Best Practices in Mobile Microfinance

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ABSTRACT

The development of mobile and branchless banking has been steadily gaining momentum over the last 10 years; largely thanks to a highly innovative technological environment fostering the development of new mobile money platforms and applications. Many donors, experts, and microfinance institutions (MFI) have become convinced that using mobile financial services (MFS) is more convenient and efficient, and less costly, than the traditional high-touch model for delivering microfinance services. MFS becomes especially useful when targeting the unbanked poor living in remote areas. The implementation of MFS, though, has been uneven with both significant challenges and successes. This paper examines the conditions needed to effectively implement MFS by reviewing experiences of MFI's, and aims to provide guidance to organizations interested in introducing MFS in the future by identifying the "best practices" to do so.

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Key Words: mobile financial services, rural poor, branchless banking

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A full list of interviewees and contributors is provided in Annex I.

List of Acronyms & Abbreviations

ARPU	Average Revenue per User
AML	Anti-Money Laundering
ATM	Automated Teller Machine
ATOSA	Afghanistan Telecommunications Operators' Social Association
BC	Business Correspondent
CBA	Cost/Benefit Analysis
CFT	Combating the Financing of Terrorism
CGAP	Consultative Group for Advancement of the Poor
CSO	Civil Society Organisation
EFT	Electronic Funds Transfer
FI	Financial Institution
GPRS	General Packet Radio Service
GSM	Global System for Mobile Communications
GSMA	GSM Association
IMTFI	Institute of Money, Technology & Financial Inclusion
ITU	International Telecommunications Union
IVR	Interactive Voice Response
KYC	Know Your Customer
MFI	Microfinance Institution
MFS	Mobile Financial Services
MNO	Mobile Network Operator
MSMEs	Micro, Small and Medium Enterprises
NBFI	Non-Banking Financial Institution

NFC	Near-Field Communication
POS	Point of Sale
RBI	Reserve Bank of India
SCC	Savings and Credit Cooperation
SHG	Self-Help Group
SMS	Short-Message System
Telco	Telecom Operator
UCI	University of California, Irvine
USSD	Unstructured Supplementary Service Data
WAP	Wireless Application Protocol

DEFINITION OF MOBILE FINANCIAL SERVICES

The term "Mobile Financial Services" covers a wide range of transactions (from simple money transfers to providing loans and savings) that can be carried out using a mobile device.

Mobile financial services can be grouped into three kinds of services:[1]

1. **Mobile banking services**. Disbursement and repayment of loans, withdrawal and deposit of funds, transfer of funds from account to account, and information services (e.g., bank statements).

2. **Money transfers (domestic and international remittances)**. Also referred to as person-to-person (P2P) transfers.

3. **Mobile payments**. Government to Person (G2P) and merchant payments (e.g., payment of civil servant payrolls, or payment of utility bills).

Money transfers and mobile payments jointly make up "Mobile Money," and are included as part of "Mobile Financial Services." "Mobile Microfinance" refers to mobile banking services implemented at a microfinance institution (MFI).

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[1] Author's definition based on various sources.

Foreword

The main objective of this study is to review MFI experiences with mobile financial services to date, to understand the main challenges and opportunities faced during its implementation, and to provide guidelines for consideration. By sharing these experiences – which often were achieved through painful trial and error – the aim is to provide practical information and research-based guidelines on how MFIs can leverage existing best practices as we know them in this early stage, and increase their chances of successfully implementing mobile financial services.

Over the last 30 years, microfinance has proven to be an impressive tool for applying business practices to solutions of poverty, and has grown to a large scale[2] because of its sustainable business model. It is important to continue building on this success to develop innovative solutions that reach the 1 billion unbanked who have yet to benefit.[3] However, evidence of the limitations of the "high touch" model to rapidly innovate, lower costs or reach remote areas has been brought to light by the recent crises within the microfinance industry, and cannot be overlooked. Even today, MFIs face two important barriers to achieving scale: operational inefficiencies and high operational costs, both of which have contributed to keeping interest rates high.

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[2] According to Microcreditsummit.org, "[O]ver the last 13 years, the number of very poor families with a microloan has grown more than 18-fold from 7.6 million in 1997 to 137.5 million in 2010. Assuming an average of five persons per family, these 137.5 million microloans affected more than 687 million family members, which is greater than the combined populations of the European Union and Russia." http://www.microcreditsummit.org/state_of_the_campaign_report/

[3] Mary Ellen Iskenderian, President and CEO of Women's World Banking (WWB).

With the appearance and development of mobile payments came the promise for many MFIs to address these barriers and offer branchless banking.[4] The success of Safaricom's M-PESA – an SMS-based money-transfer system that enables individuals in Kenya to deposit, send and withdraw funds using their mobile phones – contributed to strengthening this belief. Today, there are 30 to 35 million mobile money users in the world, and every second person who sends money over a mobile phone is Kenyan.[5]

Spurred by rapid uptake in Kenya, MFIs and donors alike began – and continue – to examine the possibilities of using agent banking and point-of-sale (POS) devices to reduce the costs associated with microfinance. Among certain circles, mobile phones were seen not only as having the potential to develop more affordable and further-reaching microfinance business models, but also as providing an opportunity to deepen financial inclusion by reaching the unbanked. Finally, the mobile phone has been seen as a means of improving existing services by providing greater transparency, as well as more convenient access to services outside of banking hours or group meetings.

Yet today only a handful of countries have MFIs providing mobile financial services that include loans and/or savings. Of the 74 countries listed by the GSMA Mobile Money deployment tracker as offering mobile money products, only 13 offer products that include

[4] CGAP defines branchless banking as the delivery of financial services outside conventional bank branches, using information and communications technologies and nonbank retail agents – for example, over card-based networks or with a mobile phone.

[5] Fengler,W, M. Joseph, and P. Mugvenvi. "Mobile Money: A Game Changer for Financial Inclusion." (2011) http: //whatmatters.mckinseydigital.com

loan repayments and/or savings.[6] The reality is that mobile network operators (MNOs) remain the leaders of the market, providing services that focus on person-to-person (P2P) remittances and merchant payments, such as utