013.
c. World Bank, 'Kenya,' 2012.
d. FSD Kenya and Central Bank of Kenya, FinAccess National Survey 2006.
e. GSMA, 2013. Retrieved from www.gsmaintelligence.com/markets/1887/dashboard

Figure I
Proximity to financial access point in Kenya, 2013
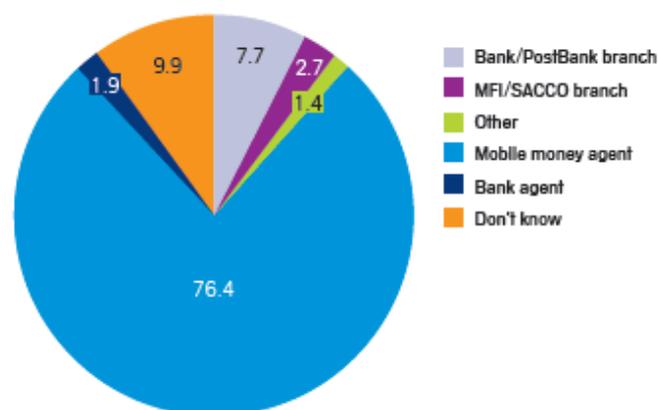
Acronyms: Microfinance institution (MFI), savings and credit cooperative (SACCO)

rural population's proximity to financial services. Over 76 percent of Kenya's rural population stated that DFS agents were their nearest financial service providers (see figure I). In comparison, '55 percent of the rural population takes more than 30 minutes to get to the nearest bank branch, [and] this number falls to 42 percent for bank agents and 22 percent for mobile money agents.'[5] In addition, the impact on women is noticeable: as most recipients of rural transfers are women, it has 'increased the financial autonomy of women and has made them less dependent on their husbands for their livelihoods.'[6] For instance, 27

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[1] Reported users as of March 2013. Safaricom, 'M-PESA Timeline.'
[2] Katrina Manson, 'From oil painter to the C-suite,' *Financial Times,* 24 February 2013.
[3] Plyler, Megan G., Sherri Haas and Geetha Nagarajan, 'Community-Level Economic Effects of M-PESA in Kenya: Initial Findings,' IRIS Center, University of Maryland, June 2010.
[4] FSD Kenya and Central Bank of Kenya, *FinAccess National Survey 2013: Profiling developments in financial access and usage in Kenya*, October 2013, p. 19.
[5] Ibid., p. 30.
[6] Morawczynski, Olga and Mark Pickens, 'Poor People Using Mobile Financial Services: Observations on Customer Usage and Impact from M-PESA,' CGAP Brief Note, August 2009.

percent of M-PESA's original customers were women; today, 51 percent of M-PESA's clients are women.[7] As M-PESA's statistic shows, women account for a healthy share of the DFS market in Kenya: 46 percent of women claim 'regular use' of DFS, and 59 percent note that they taught themselves how to use the system.[8] Kenyan women utilize DFS for two main reasons: to receive money from a friend or relative or to keep and save money.

The transformation of financial access in Kenya can be seen in figure II in the drastic increase in the number of adults with access to finance over a short time period. Much of this growth in DFS in Kenya is attributed to M-PESA. M-PESA ('M' stands for mobile and '*pesa*' means money in Swahili), a joint effort by the global mobile network operator (MNO) Vodafone and its country affiliate Safaricom, was launched in 2007 after a short pilot in 2006. Originally planned as a method for microloan repayments, Safaricom executives realized that consumers were actually using the stored valued system to send electronic value to one another. The company quickly took stock of the situation and repositioned the service as a person-to-person (P2P), or money transfer, proposition.

Figure II
Financial access in Kenya, 2006 versus 2013
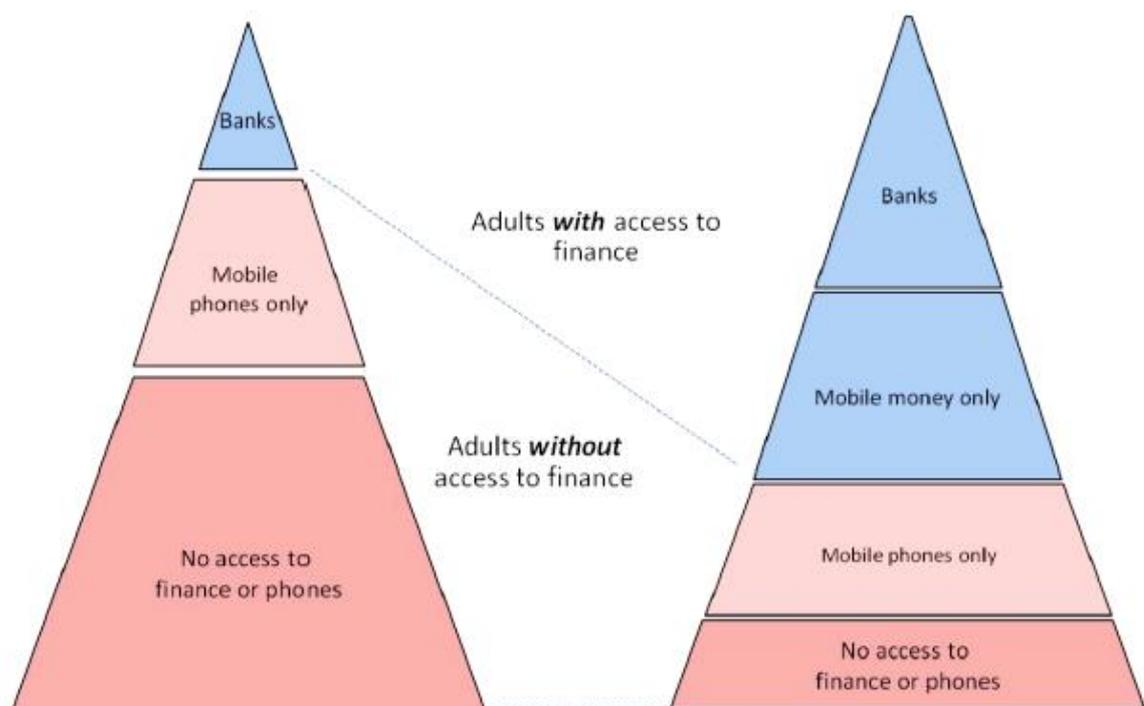
Source of figure: Accenture, 'It's Better Than Cash: Kenya Mobile Money Assessment,' November 2011.

Customers sign up for M-PESA at authorized retail outlets (agents), linking their mobile phone number to a virtual wallet. Once customers have money in their account, they can use their phone to transfer funds to other M-PESA users and even to non-registered users, pay bills, pay merchants, purchase mobile airtime credit and even have access to a virtual interest earning savings account.[9] Six years after launch, DFS agents had become the dominant financial access point for most Kenyans, signifying a drastic shift in financial inclusion in a relatively short time.[10]

As the DFS system has matured in Kenya, so have the businesses and applications around it. While M-PESA was not the only cause of the DFS ecosystem's growth (a number of other factors contributed, which are

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[7] Kyla Yeoman, 'M-PESA helps world's poorest go to the bank using mobile phones,' *The Christian Science Monitor*, 6 January 2014.
[8] GSMA mWomen, 'Unlocking the Potential: Women and Mobile Financial Services in Emerging Markets,' February 2013.
[9] Mas, Ignacio and Daniel Radcliffe, 'Mobile Payments Go Viral: M-PESA in Kenya,' *Yes Africa Can: Success Stories from a Dynamic Continent*, World Bank, August 2011.
[10] FSD Kenya and Central Bank of Kenya, *FinAccess National Survey 2013: Profiling developments in financial access and usage in Kenya*, October 2013.

discussed in the next section), having an established DFS platform was certainly an enabling feature. What started off as a money transfer system and payment platform has now transformed into a DFS ecosystem. While cash-in/cash-out, P2P and airtime were all foundational products, the number of add-on products and services has been growing (see figure III).

Figure III
Products and services in the Kenyan digital financial service ecosystem

Cash-in and cash-out	Airtime	Person to person (P2P)
Person to business (P2B)	Loans	Savings
Microinsurance	Salary disbursements	Bill payments
Consumer product financing	E-commerce	Pensions
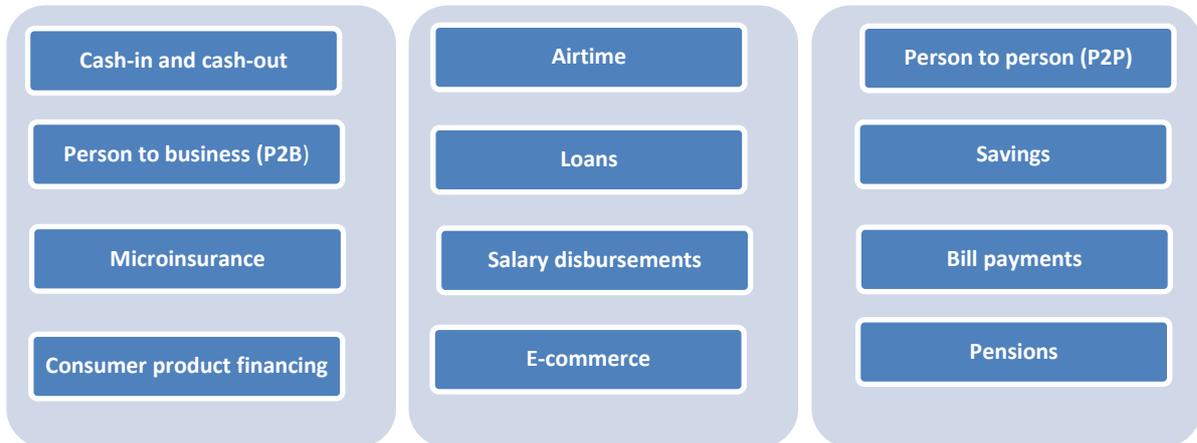
In addition, there are varied players involved in DFS now. Beyond Safaricom, other MNOs such as Airtel (Airtel Money) and Orange (Orange Money) are offering services (see figure IV). Large conglomerates like Essar (yuCash), which focus on manufacturing, service and retail sectors, have also entered the system, although Safaricom maintains a strong foothold in the market.

Figure IV
Market shares of mobile network operators in Kenya
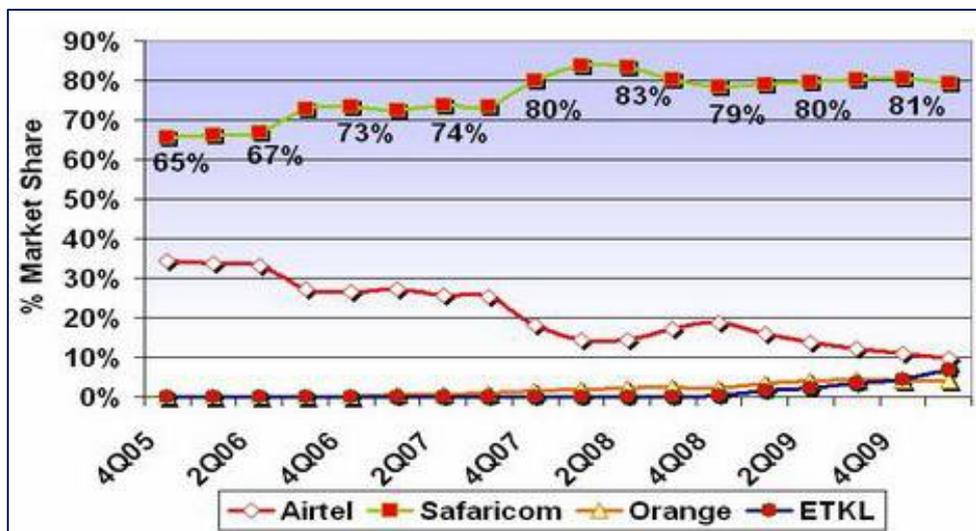
Source of figure: Africa & Middle East Telecom-Week, 'Kenya: Major African Mobile Markets.'
Acronym: Essar Telecom Kenya Limited, ETKL

Table 1, which includes data aggregated from several sources, shows the competitive position of the main players in Kenya.

Table 1
Competition between existing stakeholders in Kenya

Company	Mobile subscribers	Mobile market share	Digital financial service launch date	Digital financial service subscribers	Digital financial service agents
M-PESA	20.8 million	66.5%	March 2007	18.2 million	78,856
Airtel Money	5.5 million	17.6%	November 2010 (as Zain Zap), re-launched in August 2011	2.8 million	10,000
Orange Money	2.2 million	7.1%	November 2010	120,000	3,500
Essar yuCash	2.8 million	10.9%	December 2009	650,000	5,400

Sources: Communications Commission of Kenya, Quarterly Sector Statistics Report, July–September 2013. Accenture, 'It's Better Than Cash: Kenya Mobile Money Assessment,' November 2011. Company websites.

Banks are using the platform to link into existing products and services, as well as to offer new ones—most notably, to develop microloans through the opening of savings accounts using M-PESA know-your-customer credentials.[11] A whole new set of companies (called 'innovators,' 'bridge builders' and 'integrators' by University of California, Irvine, researchers) have emerged to build off the DFS platform and offer a new set of services (see figure V). Financial service providers are integrators when they add DFS as a delivery channel for an existing line of products. Innovators are new entrepreneurial products or ventures launched with a business model that is purely DFS based—for example, Musoni, the cashless microfinance institution. Bridge builders are application developers that specialize in DFS integrations for financial and payment services.[12]

Figure V
Digital financial service ecosystem

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[11] Since Kenya issues national ID cards, only a mobile number is needed for know-your-customer requirements.
[12] Kendall, Jake, Philip Machoka, Claire Veniard and Bill Maurer, 'An Emerging Platform: From Money Transfer System to Mobile Money Ecosystem,' Legal Studies Research Paper Series No. 2011-14, University of California, Irvine School of Law.

With this introduction to and background of Kenya's DFS ecosystem, the present case study will focus on several key questions, which will in turn help inform scoping studies for other UN Capital Development Fund and European Investment Bank target countries.

Case study focus areas

1. What are the success factors specific to Kenya and M-PESA?
2. What are the main lessons learned from this maturing ecosystem that may be useful to other African markets?
3. What is the future of DFS in Kenya, and where are there investable opportunities?

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2 SUCCESS FACTORS FOR KENYA AND M-PESA

In global DFS forums, any mention of Kenya and M-PESA is quickly followed by a caveat that replication is impossible. As this section of the case study will show, M-PESA benefitted from a range of factors that were conducive to the uptake of DFS. Many of these success factors, such as the security situation after elections in 2008, were beyond the control of the main player Safaricom. Because these success factors emerged around the same time, M-PESA became the runaway success that is so difficult to replicate.

2.1 Policy and regulation

First, the regulatory environment at the time of M-PESA's creation was such that Safaricom was able to innovate and experiment, despite being an MNO and not a prudentially regulated financial institution. The Central Bank of Kenya (CBK) allowed Safaricom to offer its service and even issued a 'no objection' letter prior to the launch of the service. This approach to regulation has been referred to as 'lean regulation,' as described here: 'through frequent dialogue with Safaricom, and guided by its technical expertise, CBK took steps to mitigate key systemic risks, while still providing Safaricom enough room to innovate, evolve and grow. For example, CBK executed an operational risk audit, as well as a survey of 3,000+ customers and agent audits, which further increased the central bank's comfort level.'[13] CBK's approach was not one of neglect or naiveté; rather, it was an intentional method of first allowing innovation and then ensuring regulation. The stance of CBK is a specific feature of the Kenyan experience since in most countries regulators would not allow such extensive experimentation to take place, especially if it involves financial transactions by non-financial institutions.

2.2 Customers

Next, socio-economic factors contributed to M-PESA's success and to the conduciveness of DFS in Kenya. There is a relatively high level of education in Kenya (as compared to many other developing countries in Africa, and even around the world, according to the Institute for Statistics at the United Nations Educational, Scientific and Cultural Organization). As a result, there is a local supply of software engineers and other talent—a supply to which other African markets may not have access. A couple other factors also helped create an enabling environment for innovation: (a) entrepreneurship and innovation is common and growing in the Kenyan landscape, and (b) a pre-existing infrastructure existed, which compared to other African markets, allowed Safaricom to build from a strong foundation of roads, towers and retail networks.

Customer uptake in Kenya rapidly increased due to the security situation during election riots in 2008. Post-election violence in the country in early 2008 led to increased concerns about safely moving money and accessing funds when most banks were closed. The M-PESA service addressed these pain points well. Geographically, Safaricom leveraged the traditional rural-urban migration corridors and initially built up the network in the economically active western region, which facilitated the service's viral uptake. The vital agriculture corridor in the Mount Kenya area, as well as westward to the lake region, provided a geographical advantage. Long before there was any form of electronic services, Kenya had an extremely vibrant economy at the micro level, with a high velocity and quantity of money changing hands. Its *de facto* status as regional hub also created a natural environment for the transiting of money, just as people transit in and out. Furthermore, Kenya benefitted from a long-established and relatively well-heeled diaspora who frequently send money back into the country for both personal and business reasons.

Safaricom invested a large amount in marketing and customer education. The service was aggressively advertised through both above-the-line and below-the-line marketing methods. The service's initial television and radio advertisements played on the emotional aspects of national money transfer, depicting a working son sending money back to his parents in the village. Safaricom also launched using a catchy

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[13] Bishko, Chris and Pearl Chan, 'M-PESA and GCash: Can 'Lean Regulation' Be A Gamechanger for Financial Innovation?' *Forbes*, 3 October 2013.

advertising jingle that resonated with the local culture while explaining the benefits of the service.[14] Safaricom's simple slogan, 'Send Money Home,' spoke to an existing need. The clear proposition and strong advertising quickly helped Safaricom gain users, with over 70 percent of users first hearing of the service through advertising and 25 percent through word-of-mouth from friends and family members. Since it is cheaper to send money to an M-PESA registered customer, the sender is motivated to introduce and explain the technology to the recipient. This pricing system encourages more users to join the system, users that otherwise might be reluctant to try new technology or services.[15]

The use of word-of-mouth and the creation of incentives for existing users to recruit new users together highlight the power of locally tailored 'just-in-time' and 'on-the-spot' consumer education. In effect, users learn from each other, rather than from a formal campaign. Of course, in societies where people have had less previous exposure to money transfers and have lower levels of education, such viral techniques would likely need to be complemented with more structured financial-literacy and consumer-education programmes. Table 2 shares some examples of structured consumer-education programmes and their impact.

Table 2
Financial literacy in Kenya

Organization	Efforts	Impact	Successes
Equity Group Foundation, established by Equity Bank	Scaled up financial education to youth and women micro-entrepreneurs in Kenya, including conducting training of trainers	• Given 705,458 people financial-literacy training • Provided entrepreneurship and business mentorship programme to 6,938 participants	• 99% of participants indicated that the budgeting module helped them better manage their finances • 76% increase in the number of people who save • 62% increase in the number of those who maintain a savings plan[a]
Faulu	Offered client education since launch of its operations in 1999	• Reached 26,000 people with financial-education training (2010) • Reached 200,000 people with Makutano Junction television drama[b]	• 33% utilization of budget plan, up from 15% at baseline (18% increase in treatment group) • 47% of participants able to demonstrate investment plan, compared to 25% at baseline (22% increase in treatment group)[c]

a.   The MasterCard Foundation, 'Equity Group Foundation Financial Literacy.'
b.   Corin Mitchell, 'The Financial Education Fund (FEF): What is it, what has it funded, what will it measure?' presentation at Citi-FT Financial Education Summit, Singapore, December 2009.
c.   John Mwara, 'Faulu Kenya: Financial Education for Micro entrepreneurs,' Faulu Kenya, 2011.

2.3   High volume

Before M-PESA, there was a suite of needs that were not being addressed by the financial market in Kenya. The services that were offered by the traditional banking sector were expensive and took a long time to deliver. Though cash transfers and remittances were very common, the cost to send money was exceptionally high. As a result, the introduction of M-PESA resulted in a dramatic shift in the channels people used (see figure VI on next page for the shift in domestic remittance channels from 2006 to 2009 to 2013—when the DFS channel was used for 91.5 percent of domestic remittances).[16]

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[14] Bishko, Chris and Pearl Chan, 'M-PESA and GCash: Can 'Lean Regulation' Be A Gamechanger for Financial Innovation?' *Forbes*, 3 October 2013.
[15] GSMA, 'What Makes a Successful Mobile Money Implementation? Learnings from M-PESA in Kenya and Tanzania,' 16 March 2009.
[16] FSD Kenya and Central Bank of Kenya, *FinAccess National Survey 2013: Profiling developments in financial access and usage in Kenya*, October 2013.

Figure VI
Domestic remittance channels in Kenya
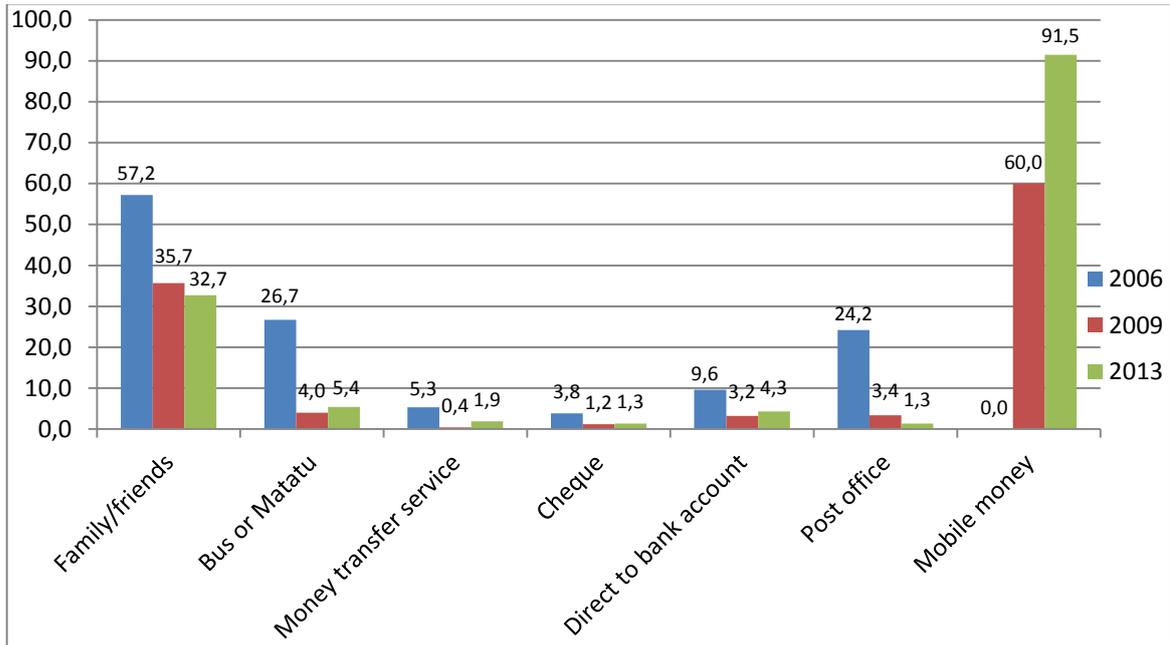
Compared to other East African markets between 2006 and 2009, Kenya showed the most drastic change in sending methods. A large proportion of the money-sending population started using DFS, and there was a significant reduction in using informal methods (see figure VII for a comparison with Uganda and the United Republic of Tanzania, where behaviour change was much slower).[17]

Figure VII
Changes in sending methods in three countries, 2006 to 2009

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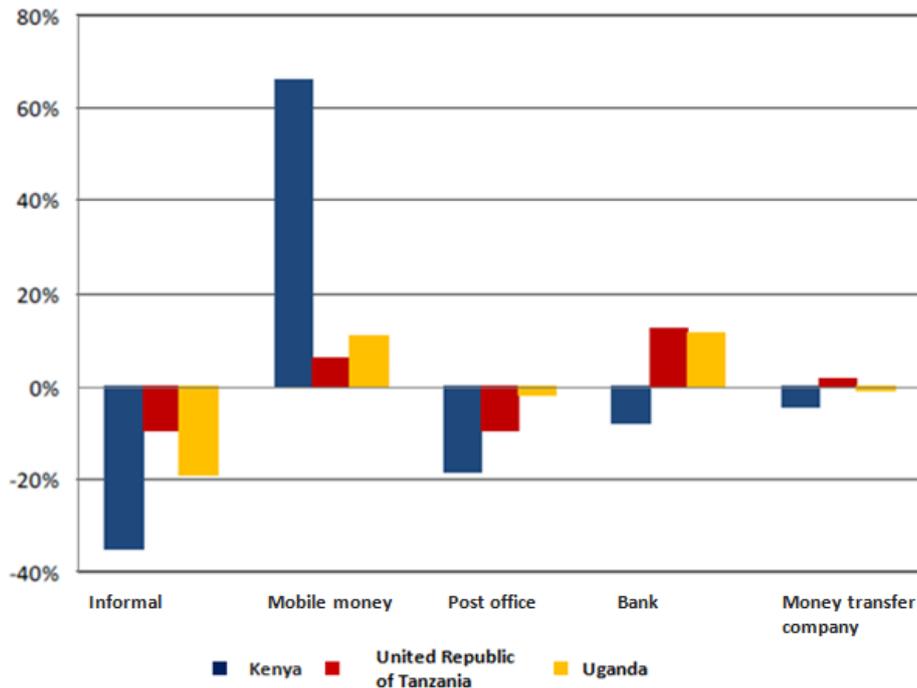
[17] Weil, David, Isaac Mbiti and Francis Mwega, 'The Implications of Innovations in the Financial Sector on the Conduct of Monetary Policy in East Africa,' International Growth Centre, July 2012.

Safaricom did not conduct extensive market research prior to piloting the service. However, the pilot was monitored very closely and extensive field research was conducted. Formal interview-based research revealed a willingness to pay by users for the service and cited the lack of other competitive money transfer offerings as a key reason.[18]

There are now many different DFS offered in the market, including P2P, bulk (business-to-person) payments, bill payments and more (see table 3).

Table 3
Digital financial services in Kenya

	Safaricom M-PESA	Airtel Money	Orange Money	Essar yuCash
P2P	✓	✓	✓	✓
Bulk payments	✓	✓	✓ In pilot	✓
Bill payments	✓	✓		✓
Purchases of goods	✓			✓
Joint offers with bank account*	✓ (Equity)		✓ (Equity)	✓ (Equity)
International money transfers	✓			
Visa/MasterCard	✓	✓ ('virtual')		
*Bank account and mobile wallet are part of one service, as opposed to providing linkages between a bank account and a separate mobile money account.				

Source of figure: Accenture, 'It's Better Than Cash: Kenya Mobile Money Assessment,' November 2011.

Financial institutions have become more involved, especially as bulk payments and bill payments have grown. There are more than 12 banks in Kenya with linkages to the M-PESA system. However, according to the United States Agency for International Development, current bank linkages with M-PESA are less about innovation and more about adaptation by financial institutions for linking to the M-PESA platform.[19] M-KESHO, a savings product by Equity Bank, is an example of early product innovation. M-Shwari, which offers microloans through a linked bank account at Commercial Bank of Africa (CBA), is a more recent example (see table 4 for a comparison). Since launching M-Shwari in November 2012, KSH 7.8 billion (approx. EUR 70 million) have been disbursed for about 4 million customers.[20]

Table 4
M-Shwari versus M-KESHO

	M-Shwari	M-KESHO
What is it?	Credit and savings product for M-PESA customers; launched by Safaricom and CBA in 2012	Financial service products offered to M-PESA customers, including interest-bearing savings and microloans; co-branded by Safaricom and Equity Bank; started in 2010
How does it work?	• Customers dial *234*6# to find out their credit limit • Must be an M-PESA subscriber for at least 6 months • Can only take out loans between KSH 100 (EUR 0.90)–KSH 20,000 (EUR 179) • Must pay facility fee of 7.5%	• Customers have a bank account that is integrated with M-PESA • Earn interest for any money left in the account • Can receive credit, to be paid back after 30 days • Can access insurance, with one-time annual fee

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[18] International Finance Corporation, 'M-Money Channel Distribution Case – Kenya,' March 2009.
[19] Accenture, 'It's Better Than Cash: Kenya Mobile Money Assessment,' November 2011.
[20] Payments Afrika, 'Safaricom and CBA Launch Ambitious Plan to Grow M-Shwari Customers,' 10 February2014.

	M-Shwari	M-KESHO
Results	• 2.4 million active users (2013) • KSH 1.8 billion (EUR 16.1 million) deposited, with loan balance at KSH 800 million (EUR 7.2 million) • Number of deposit accounts at CBA increased from less than 35,000 to over 5 million in less than a year[a]	• 799,532 accounts (2012) • KSH 400 million (EUR 3.6 million) mobilized (2011)[b]
Observed differences	• CBA is a corporate bank with no brand ambitions • Without a retail presence, CBA relies on Safaricom, meaning it is not a full-fledged bank account • There are no fees on transfers between M-PESA and M-Shwari accounts	• Equity Bank is a strong retail bank with strong brand ambitions • M-KESHO was a bank account without limits on balance • Higher fees were placed on transfers between M-PESA and M-KESHO accounts

a. Pénicaud, Claire and Arunjay Katakam, 'State of the Industry 2013: Mobile Financial Services for the Unbanked,' GSMA Mobile Money for the Unbanked, 24 February 2014.

b. Gakure, Roselyn, Enos Anene, Irene K. Arimi, Japheth Mutulu and Patrick G. Kiara, 'Factors contributing to low M-KESHO adoption among subscribers,' *International Journal of Social Sciences and Entrepreneurship*, 1 (6), 84-97.

M-Shwari has had relatively more success than M-KESHO because the M-Shwari product could be initiated effectively as part of the existing M-PESA menu of services; this ease of accessibility made M-Shwari much more attractive. In contrast, M-KESHO required an applicant to go to a branch or an agent to present ID and open an account. Another difference between the products related to their initial emphasis: M-Shwari emphasized access to credit, whereas M-KESHO emphasized savings. At first glance, this difference in product presentation might seem to explain the difference in product uptake. Yet, savings balances with M-Shwari have far outpaced loan demand—even though it is easy to borrow, especially up to the value of the client's savings balance. A final difference lies in marketing; although detailed figures are unavailable, it is evident that much more was spent on marketing for M-Shwari than for M-KESHO, which must be considered as a contributing factor to M-Shwari's relative success.

2.4   Agent networks

M-PESA's agent network evolved over time. The service has gone through at least three distinct phases in regard to selecting and controlling agents. Its constantly evolving agent network structure and its dynamic use of agent network managers are two key reasons M-PESA has a tightly controlled agent network that offers a consistent customer experience today.[21]

At launch, Safaricom selected 400 of its largest airtime distributors to act as agents. In late 2007, Safaricom began allowing smaller airtime dealers to become agents, maintaining a direct contractual relationship with all of them. At this stage, a third-party firm was brought in to help train agents and monitor agent compliance. At the same time, a number of agents were subcontracting with third parties and retaining a certain percentage of the sub-agents' commissions. Agents who were subcontracting others were known as 'aggregators.' Although unplanned, subcontracting allowed the agent network to grow and keep pace with customer demand. In 2009, Safaricom recognized the status of the aggregators and implemented requirements governing structure, roles and relationships. The natural evolution of the agent network worked in its favour, as the size and scope of the network matched that of customer demand.

The use of aggregators has proven to be a successful (and even replicable) key aspect of the agent network. The use of aggregators streamlined agent management, as Safaricom did not have to deal with each and every one of the thousands of outlets around the country. Aggregators also identified new agents and improved cash management, balancing cash-float issues caused by regional imbalances between deposits and withdrawals between their different outlets.[22] The shift to the aggregator model also signalled Safaricom's need not only to gain efficiencies as it grew, but also to protect its evolving

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[21] CGAP, 'M-PESA's Evolving Agent Network Structure,' 2010.

[22] GSMA, 'What Makes a Successful Mobile Money Implementation? Learnings from M-PESA in Kenya and Tanzania,' 16 March 2009.

brand. The use of aggregators was not very different from the 'master distributor' model that Safaricom had deployed earlier with its airtime agents. The significant change was in the formalization of the relationships, which included clear incentives and penalties for staying loyal to Safaricom rather than trying to serve competitors through the same agents.

2.5   Providers

Safaricom benefitted from a very strong market position. As a near-monopoly MNO, Safaricom already had a large, captive customer base when it launched M-PESA. Its main competitor, Airtel (then Kencell), was very strong in the initial few years, but Safaricom has dominated the market since 2005. In neighbouring United Republic of Tanzania, M-PESA has had much slower uptake. In Kenya, Safaricom's market share at launch was 79 percent, while in the United Republic of Tanzania, Vodacom had a market share of only 39 percent.[23] Its dominant market position in Kenya allowed Safaricom to leverage its large customer base, without worrying that customers would migrate to other networks.[24]

Another factor in Safaricom's success was the company's business philosophy to 'build a brand rather than make quick return.' This philosophy is partially credited to the company's leadership, including Nick Hughes, Michael Joseph and Susie Lonie, who demonstrated strong commitment to and high quality management of M-PESA; with executive leadership backing the project, Safaricom was able to take a long-term view with appropriate resource allocation. It took three years before M-PESA generated a net profit, but it created indirect benefits from the beginning because, in Kenya's increasingly competitive market, DFS boosted loyalty and attracted new customers to Safaricom's core business of voice and SMS.[25] In addition, it helped Safaricom reduce its airtime distribution costs, while improving distribution through the sale of airtime via the M-PESA platform. Today, M-PESA accounts for more than 31 percent of total airtime sales (and that without any aggressive marketing of this offering).

Over time, M-PESA has contributed significantly to Safaricom's overall revenue. According to the latest reports from Safaricom, M-PESA contributes 12.5 percent of overall revenue share for the company (see figure VIII on next page).[26]

In addition, Safaricom's ties to parent company Vodafone meant the company had initial access to large amounts of capital, allowing for the heavy investment necessary to build an agent network. In other markets, there may not be a monopoly institution that displays the interest and willingness to invest in developing a DFS system, given that its dominant position may not encourage the institution to take DFS seriously. At the margin, it may be more profitable for an institution to focus on selling more airtime and SMS versus building a DFS platform.

Institutional partnerships

M-PESA was originally an idea of Vodafone. Vodafone initiated discussions among its partners with the overall aim of extending social benefits to mobile phone subscribers. Safaricom Kenya provided the local mobile telephone network, Vodafone and the Department for International Development funded the pilot project, Faulu Kenya provided the microfinance clients who pilot tested M-PESA, and CBA served as the banker for M-PESA.

Source: Karugu Winifred N. and Triza Mwendwa, 'Vodafone and Safaricom Kenya: Extending the Range and Reliability of Financial Services to the Poor in Rural Kenya,' GIM Case Study No. A039, New York, United Nations Development Programme, 2008.

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[23] Stephen Rasmussen, 'The Hype Cycle and Mobile Banking,' presentation at GSMA Mobile Money Summit, Barcelona, 23 June 2009.
[24] Ngugi, Benjamin, Matthew Pelowski and Javier Gordon Ogembo, 'M-PESA: A Case Study of the Critical Early Adopters' Role in the Rapid Adoption of Mobile Money Banking in Kenya,' *The Electronic Journal on Information Systems in Developing Countries* (2010), 43, 3, 1-16.
[25] Imara Africa Securities Team, 'The story behind Kenya's dominance in mobile money,' 18 July 2012.
[26] 'Half Year 2013–2014' presentation at Safaricom, 5 November 2013.

Figure VIII
Safaricom revenue streams
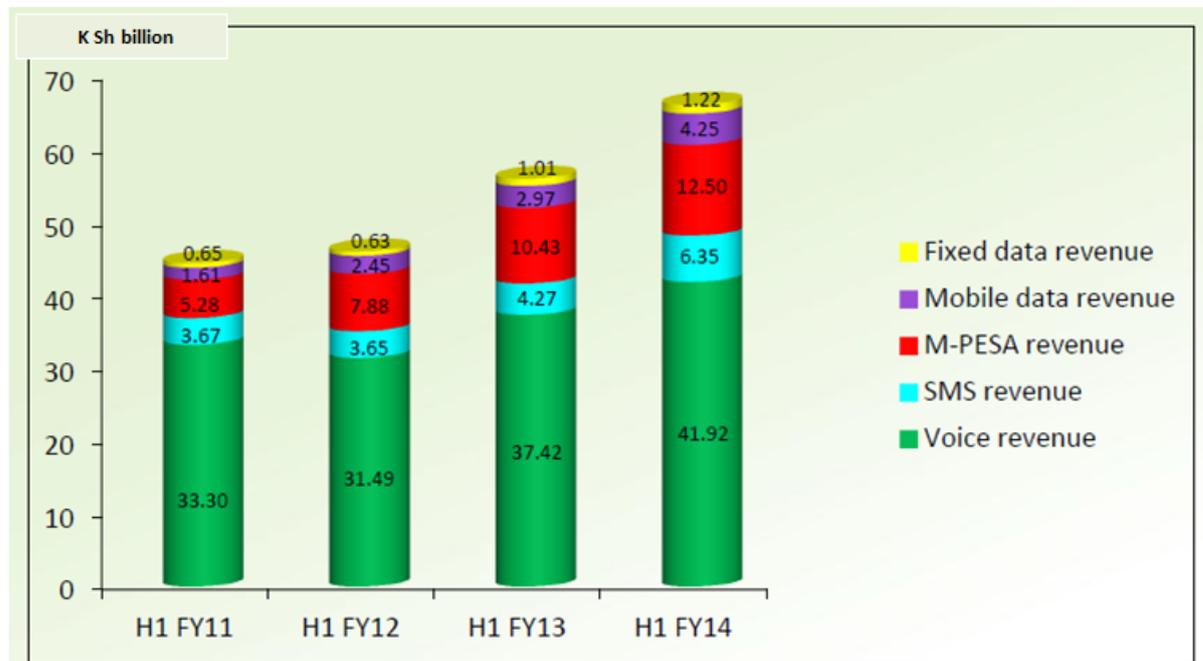
Source of figure: David Porteous, 'The challenge of 'co-opetition' and partnerships: What makes them work?' presentation at 6th African Microfinance Conference, Durban, South Africa, 12–15 August 2013.

2.6   Delivery infrastructure

Finally, the technological demographics of Kenya also helped M-PESA's case. The high penetration of mobile phones and, in particular, the widespread use of one type of phone made rapid uptake possible. The universality in the Kenyan market of the Nokia phone, which controlled about 88 percent of total market share, meant that Safaricom could accurately predict the type of device most of its customers would be handling. Safaricom also gave agents free Nokia handsets, along with SIMs, as part of the agent toolkit. Nokia's easy-to-use features helped less tech-savvy customers move easily from 'push the green button—to achieve a specific task—to call me or pay a bill—rather than mastering [an entirely] new technology.'[27] In addition, the Nokia series kept the same button configuration for all of its models, making it easy for early adopters to explain to their friends and family. Finally, its reasonable cost also contributed to its popularity.[28]

While some of these factors as a standalone case may not be unique, and may be replicable, the situation in Kenya produced a 'perfect storm' wherein all of these factors—regulation, geography, technology, socio-economic situation, security environment, etc.—created quite a unique and non-replicable situation. When looking at other economies, it is important to remember that M-PESA and Kenya are not always a useful benchmark. However, it is also important to keep in mind that these factors can serve as enablers and should be part of the analysis in determining the opportunity and timing of DFS investments.

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[27] Ngugi, Benjamin, Matthew Pelowski and Javier Gordon Ogembo, 'M-PESA: A Case Study of the Critical Early Adopters' Role in the Rapid Adoption of Mobile Money Banking in Kenya,' *The Electronic Journal on Information Systems in Developing Countries* (2010), 43, 3, 1-16.
[28] Ibid.

3 LESSONS LEARNED FROM THE KENYAN EXPERIENCE

The Kenyan experience over the last seven years paints a picture of a journey to a successful DFS ecosystem. The DFS ecosystem has not only succeeded in terms of operational utility but in terms of truly improving financial inclusion in Kenya. There are several lessons to learn from this experience. Kenya and M-PESA show how quickly a DFS ecosystem can scale—2.7 million users in 14 months[29]—and how quickly it can have an impact on financial inclusion—from 19 percent of Kenyans being financial included in 2006 to 67 percent in 2013.[30] No other market has shown this kind of uptake or impact, despite more than 200 businesses trying to build DFS platforms around the world.

3.1 Policy and regulation

Leaving room for innovation and experimentation (with customer protection safeguarded) may allow the market to respond more appropriately to customer demand. Kenya's specific regulatory situation gave Safaricom a degree of openness that allowed it to pilot and scale an innovation quickly. Even today, no new product or service can be introduced on the platform without CBK's approval. As with many country's regulations, payment systems in Kenya are generally not 'supervised' but 'overseen.' Oversight requires less intrusiveness, so CBK does not go to market to check compliance. But if customers complain to CBK directly or to the media, CBK requires written responses addressing the resolution of the complaints and a description of future litigants. While consumer protection is a standing consideration, other policies, restrictions or requirements may do more harm than good at the nascent stage of new ventures, such as that of DFS. If a regulatory environment is too restrictive or overly prescriptive, the potential for growth and the ability to adapt to market insights are limited.

Interoperability may not be a useful starting point to build a scalable DFS ecosystem. As a near-monopoly, Safaricom was able to penetrate the market with a simple, user-friendly service. Interoperability requires a coordinated approach to manage a complex interplay of often incongruent business cases, models and technology integration, which means it will take longer to establish.

However, interoperability among MNOs may be difficult to achieve as a natural trajectory if not created from the start. As CBK looks toward interoperability now that other pieces are in place, there are many challenges. It is clear that interoperability among MNOs will not come about unless CBK creates a mandate. Neither the economic conditions in Kenya nor Safaricom's outlook on the market opportunity are likely to change the

> **Company focus: Kopo Kopo**
> *Service that enables interoperability across networks so businesses can accept mobile payments*
>
> - Kopo Kopo offers a software-as-a-service that enables the 30 million small and medium enterprises in emerging markets to accept, process and manage mobile money payments (e.g., Safaricom M-PESA, Airtel Money).
> - Kopo Kopo is the first company to offer this service on a subscription basis and is positioning itself to be a leader in providing merchant services in emerging markets.
> - It currently reaches 12,000 merchants in Kenya.
> - It successfully completed two fundraising rounds (seed and Series A).
> - It is expanding to Rwanda and the United Republic of Tanzania.

company's resistance to interoperability. The combination of the power of market leadership in mobile phones and the success in terms of penetration of the M-PESA service with subscribers makes it unlikely that interoperability among wireless carriers will be achieved without direct government regulation.[31]

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[29] GSMA, 'What Makes a Successful Mobile Money Implementation? Learnings from M-PESA in Kenya and Tanzania,' 16 March 2009.
[30] FSD Kenya and Central Bank of Kenya, *FinAccess National Survey 2013: Profiling developments in financial access and usage in Kenya*, October 2013.
[31] Benson, Carol Coye and Scott Loftesness, 'Interoperability in Electronic Payments: Lessons and Opportunities,' CGAP, 2012.

3.2   Business model

Successful business models depend upon a hybrid form of 'co-opetition.' Updated analysis and thinking among industry leaders and observers has revealed important nuances in why some partnerships work and others do not—a vitally critical issue in a sector where no player, no matter how large, can offer the full array of services required for a credible offering. At a microfinance conference in South Africa in August 2013, David Porteous noted that, "Nobody 'owns' the client! Partnership is instead about defining who takes liability for which actions and who can do what with the client." The rather limp performance of M-KESHO and the take-off success of M-Shwari shed some instructive light on this phenomenon (see figure IX). On the one hand, M-KESHO withered, in part because neither Safaricom nor Equity Bank could find complementary value for themselves that also met the needs of clients. On the other hand, Safaricom and CBA found a 'sweet spot' wherein neither one competes with the other, but both create value for the client.

Figure IX
M-KESHO and M-Shwari business model comparison

M-KESHO (2009)		M-Shwari (2012)	
Safaricom	**Equity**	**Safaricom**	**CBA**
Weak:	**Weak:**	**Strong:**	**Strong:**
Extra transactions as result of larger balances?	Depends on attracting new non-Equity customers	Cements role in financial ecosystem	Adds to float and adds additional revenue streams

3.3   Customers

Identifying the emotive nature of money for marketing and communication is effective. M-PESA identified that money has a different emotional connection than airtime and took advantage of it by developing marketing communication that captures emotions associated with money and money transfer. Communication focussed on M-PESA as a way of life, integral to easing day-to-day challenges of the common citizen. (The earlier example of the son's relationship with his parents highlights the nuance between selling a technology and selling a life experience to which the consumer can relate.)

Identifying geographic, demographic and social factors can help drive uptake. Safaricom did not plan or account for security as a selling point. The lesson there is that there may be externalities or 'push' factors that cause customers to take up a service. The more a provider is able to identify these factors, the better it will be able to position the platform and product.

3.4   High volume

Understanding potential customers' pain points is vital to proposing a viable alternative to informal or formal financial services. An interesting aspect of M-PESA is that it started off as a pilot to allow for microfinance loan repayments, as Safaricom was looking for a viable use case for mobile payments. However, as the pilot was underway, Safaricom staff noticed that customers were actually using the system more to send money to one another than to repay their loans. By analysing the available data, Safaricom noticed growth in the e-value that customers maintained in their wallets and saw a growing need in a savings product.

Product focus: M-Bima

Microinsurance product integrated with mobile money

- CIC Insurance Group has introduced a technology platform called M-Bima (mobile insurance in Kiswahili) to strengthen the scale and efficiency of its microinsurance operations.

- M-Bima products are distributed through retail channels and direct sales. This distribution approach is new for CIC, compared to the partner-agent model used previously.

- The product fees start as low as KSH 20 (EUR 0.18) per day.

- It currently reaches 25,000 customers.

Forgoing formal market research, but rather observing and reacting quickly in an entrepreneurial fashion, Safaricom depended upon organically derived market intelligence and an ability to create feedback loops to signal important pain points. Safaricom adjusted its strategy quickly and made P2P money transfer the main product as it scaled up M-PESA, resulting in the famous 'Send Money Home' tagline. Understanding and responding to the customers' pain point, which was different from the original hypothesis, allowed M-PESA to succeed. There were, in fact, several customer pain points (challenges with airtime purchase in rural areas, bill payments, etc.), but what Safaricom did differently from other deployments was focus its energy on one proposition: 'Send Money Home.' Globally, many DFS ventures have started with a **'killer app'** in mind, such as savings, only to discover that their assumptions did not hold true in the market. As Safaricom showed, while getting assumptions right from the start may be important, adjusting quickly when the assumptions are wrong is even more important.

Employing a usage-based economic model may work well for DFS, rather than float or other account-based services. As the M-PESA experience shows, the economic model that will bring profitable success is one that earns a profit from increased usage, specifically on P2P/cash-out transactions, due to fees they place on users. In general, only account opening and maintenance fail to make money.[32] As other DFS models develop, achieving financial sustainability will require a planned pricing strategy that responds to the economics of the platform. The model often depends on shared revenue and shared cost (with other providers, banks or agents), so there needs to be a large volume to make up for the thin margins. As they are volume driven, DFS businesses will need to ensure that there are multiple products and services integrated into the platform so that users have a reason to keep coming back. In addition, leveraging public sector participation (e.g., government-to-person payments) can help boost both outreach and usage.

The notion that multiple products will drive volume does not follow from the Kenyan experience. Industry insiders in Kenya estimate that as much as 90 percent of the existing client base uses services such as M-PESA solely or primarily for its most famous and lasting attribute—P2P transfers. This usage is a result of the specific socio-economic circumstances discussed earlier. There is little to no evidence that any of the additional offerings that have emerged since M-PESA—such as M-Shwari, M-KESHO or others in the sectors of health, energy, retail and so on—have made any meaningful contribution to driving volume in Kenya, especially not for poorer Kenyans. Bill and merchant payments seem to have contributed over

> **Company Focus: Equity Bank**
>
> - Equity Bank is Africa's largest bank by customer base, with more than 8.7 million account holders.
> - It has KSH 192.05 billion (EUR 1.7 billion) in deposits and KSH 267.67 billion (EUR 2.4 billion) in total assets.
> - In 2014, Equity Bank rolled out its DFS called Finserve, utilizing its paper-thin SIM technology that is used in addition to its regular SIM card.
> - Through a partnership with MNO Airtel, Equity Bank aims to challenge M-PESA's success.
> - It is one of three mobile virtual network operators licensed in April 2014 by the Communications Authority of Kenya.

the past couple of years to about 5 to 7 percent growth in DFS subscribers, but most of those individuals have come from more affluent customer segments (i.e., those who must transact with formal bills and merchants).

In the case of M-PESA, pricing was a key to success. Safaricom kept its pricing simple, transparent and predictable so that customers intuitively knew what they were dealing with. Safaricom also structured its tiered pricing in such a way that it incentivized joining the platform (e.g., by charging more for sending money to non-registered customers).

Building platforms that speak to current customer behaviour, rather than trying to force new behaviours, is important. M-PESA demonstrated this axiom by building off airtime behaviour—during the pilot, Safaricom noticed that customers were treating mobile money like airtime, by sending it to one another, and

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[32] Voorhies, Rodger, Jason Lamb and Megan Oxman, 'Fighting poverty, profitably: Transforming the economics of payments to build sustainable, inclusive financial systems,' Bill & Melinda Gates Foundation, September 2013.

recognized money transfer as a key product. Using the same process for money and P2P transfers was a reasonable adaptation.

3.5   Providers

Having an entrepreneurial ecosystem may further drive the development of a DFS ecosystem. With the presence of incubators, hubs and technology centres, Nairobi in particular is abuzz with activity and new enterprises. Many of these enterprises have built their service on top of the existing DFS platform. As a result, Kenya has seen the extension of mobile value-added services into new areas like health, agriculture, solar and more. Services include the following:

- M-KOPA, which offers financing via M-PESA for solar products
- Changamka Microhealth, which uses a pre-paid smart card that is linked to M-PESA to help women steadily save money in order to pay for quality antenatal, maternity and postnatal services at participating facilities
- Kilimo Salama, which is an index-based weather insurance sold to farmers via M-PESA

> **Product focus: M-KESHO**
>
> *Interest-bearing savings account, supplemented by microloans and small-scale personal accident insurance*
>
> - All features were accessible through a mobile phone, and customers could sign up with agents across the country.
> - It launched as a partnership between Safaricom and Equity Bank.
> - Since it was a fully bank-integrated savings product, M-KESHO required buy-in from both parties to succeed.
> - Both parties' own interests began challenging the product's success, with Equity bank and Safaricom rivalling each other's half of the business model.
> - Seeing the struggles it had with Equity Bank, Safaricom found CBA as a suitable partner for the much more successful product M-Shwari.

While the effectiveness or impact of these businesses remains to be seen, especially in these early days, the importance of an entrepreneurial ecosystem should be emphasised as it signals a more conducive environment for building and doing business.

Creating a separate business, rather than embedding it within a larger entity, is more efficient. From the very start, Safaricom made a decision to set up M-PESA as a separate business reporting directly to the CEO. This decision gave M-PESA the attention it deserved from the top, as well as the necessary investment to get the business off the ground.

Despite the unique success of DFS in Kenya, these broader lessons are relevant for other African markets. They speak to larger, underlying factors that may contribute to the creation of an attractive DFS business and ecosystem.

4   FUTURE OF DIGITAL FINANCIAL SERVICES IN KENYA

Replication of M-PESA. While there can be no doubting the success of M-PESA in Kenya's DFS market, there is good reason to view its success with caution in regards to replication—for instance, Safaricom's own forays into other markets have not replicated the lightening-fast, widespread adoption that it enjoyed in Kenya. In Kenya, Safaricom benefitted from limited industry regulation on its network of agents, who were identified as financial intermediaries rather than providers of banking services. CBK adopted a philosophy of 'regulation to follow innovation,' which allowed it to establish and enforce rules without limiting M-PESA's growth. In other countries where M-PESA has been launched, regulators have not taken such a *laissez-faire* approach. In India and South Africa, for instance, regulators have often been cited as constraints to the service's uptake and growth.[33] Another factor that contributed to M-PESA's significant growth in Kenya was the vast agent network. Via its network, Safaricom was able to roll out its new service throughout the company, establish brand recognition and teach customers how to use the service.[34] In addition, M-PESA benefitted from a Kenyan population that was already using mobile phones at a high rate. From 2002, when approximately two million Kenyan's had mobile phones, to M-PESA's launch in 2007, the market more than quadrupled to eight million.[35] At that time, conventional banking had been unable to meet all of the urban and rural demand for P2P transfers. Coupled with a substantial and far-reaching marketing campaign, M-PESA was able to fill that gap and close out 2007 with 10,000 new users per day.[36]

Now that DFS has achieved the number of users and products and the social impact that it has, where can Kenya still go? Many suggest that there is still much work to be done and scope for new players to come in.

Interoperability. Interoperability is a continuing area of focus. The regulator is likely to push for MNOs and banks to adjust their operations and move toward interoperability—both across sectors and with each other (MNOs to MNOs and banks to banks). While MNOs do not seem to have a problem being interoperable with financial institutions, when it comes to interoperability with other MNOs, the issue is thorny. For example, Airtel recently took Safaricom to court because of Safaricom's unwillingness to open M-PESA to other MNOs. Interoperability will significantly reshape the Kenyan market and also bring in banks as major players. MNOs will become more of the infrastructure provider while other private players will build businesses and products and deliver the service. This shift is obviously a major threat to MNOs, but also provides an opportunity to more meaningfully emphasize financial services and innovate with products.

Company focus: Faulu Microfinance Bank

- It is a former non-governmental organization turned for-profit, incorporated company.
- It has EUR 68.4 million in assets (2012)
- Its loans reached EUR 44.4 million (2012).
- Its deposits equalled EUR 26.4 million (2012).
- It has 370,000 depositors.
- Customers are able to sign up for DFS at their nearest Faulu branch, receive an SMS with their mobile banking PIN, and access a number of services from their mobile phone, including balance enquiry, airtime top-up, M-PESA top-up and transfer of funds between Faulu accounts.

Innovative products and services. Another trend for the future of DFS is that tangential but relevant products and services will play a more dominant role in consumers' lives. Entities like M-KOPA (an asset financing company allowing Kenyans to buy solar-powered systems for their homes) connect individuals to products that they would not otherwise be able to finance. There is a varied set of companies emerging in

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[33] Chandy, Laurence, Kemal Dervis and Steven Rocker, 'Clicks into Bricks, Technology into Transformation, and the Fight Against Poverty,' The Brookings Institution, February 2013.
[34] Ibid.
[35] Jack, William and Tavneet Suri, 'The Economics of M-PESA,' GSMA, 2010.
[36] Ibid.

Kenya, from solar to agriculture to water, which are using the existing DFS platform to offer new linkages, products or services that make their transactions even easier.

Adjacency as a business driver. Adjacencies (non-financial service revenue) are important drivers for DFS platforms, especially those developed by MNOs. Safaricom, for example, generates an estimated EUR 1.29–EUR 4.50 profit per customer from churn reduction and reduced distribution costs through its ownership of M-PESA. Figure X shows the decomposition of profit per customer for accounts, cash-in and cash-out, transactions and adjacencies. The advent of M-PESA created a 'sticky' proposition by which customers would stay longer with and remain more loyal to Safaricom, instead of switching over to another MNO.

Figure X
M-PESA adjacencies
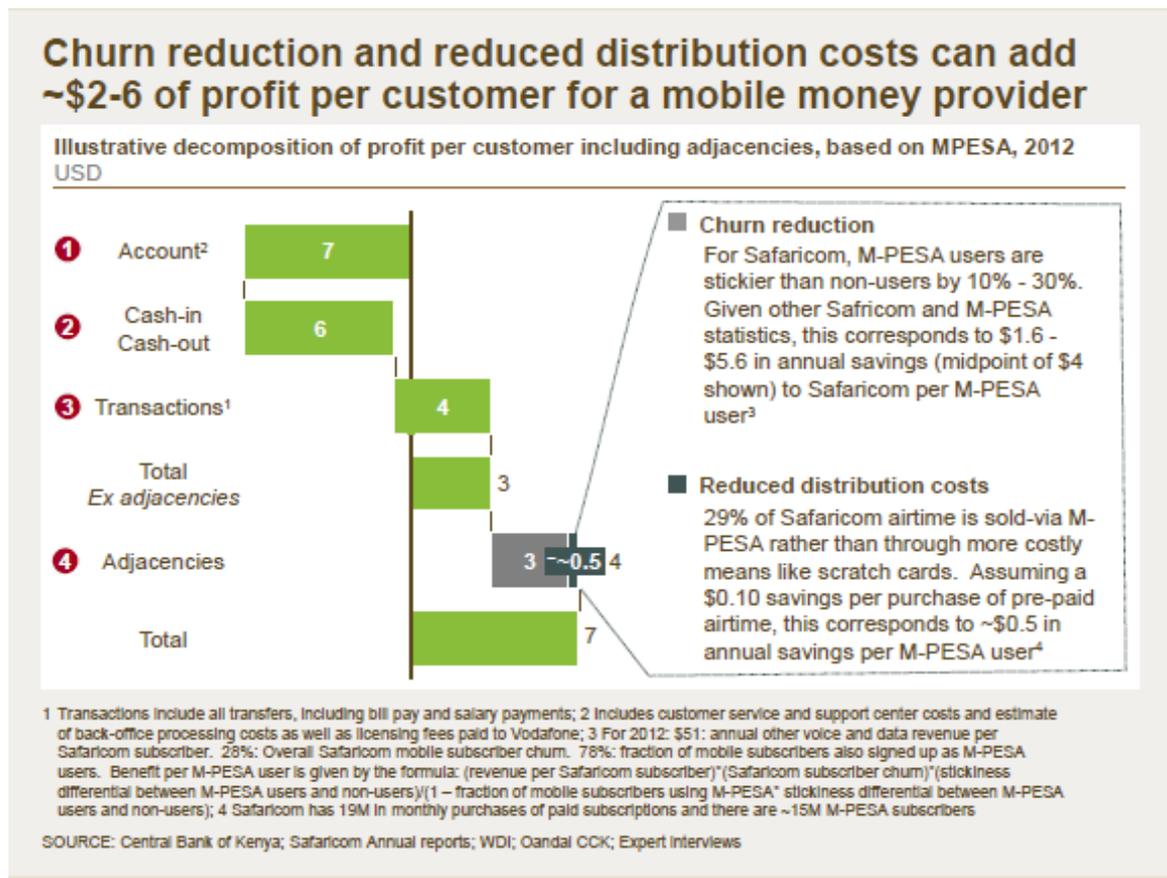
Source of figure: Voorhies, Rodger, Jason Lamb and Megan Oxman, 'Fighting poverty, profitably: Transforming the economics of payments to build sustainable, inclusive financial systems,' Bill & Melinda Gates Foundation, September 2013.

Cross-border transactions. As regulations governing money laundering, terrorism financing and customer identification for cross-border transactions become clearer over the medium term, Kenya will become further linked to other platforms in the region and cross-border products and services will be seen. Given the level of business activity and the number of people crossing borders in East Africa on a daily basis, it will be an attractive market for companies. Without regulatory clarity and established payment infrastructure on either side of a border, companies are unlikely to move in this direction in the short term.

Regional expansion. In addition to cross-border transactions, Kenyan providers are increasingly looking to take their products and services beyond Kenya to the region. Some have already done so, such as Kopo Kopo, which operates in Rwanda and the United Republic of Tanzania. As providers expand, aspects of their business will naturally have to adapt to different regulatory and country contexts. For example, in the

United Republic of Tanzania, Kopo Kopo is reverse engineering interoperability by using its service to link across different MNO DFS offerings, as it has to deal with not just one monopoly MNO but three that have fairly equal market share.

Mergers and acquisitions. In the longer term, the industry may see multi-national players such as card schemes (Visa, MasterCard and American Express) or other payment systems (PayPal) show interest in acquiring local platforms. These companies have already created dedicated global divisions that are venturing into emerging markets or investing in non-traditional payment models. As multi-national corporations move in, there may be a consolidation of the fragmented industry and achievement of true interoperability.

Future investment landscape. Identifying investable opportunities in Kenya depends on the lens of the investor. There are three major considerations: stage of the business, amount of capital required and the need to integrate capacity interventions. A major gap in the investment landscape is at the seed stage, where risk is the highest but need is the greatest. Many firms at this stage are looking for seed funding from EUR 20,000 to EUR 160,000. The mobile technology incubator m:lab East Africa, based in Nairobi, sees many investors looking to invest in the range of EUR 1 million, but early-stage firms neither have the capacity nor the interest in absorbing such a level of capital. Investors' expectations are not appropriately aligned with the needs of these firms. Finally, many firms remark that, while capital is certainly necessary, they also need capacity intervention and support, whether the need is complementary skill sets or specific technical support to help implement their business model. Given the maturing market, there may be more firms that are ready and able to absorb larger investments, in the range of EUR 500,000 to EUR 2 million. Bridge builders, such as PesaPal (a company offering an online payment system, much like PayPal), are ready to absorb such an investment as it would allow them to capture both online and mobile payments across platforms. Investment at this stage would help expansion within Kenya and also in the region.

The future of DFS in Kenya is one of convergence via interoperability, continued product innovation and movement beyond country borders. As DFS businesses move past seed stage and into growth/expansion stages, there may be investable opportunities, although it merits further investigation.

Company focus: Musoni

Kenya's first microfinance institution to provide financial services to the poor entirely via mobile phones

- Musoni is a credit-only institution.
- Its long-term strategy lies in rural expansion.
- Its average loan size is EUR 241 for 9 months at 18%–22% interest.
- It has 15,000 borrowers.
- It will expand regionally in the medium term.
- CARE's Access Africa Fund, Grameen Foundation and KfW (Kreditanstalt für Wiederaufbau) each purchased a 25% stake.
- It is looking for a fifth shareholder to be allowed to take deposits, per regulations.
- The business model is built on DFS for loan disbursement and repayments.

5 CONCLUSION

DFS have been a runaway success story in Kenya. Understanding the success factors and bearing in mind the specific aspects of the Kenyan experience is useful when benchmarking other African markets—though, as detailed in this case study, the unique and non-replicable combination of factors in Kenya prevent broad benchmarking. However, the lessons that emerge from this nascent industry may be helpful to keep in mind when considering the long journey other markets are about to embark on as they build DFS businesses.

Finally, looking forward to trends and the future of DFS may indicate where to find the real investment opportunities and how financial institutions can catalyse the industry's development in African markets. Nascent markets will need to consider how best to build customer-centric platforms and products to create a truly viable business proposition. Given that each market is unique, taking the time to understand and analyse social, economic and cultural factors will also help in appropriately shaping the DFS industry. For development financial institutions, taking into account key drivers of a DFS ecosystem will provide insight into appropriate investment opportunities. These drivers include the regulatory environment, market competitiveness, distribution networks, adoption trends and market catalysts.

In 2006, it would have been difficult to predict the success of M-PESA and the rapid development of DFS in Kenya; however, the Kenyan story, along with that of more than 200 DFS deployments around the globe, provides experience and comparative features to inform the interpretation of emerging DFS models. As such, the Kenyan case study can be used as a tool in assessing and analysing other African markets.

Annex 2   EIB UNCDF Country Summaries

UNCDF MM4P MOBILE MONEY FOR THE POOR

Digital Financial Services in Benin

2014

Benin

Facts and figures*

Sector overview

Overall, the digital financial services (DFS) market in Benin is lagging behind its neighbours. With only three e-money licensed providers, including two that received their license in late 2013, the offerings are still very limited both in terms of service points and products. The size of the market is also fairly small, and the unique regulatory framework in the West African Economic and Monetary Union zone may have led regional players to prefer larger markets such as Côte d'Ivoire and Senegal.

In addition, distribution networks are nascent—with the exception of microfinance institutions (MFIs), which serve as a platform for banks and mobile network operators (MNOs) in rural areas.

Despite the partnerships, MFIs are still struggling to recover from recent governance scandals and do not have adequate technological capacity to support DFS operations on their own. Hence, the DFS sector is still close to the inception stage.

Key findings

Policy and regulation

BCEAO (Banque Central des Etats de l'Afrique de l'Ouest) allows a broad spectrum of providers to issue DFS, including banks, MFIs, MNOs and other service providers. In practice, however, MNOs have opted for partnering with banks to offer these services rather than seeking approval as e-money issuers. It has allowed them to enter the DFS market without significant investment while their focus remains on gaining

market share for voice services. There is no regulation of agent banking, although BCEAO reviews the service contract between the issuer and the distributor. Despite the existence of a regional switch (GIM-UEMOA [Groupement interbancaire monétique de l'Union économique et monétaire ouest-africaine]), discussions on interoperability between MNOs are still in their early stages.

10.3 million
Total population

20% (incl. 7% through banks)
Financial inclusion rate

USD 1,791
GDP per capita (PPP)

92%
Mobile phone penetration

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*Source: EIB and UNCDF, 'Digital Financial Services in Africa,' December 2014.

Delivery infrastructure

The quality of roads and mobile-network infrastructure is very poor in Benin. Towards the end of 2013, maintenance problems and disputes between MTN and regulator ATRPT (Autorité Transitoire de Régulation des Postes et Télécommunications) led to periods of disturbance on the mobile network and errors in payment processing. While these problems were solved, the crisis revealed the weaknesses and vulnerability of local mobile networks.

Providers

The 13 commercial banks in Benin do not serve the masses, while the 56 MFIs accessible to the unbanked in remote areas do not have the core banking capacity required to issue e-money. Nevertheless, MFIs allow partner banks to cover a wider distribution network and are a vector of financial inclusion in the country. Only two out of five MNOs are engaged in DFS (MTN and Moov), with more than 400,000 subscribers in mobile wallet accounts, but activity levels remain low. Finally, the MFI ASMAB (Association pour la Solidarité des Marchés du Bénin) received its e-money issuer license in 2013, and it plans to develop a loan reimbursement service via mobile phone in partnership with MTN.

Agent networks

There are only 600 agents (mostly MTN) currently operating DFS in the country. Distribution networks of all sorts are limited in Benin. Most banks use MFIs to serve the rural population, with MFIs representing 75 percent of all points of service used by financial institutions in the country. However, a few notable MFI networks have emerged as potential distribution platforms outside of the main cities, including FECECAM (Faîtière des Caisses d'Epargne et de Crédit Agricole Mutuel) and PADME (Promotion et l'Appui au Développement de MicroEntreprises). Added to the postal services, these entities could contribute to further financial inclusion in the country.

High volume

The current offering is predominantly first-generation money transfer services, although recent initiatives have started developing bill payment options and loan repayment. Remittances at the regional level represent an important flow of money and, if digitalized, could play a significant role in the uptake of DFS. MTN recently signed a partnership with Western Union in 21 countries, including Benin, which allows money transfers to occur without a bank account and directly onto an MTN wallet. However, the solution has not been implemented yet.

Customers

Benin is characterized by a very low bank penetration rate (7 percent through commercial banks), with a relatively higher rate though MFIs (20 percent). However, neither MFIs nor banks have conducted market research to map and understand the needs of Beninese consumers. Besides credit, there is almost no offer of formal savings or insurance products for the unbanked segment. In addition, multiple governance scandals in the MFI sector have increased distrust of financial institutions and led consumers to reorganize their financial habits outside of any formal channel. Finally, the illiteracy rate (>57 percent) hampers the uptake of DFS since it would be nearly impossible for an illiterate to use SMS-based technology or access information about the products.

Key stakeholders

Regulators

- BCEAO (Banque Centrale des Etats de l'Afrique de l'Ouest)
- ATRPT (Autorité Transitoire de Régulation des Postes et des Télécommunications)

Main banks

- Bank of Africa
- Ecobank
- Diamond Bank
- United Bank for Africa
- Société Générale

Mobile network operators

Market share

MTN	34%
Etisalat	33%
Glo	17%
BBCom	13%
Libercom	3%
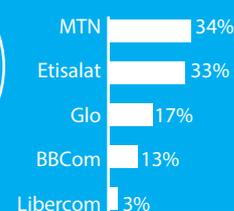
Digital financial service providers

- MTN with Ecobank
- Moov
- ASMAB (Association pour la Solidarité des Marchés du Bénin)

For more information, contact François Coupienne UNCDF-MM4P Technical Advisor at francois.coupienne@uncdf.org.

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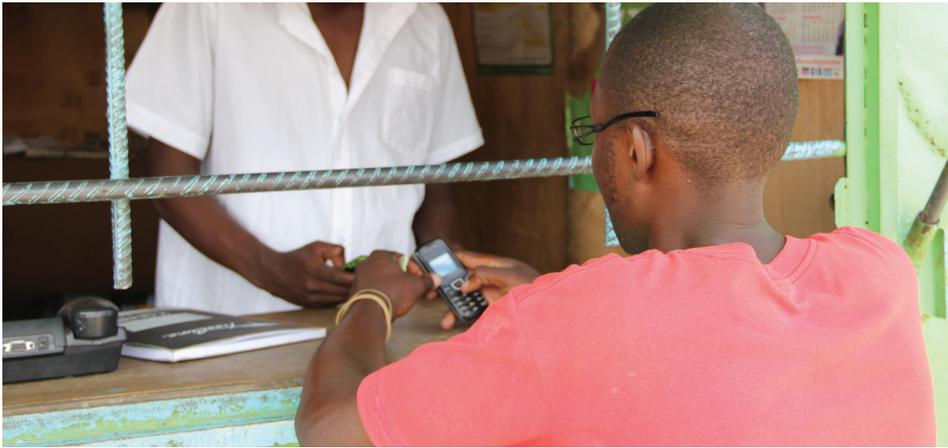
Digital Financial Services in Cameroon

2014

Cameroon

Facts and figures*

Sector overview

Cameroon has digital financial services (DFS) providers, with portfolios that span rather specific services for business networks (particularly in industry, agriculture and energy) to services for individuals. These services generally include bill payments and money transfers, among others.

The regional central bank BEAC (Banque des États de l'Afrique Centrale) only allows banks to issue e-money; however, the largest players in the ecosystem are mobile network operators (MNOs), MTN and Orange, which have associated with large banks to deliver their DFS products. Société Générale has launched its own service called Monifone that serves mainly for bill payments but has the particularity of being MNO-agnostic (it can be used by subscribers of both MTN and Orange). Finally, more recent and nascent developments for e-payments include Moneytel Global Service and Express Union Mobile.

In general, one can describe the Cameroonian market as being at the start-up stage for its DFS ecosystem. It is important to point out that, while the level of infrastructure and the penetration of financial services are relatively low in Cameroon (as in most sub-Saharan countries), the specific market for e-payments is less developed than in countries in the Economic Community of West African States, such as Côte d'Ivoire, Ghana and Senegal, where e-money has developed significantly over the last five years.

22.3 million
Total population

47% (incl. 15% through banks)
Financial inclusion rate

USD 2,711
GDP per capita (PPP)

67.3%
Mobile phone penetration

Key findings

Policy and regulation

In Cameroon and Central Africa, the regulator only gives banks (and not MNOs or other third-party providers) the right to provide DFS (for the issuance, distribution and use of e-money). MNOs can therefore only work through banks, which is likely to reduce the potential for product development. There was confusion on whether microfinance institutions (MFIs) could qualify to become e-money issuers, but clarifications with the regulator revealed that MFIs are excluded. In addition, there is no regulation clearly governing the establishment and validation of distribution networks.

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*Source: EIB and UNCDF, 'Digital Financial Services in Africa,' December 2014.

Delivery infrastructure

Despite the Government's efforts to improve infrastructure, it remains a challenge in Cameroon, especially road and telecommunication infrastructure. A recent development includes the West Africa Cable System (WACS), submarine cable that connects this part of the continent to Europe—to increase the bandwidth and improve internet access. In terms of electricity supply, Cameroon experiences frequent power outages, which makes it difficult to have reliable service, disturbs the experience of e-payment users, and hinders the development of a mature e-payment market.

Providers

BEAC wants to allow multi-bank partnerships for MNOs that have developed mobile payment solutions. According to the regulator, the partnerships should allow more flexibility in setting up distribution networks, developing products and managing liquidity. However, it should be noted that they could also endanger bilateral partnerships already in place, since the market for mobile payments has not yet reached the required level of maturity. In addition, other service providers that have taken the initiative to organize and develop their own offerings continue to be dependent on banks, a situation that may slow innovation, the emergence of 'success stories,' and achievement of financial-inclusion goals.

Agent networks

Existing mobile payment services are mainly concentrated in large urban areas. Rural areas are poorly covered, making it difficult to achieve financial inclusion. Agent networks consist primarily of e-payment agencies and authorized MNO distributors. To date, they are organized into subnets (hierarchical structures and distribution grids, integrating various categories and sub-categories of employees—from the wholesaler to small retailers—and also including structured networks and small businesses). Small agents generally have very little cash, and therefore they do not offer the best guarantees in terms of service. Banks have established contractual relationships with e-payments but are mindful of their brand and reputation (they keep eligibility relatively strict).

High volume

Product payments are relatively diverse and usually respond to the needs and expectations of the urban population. To date, the offering is restricted to first-generation products (bill payments and airtime purchases). Second-generation products such as savings and loan collection would help the rural poor who are underserved in terms of infrastructure and are often distant from the nearest bank or MFI branch. However, the market seems to be stuck on e-payments, with a few interesting initiatives fostered by the Government, including the digitization of certain payment streams, such as GUCE (Guichet Unique des Opérations du Commerce Extérieur) in the Port of Douala for the payment of custom fees and taxes.

Customers

Potential customers are heterogeneous in Cameroon, and there seems to be a divide between the English-speaking minority, who generally are early adopters of technology solutions, and the French-speaking majority. For specific segments, such as university students, MNOs have developed solutions to make school tuition fee payments via mobile phone. In the French-speaking part of the country, the use of cash is still very rooted in the population, and penetration of this kind of innovation is more difficult. It is also due to a lack of information and education among consumers. There is a real need for financial education and extension of financial services to unbanked populations, which would benefit the ecosystem.

Key stakeholders

Regulators

- BEAC (Banque des États de l'Afrique Centrale)
- ART (Agence de Régulation des Télécommunication)

Main banks

- Société Générale
- BICEC (Banque Internationale du Cameroun pour l'Epargne et le Crédit)
- Afriland First Bank
- SCB (Société Commerciale de Banque Cameroun)
- Ecobank

Mobile network operators

Market share

MTN	51%
Orange	46%
Camtel	3%
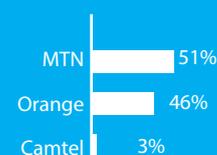
Digital financial service providers

- MTN Money – Ecobank
- Orange Money – BICEC
- Monifone – SGC
- Moneytel
- Express Union Mobile

For more information, contact François Coupienne UNCDF-MM4P Technical Advisor at francois.coupienne@uncdf.org.

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Digital Financial Services in Mozambique

2014

Mozambique

Facts and figures*

Sector overview

Mozambique's ecosystem is still in the early stages of development. A rather low literacy rate, especially in rural areas (41.5 percent of rural adults have had no formal education), along with an underdeveloped regulatory framework, infrastructure, agent networks and product ranges, currently provide challenges to digital financial service (DFS) activities in Mozambique.

The situation is partly exacerbated by a high incidence of poverty (54.7 percent of the population lives below the poverty line). According to FinMark Trust's profiling of Mozambique, the main challenges affecting the development of the DFS sector include the following: poor infrastructure to support cash distribution networks, unreliable electricity services and wireless communications, limited interoperability among banks and also among mobile network operators (MNOs), poor bank perception of underdeveloped local economies in rural areas, and unfamiliarity with electronic or innovative payments among the poor.

Nonetheless, the market potential for DFS to serve as a channel for financial inclusion in Mozambique is good (87 percent of the population is unbanked). Current initiatives on consumer education, development of the national switch SIMO (Sociedade Interbancária de Serviços de Moçambique), promotion of interoperability among MNOs, technical capacity-building at the central bank, and development of appropriate regulatory instruments augur well for a vibrant future DFS ecosystem.

25.8 million
Total population

13% (incl. 12% through banks)
Financial inclusion rate

USD 1,045
GDP per capita (PPP)

80%
Mobile phone penetration

Key findings

Policy and regulation

Policy and regulation is evolving quickly and in a rather piecemeal fashion. Most importantly, Bank of Mozambique seems predisposed to allow innovation (or at least not stop it) and is working toward an overall national payment system modernization.
Creating a dialogue between regulators and providers that helps clarify the existing policies—as well as supporting the Bank of Mozambique to draft and publish other crucial regulation (e.g., e-money)—may happen, with proper coordination, through the existing and planned support from the Department for International Development (DFID), German Agency for International Cooperation (GIZ) and World Bank.

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*Source: EIB and UNCDF, 'Digital Financial Services in Africa,' December 2014.

Delivery infrastructure

The DFS opportunity is restricted by fragmentation and concentration of existing infrastructure: deficient transportation and road systems, low security levels in some areas, unavailability or low reliability of telecommunications, and poor energy services. Some also point to the limited pool of human resources to expand financial services in Mozambique. There are no quick fixes for the physical or telecommunications infrastructure, although there is a strong chance the latter will improve as Movitel competes on quality for voice and data services—particularly in rural areas. Fortunately, there is tremendous room for growth in urban areas and well-connected corridors.

Providers

There are only a handful of providers at present. Vodacom brings significant experience from other markets, and both it and Movitel are part of international corporations with resources and established reputations. Interbancos and mCel have developed retail payment products that have the potential to address the unserved demand in the market. Yet, non-banks are struggling to find the correct positioning for their DFS platforms. Millenium bim and other banks could play an important role because of the high demand for savings and the relative trust in banks. However, banks continue to fret over regulatory uncertainty and are very unsure of the potential return on investment for payments infrastructure, when economic activity in many peri-urban and rural areas of Mozambique is still very low.

Agent networks

With most banks and branches located around Maputo, access to financial services is inhibited. Access will likely be the greatest challenge for all providers given the infrastructure issues noted previously. Other industries also lack distribution networks, and very few retailers are able to cover the three economic regions of the country. All the MNOs are making the dual effort to grow their networks and DFS providers/subsidiaries outside Maputo and to expand geographic reach, which necessitates the expansion of airtime distribution. By the same token, the economic corridors in Mozambique are spread far apart in the different provinces, posing a challenge to the set-up and maintenance of agent business for the MNOs.

High volume

Many of the existing government payments are still being done manually, creating a good opportunity for a payments ecosystem. Additional opportunities for DFS relate to the following: proposed expanded coverage of the pensions regulatory framework (as per the Mozambique Financial Sector Development Strategy [MFSDS]) to include the self-employed; modernization of the social security PAYGO system; and efforts to deepen the mechanisms for facilitating mobility from the public to the private sector and vice versa. Through MFSDS, the Government is supporting the implementation of policies designed to promote rural financial access, especially for agricultural-oriented activities; promote financial literacy to increase the public's understanding of how financial services can improve livelihoods; ensure consumer protection, both to protect consumers and to encourage new consumers to enter the market; and reduce transaction costs for consumers through elimination of unnecessary legal procedures.

Customers

Understanding customers is also a worthy investment, using the range of existing and planned data sources (FinScope, Financial Diaries, etc.) and incorporating DFS into them. Targeted research is needed to look at current early adopters of DFS in order to understand the triggers and barriers to use. Insufficient physical access and low, unreliable incomes prevent people in Mozambique from having bank accounts, rather than a lack of trust. Many of the poor would like to use formal services if they had more income, or if banks were closer. More effective and widespread distribution could, therefore, address many of the current barriers from the demand perspective.

Key stakeholders

Regulators

- Bank of Mozambique
- National Institute of Communications of Mozambique

Main banks

- Millenium bim
- BCI (Banco Comercial e de Investimentos)
- Standard Bank
- Barclays
- Moza Banco

Mobile network operators

Market share

|	
mCel	44%
Vodacom	33%
Movitel	20%

Digital financial service providers

- mCel
- Vodacom

For more information, contact François Coupienne UNCDF-MM4P Technical Advisor at francois.coupienne@uncdf.org.

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Digital Financial Services in Nigeria

2014

Nigeria

Facts and figures*

Sector overview

The digital financial services (DFS) industry in Nigeria is rapidly evolving after the industry experienced a slow start with the launch of DFS operations in 2009. DFS are still mainly utilized by the banked population, with penetration mostly limited to urban areas; penetration levels among the unbanked and those living in rural areas range from zero to low.

Northern Nigeria is grossly underserved and is likely to remain so in the near future. There are 24 licensed DFS providers in the market offering various products such as bill payment, airtime top-up, micro-insurance, savings and money-transfer services. On top of being concentrated in urban areas at the moment, the overall size of the agent networks is grossly inadequate for Nigeria's size.

The country is moving towards DFS largely through bank and third-party provider led models. The Central Bank of Nigeria has put in place regulations to ensure consumer protection with DFS.

Apart from poor agent networks, rapid growth of DFS in Nigeria has been inhibited by challenges such as inadequate capital outlay on the part of mobile network operators (MNOs); poor infrastructure (power, roads, telecommunications, etc.); lack of awareness/customer education; and limited interoperability and interconnectivity among networks.

173.6 million
Total population

60% (incl. 32% through banks)
Financial inclusion rate

USD 5,601
GDP per capita (PPP)

40%
Mobile phone penetration

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*Source: EIB and UNCDF, 'Digital Financial Services in Africa,' December 2014.

Key findings

Policy and regulation

A regulatory framework created by the Central Bank of Nigeria for the development of DFS identifies three major models of implementation, namely bank-focused, bank-led and non-bank-led, which all provide for branchless channels to be used by banks and other types of financial institutions, except MNOs. However, the framework appears to be skewed towards the bank-led model and is still evolving. The Central Bank of Nigeria is championing the country's 'cashless' initiative to reduce the volume of cash-based transactions through e-payment systems and platforms.

Delivery infrastructure

The country is lagging far behind comparable economies and requires an estimated EUR 72 billion over the next five years to address infrastructure deficits. The Government has announced it will invest EUR 122 billion in infrastructure, which will far surpass the minimum investment requirements. Poor infrastructure, particularly a poor supply of electricity, has some bearing on the low mobile penetration rate—especially in rural areas (40 percent). However, the country's declared intent to push the rural telephony penetration rate to 60 percent by 2015 may improve the potential for the adoption of DFS. The development and adoption of a single switch—Nigeria Inter-Bank Settlement System (NIBSS)—augurs well for a national rollout of DFS.

Providers

There are 24 licensed DFS providers in the market offering various products such as bill payment, airtime top-up, micro-insurance, savings and money-transfer services. MNOs are partnering with insurance firms to offer micro-insurance products such as life insurance. Payment terminal service providers, such as Global Accelerex, Interswitch and Unified Payment Services, offer various merchant services. Beyond these services, Sterling Bank's and Pagatech's partnership offers agent/merchant management services. Currently, banks see DFS mainly as an alternative channel to reach the already banked population. Early providers of DFS such as Pagatech and eTranzact are showing positive signs of business growth, but customer numbers remain low in relation to Nigeria's population.

Agent networks

Though agent networks are critical for a sustainable drive towards DFS, a key challenge is that banks are not keen to expand their agent networks (on the basis of profitability). Consequently, cash-in/cash-out points in Nigeria are limited. Meanwhile MNOs, which have both the financial and technical muscle to put up the networks, have been locked out through regulatory provisions. As of the end of 2012, DFS operators in Nigeria had a combined total of 3,000 agents across the country—a number in sharp contrast to analyst estimates that Nigeria requires between 50,000 and 250,000 agents. Interestingly, approximately 12 DFS providers have signed agreements with the Nigerian Postal Office to use its distribution network for agent banking services.

High volume

Nigeria is beginning to conduct DFS high volume payments, although there is still a largely unexploited opportunity to convert high volume payment transfers to electronic means. The Government of Nigeria has recently announced a partnership with MasterCard to provide MasterCard-enabled ID cards to each citizen, allowing each person in the country to receive payments directly to his/her ID card.

Clients

About 60 percent (53 million) of Nigeria's adult population is financially included. People in the northern part of Nigeria are more financially excluded than those in the rest of the country. A key challenge inhibiting the proliferation of DFS is mistrust, which emanates from a generally high level of financial fraud in Nigeria. There is, therefore, a need to ensure system integrity and reliability in practice. The country's financial literacy strategy comprises school programmes, outreach programmes and information dissemination tactics. However, low awareness of DFS is a major barrier to uptake. A survey conducted by Enhancing Financial Innovation & Access revealed that about 66.2 percent of respondents were not familiar with DFS.

Key stakeholders

Regulators

- Central Bank of Nigeria
- Nigerian Communications Commission

Main banks

- First Bank
- Zenith Bank
- United Bank for Africa
- Guarantee Trust Bank
- Access Bank

Mobile network operators

Market share

|	
MTN	45%
Airtel	21%
Globacom	20%
Etisalat	14%
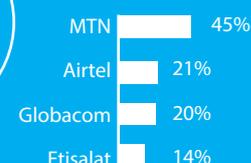
Digital financial service providers

- Firstmonie
- U-Mo
- Paga
- PocketMoni
- Stanbic
- Fortis Mobile Money
- Ecobank
- Guarantee Trust Bank
- eTranzact
- mKudi
- Teasy Mobile

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Senegal

Digital Financial Services in Senegal

2014

Facts and figures*

Sector overview

Senegal enjoys a great variety of players in the digital financial services (DFS) ecosystem. Benefiting from hosting the regional regulator BCEAO (Banque Centrale des Etats de l'Afrique de l'Ouest), and the West African headquarters of multiple stakeholders, Senegal has served as an entry point for many DFS providers in the region.

Banks, mobile network operators (MNOs), specialists in money transfer, microfinance institutions (MFIs) and e-money issuers have all launched their offerings in the market with different models, including partnerships and products that are sometimes complementary but are often competing. Whereas BCEAO authorizes a variety of actors to issue e-money, market dynamics have not allowed

the development of large-scale models. In the regions, MNOs have initially opted to partner with banks for the licensing and launch of their mobile money offerings, but they face challenges such as limited flexibility.

The majority of banks still play a passive role in promoting DFS to the masses, having very limited experience with the low-income and rural consumer segments. Finally, MFIs and other e-money issuers often lack resources and technological capacity to launch their own DFS offering.

A few initiatives to interconnect are under development to broaden scale and access in the country.

14.1 million
Total population

20% (incl. 7% through banks)
Financial inclusion rate

USD 2,269
GDP per capita (PPP)

80%
Mobile phone penetration

Key findings

Policy and regulation

BCEAO allows a broad spectrum of providers to offer DFS, including banks, MFIs, MNOs and other service providers. The telecommunications regulator now requires SIM registration and additional information such as physical address and occupation to be provided when a DFS account is opened. There is no regulation of agent banking,

although BCEAO reviews the service contract between providers and agents. Despite the existence of a regional switch (GIM-UEMOA [Groupement interbancaire monétique de l'Union économique et monétaire ouest-africaine]), discussions on interoperability between MNOs are still in their early stages.

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*Source: EIB and UNCDF, 'Digital Financial Services in Africa,' December 2014.

Delivery infrastructure

Senegal possesses good telecommunications infrastructure relative to similar countries. The economy suffered from a faulty power grid until 2012, which slowed growth, but this energy crisis seems to be resolved in large cities. The World Bank reports that 56.5 percent of the population has access to electricity.

Providers

Many pilot programmes are introduced in Senegal, which serves as an incubator for a wide variety of DFS providers. Orange is the main DFS player in the West African Economic and Monetary Union zone and, since 2010, has partnered in Senegal with BICIS (Banque Internationale pour le Commerce et l'Industrie du Sénégal), a subsidiary of BNP Paribas. Millicom-Tigo was licensed in December 2013 as an e-money issuer through its subsidiary Mobile Cash SA and partnered with Banque Atlantique for its trust account. Yoban'tel is a DFS offering from Société Générale, which uses its own branch network as well as that of the MFI CMS (Crédit Mutuel du Sénégal). Ferlo is the first technology company, therefore non-bank, to have obtained the e-money issuer license from BCEAO. Finally, two money transfer companies operate via SMS, namely CSI-W@ri and Joni Joni, more recently. Despite these efforts, the market dynamics have not allowed the development of large-scale models.

Agent networks

Distribution networks outside Dakar are poorly developed and viable partnerships remain elusive. Electronic payment services (i.e., card based) are fairly thin, and there is a low level of customer and merchant acceptance for DFS thus far. However, the networks provided by MFIs such as ACEP, CMS and PAMECAS, as well as that of the postal offices and money transfer companies, may represent an opportunity to enhance financial inclusion through DFS due to their strong presence in all Senegalese communities. In fact, MFI branches represent 75 percent of all providers' points of service available throughout Senegal.

High volume

Current offerings are dominated by money transfers, bill payments and airtime top-ups, and they do not respond to the needs of savings mobilization, loan disbursement and collection, and value-added services for customers. Major money transfer flows exist with Mali, Senegal, Togo, the United States of America and Europe; remittances account for 10 to 12 percent of GDP. In terms of domestic transfers, the local market has seen the arrival of new players such as CSI-W@ri and Joni Joni, which manage increasingly important transaction volumes and compete with money transfer service leaders such as Western Union and MoneyGram.

Customers

In Senegal, 67 percent of the population have low income (less than CFAF50,000 monthly income for the household, or EUR 76) and over 52 percent live in rural areas. Whether rural or urban, the low-income population is not properly taken into account by financial institutions though they generate more than a quarter of GDP (27 percent according to estimates by CGAP). Banks have not yet succeeded in developing real adaptive strategies in this context, while MFIs tend more and more to compete in their traditional market segments. Nevertheless, there are still large sections of the population that have not yet been addressed, either by banks or by MFIs, and which MNOs and service providers like CSI-W@ri aspire to capture.

Key stakeholders

Regulators

- BCEAO (Banque Centrale des Etats de l'Afrique de l'Ouest)
- ATRPT (Autorité Transitoire de Régulation des Postes et des Télécommunications)

Main banks

- CBAO
- Ecobank
- Société Générale
- BICIS (Banque Internationale pour le Commerce et l'Industrie du Sénégal)
- BHS (Banque de l'Habitat du Sénégal)

Mobile network operators

Market share

| Operator	Market share
Orange	58%
Tigo	21%
Expresso	21%
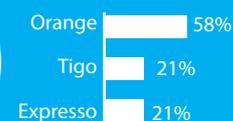
Digital financial service providers

- BICIS-Orange Money
- Société Générale-Yoban'tel
- Ferlo
- CSI-W@ri
- Tigo Cash
- Joni Joni

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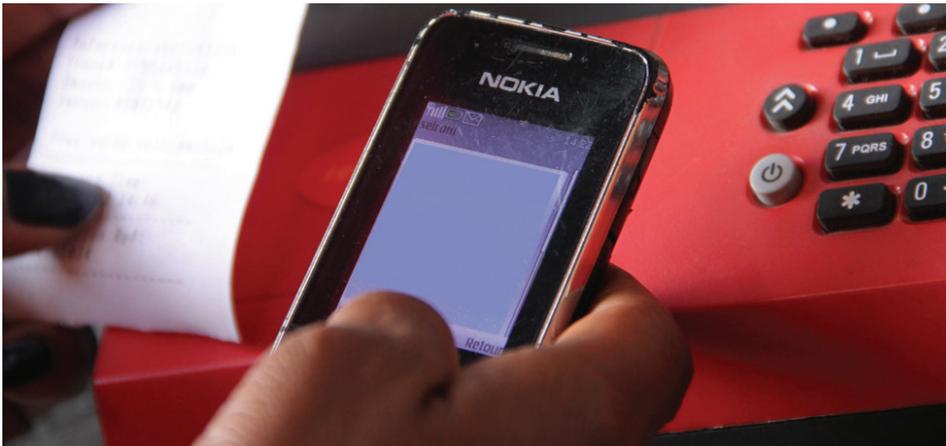
Digital Financial Services in Uganda

2014

Uganda

Facts and figures*

Sector overview

Uganda's digital financial services (DFS) market is led by mobile network operators (MNOs), with the main operators—MTN and Airtel—managing the vast majority of users and transactions. Uganda is considered to be one of the markets with the potential to scale up DFS initiatives. Banks, MNOs and aggregators have entered into strategic partnerships to remain competitive. Most of these partnerships are bilateral relationships that create inefficiencies and risks in the payments systems. The payments systems are highly fragmented, but partnerships with organizations such as Interswitch can enhance interoperability initiatives.

Meanwhile, as demand for DFS grows, so do the risks for consumers. Instances of fraud in Uganda have put a damper on early efforts and successes. The Bank of Uganda has developed a consumer protection policy and has required DFS providers to comply with it. Finally, the DFS platform is still generally used as a payment tool (cash-in/cash-out, utility and bill payments), rather than a multipurpose channel. Eighty percent of the population depends on agriculture for a livelihood, creating specific challenges and needs that providers need to recognize and address.

37.6 million
Total population

28% (incl. 20% through banks)
Financial inclusion rate

USD 1,410
GDP per capita (PPP)

52%
Mobile phone penetration

Key findings

Policy and regulation

DFS are offered by MNOs that are regulated by the Uganda Communications Commission. A comprehensive regulatory framework for DFS has not yet been developed in Uganda; however, DFS providers are required by Bank of Uganda to partner with 'licensed' institutions in order to offer DFS and hold DFS clients' funds in escrow accounts. Banks and other financial institutions are not allowed to provide DFS under the current Banking Act (2000) unless they partner with a DFS provider. However, Bank of Uganda is supportive of agency banking (agent recruitment and management by financial institutions).

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*Source: EIB and UNCDF, 'Digital Financial Services in Africa,' December 2014.

Delivery infrastructure

Uganda has made significant progress on its infrastructure agenda in recent years. Successful information and communications technology reforms led to an expansion in mobile coverage and market penetration. Power sector reform has also paved the way for improvements in power generation capacity, which in 2010 was at 305 MW— short of 440 MW peak demand. In spite of the improvements, an infrastructure gap remains; the country currently spends about EUR 802 million on infrastructure projects (11 percent of GDP) and requires a further EUR 1.1 billion be spent per year over the next decade to address its infrastructure deficit.

Providers

The Ugandan DFS industry utilizes the operator-centric business model, in which MNOs are the dominant stakeholders. There has also been an increase of non-MNO payment solution providers or aggregators that have developed technology platforms to support DFS; they partner with MNOs, financial institutions and donor partners to offer information services and DFS. Since banks have a limited role in the DFS ecosystem, there is no strong business case for them to serve the low-income segment. The operator-centric business model limits interoperability as banks are locked out of the market.

Agent networks

The key challenges facing agent networks include an ambiguous agent selection process by providers, weak agent training, and inconsistent agent management. Poor liquidity management coupled with low penetration of agents in rural areas account for serious gaps within agent networks. Branch penetration in rural areas is very low, and as banks cannot operate DFS, their operations are limited to serving people in urban areas. Penetration of MFIs and credit institutions is poor with about 99 and 42 outlets, respectively, in rural areas. It should be noted that savings and credit co-operatives (SACCOS), which have about 880 outlets in Uganda, and village savings and loans association (VSLAs), which have about 1 million registered members, have a much stronger network to reach rural segments.

High volume

High person-to-person (P2P) fees make the cost of sending small payments prohibitive. However, a high-level analysis of DFS transaction data suggests that m-wallets are used primarily for P2P payments and the beneficiaries immediately withdraw funds from their accounts. The lack of merchants accepting DFS as a form of payment limits the value that DFS has in people's daily lives. There are initiatives underway by companies like PesaPal, a merchant acquirer and solution provider, to help merchants allow customers to make digital payments for everyday goods and services. Uganda is a largely cash-driven economy; most Ugandans still prefer to use cash and cheques for transactions, accounting for about 85 percent of all payments.

Customers

In general, poor financial institution penetration—including poor distribution channels (customer touch points) for financial services—accounts for the low percentage of banked population. Only a quarter of the 8.3 million unique prepaid SIM subscribers in the market are active DFS users (approximately 2.3 million as of 2012). An InterMedia study shows that households with registered DFS users are more likely than other types of households to engage in a greater number of financial activities, including sending and receiving remittances, making and receiving payments, and saving money. Therefore, DFS may strengthen the savings culture in the population.

Key stakeholders

Regulators
- Uganda Communications Commission
- Bank of Uganda

Main banks
- Stanbic Bank
- Standard Chartered Bank
- Centenary Bank
- Crane Bank
- Barclays

Mobile network operators

Market share
- Orange 5%
- Uganda Telecom 14%
- Airtel 37%
- MTN 44%
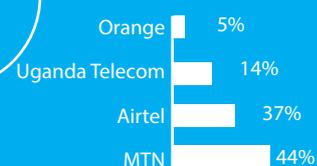
Digital financial service providers
- MTN Mobile Money
- Uganda Telecom
- Airtel Money
- Orange Money

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Zambia

Digital Financial Services in Zambia

2014

Facts and figures*

Sector overview

Digital financial services (DFS) came early to Zambia, with the payment service provider Celpay launching in 2002 and Zoona in 2009. Only much later were DFS launched by mobile network operators (MNOs) Airtel in 2011 and MTN in late 2012.

Despite an early start, the promise of DFS have not thrived in Zambia. Celpay ceased operations in 2013, due to fraud and mismanagement that led to the loss of its operating license. However, Airtel and MTN client registrations have surged to close to three million registered clients collectively and Zoona has had steady growth of over-the-counter money transfer services.

The market potential for Zambia is considered high, with low levels of financial inclusion, relatively high levels of mobile penetration and a promising urban and rural population distribution.

The relatively small and irregular income streams in rural areas are due to a dependence on small-scale farming and will require products that are flexible. The main competition to DFS for the unbanked segment is cash, so DFS providers will need to recognize that in their services and delivery methods.

14.5 million
Total population

23% (incl. 14% through banks)
Financial inclusion rate

USD 3,181
GDP per capita (PPP)

78%
Mobile phone penetration

Key findings

Policy and regulation

The policy and regulatory environment is neither prohibitive nor completely enabling and remains relatively neutral on most key issues. The National Payment Systems Act (2007) provides adequate space for a range of DFS providers to enter the market, but it is not adequate to address the issues arising from services with potential to evolve beyond payments and money transfers.

The relevant regulations and guidelines for e-money are still in draft stages, and there are no efforts underway to develop proportional know-your-customer (KYC) guidelines. The most important factor is that the Bank of Zambia is viewed favourably by the industry, by banks and non-banks alike, and has taken a consultative and 'watch-and-learn' approach to DFS.

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*Source: EIB and UNCDF, 'Digital Financial Services in Africa,' December 2014.

Delivery infrastructure

Despite relatively extensive mobile network coverage, infrastructure has two major challenges: inadequate physical infrastructure and imperfect telecommunications infrastructure. Physical infrastructure (e.g., roads and utilities) is poor, which contributes to the lack of bank branches outside of Lusaka. It is well known that MNOs have quality-of-service issues and have been subject to lawsuits. Even as networks improve, it is likely that the poor perception of service quality will linger, impeding customer adoption of DFS. At the same time, MNOs have been investing in service improvements, making it possible to reach a sizeable percentage of the financially excluded through DFS.

Providers

Zambia is a classic case of a country that has been stuck in the sub-scale trap. MNOs have struggled with building and maintaining active users in order to keep agents interested and active, despite fairly heavy and steady investments in the service. At the same time, the market remains quite fragmented, with two MNOs operating closed-loop systems, limited integration between MNOs and banks, and few meaningful or effective partnerships for distribution.

Agents networks

MNOs have the largest number of agents At present, MNOs have the largest number of agents, which often experience poor liquidity that leads to poor customer experience at agent outlets. Only one bank, Zambia National Commercial Bank (Zanaco), has invested in agents in virtually every district. Zoona and Zampost are the most successful, providing the most reliable money-transfer and bill -payment services in the country. Both have a significant rural presence. Unfortunately, partnerships between the banks and MNOs and these two agent managers have not met with success.

High volume

The DFS platform is generally used as a generic payment tool (cash-in/cash-outt, utility and bill payments), rather than a multipurpose channel for a range of financial services. There has been little focus on the specific-use cases for DFS beyond person-to-person (P2P) transfers or the underlying e-wallet itself, as a store of value. There is a largely unexploited opportunity to convert high-volume payment transfers to electronic format. Providers' current product range is fairly limited, with some innovation happening around value chain payments.

Customers

Customers lack much-needed information and knowledge on DFS, and surveys indicate that they do not trust that such services are reliable and readily accessible to them. This perception is born from their personal experience: agents are often unable to transact, mobile networks go down, and menus are in English. Surveys also show that customers think DFS are for 'rich people' and view them as an aspiration rather than a necessary tool. Providers themselves recognize the need for better customer education, as well as basic financial literacy and DFS awareness programmes.

Key stakeholders

Regulators

- Bank of Zambia
- Zambia Information and Communications Technology Authority

Main banks

- Barclays
- Standard Chartered Bank
- Zambia National Commercial Bank (Zanaco)
- Stanbic Bank
- Finance Bank Zambia

Mobile network operators

Market share

Airtel	45%
MTN	39%
Zamtel	16%
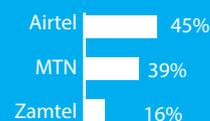
Digital financial service providers

- Airtel
- MTN
- Zoona
- Zanaco

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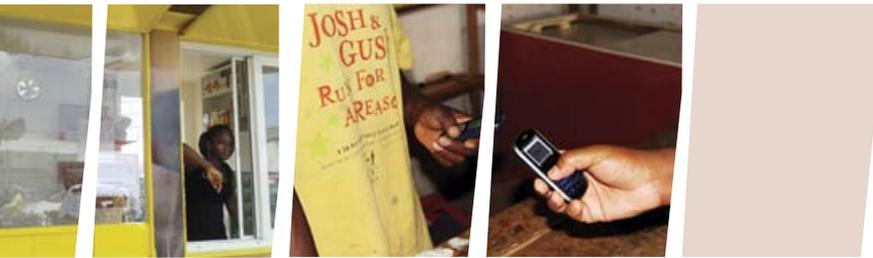
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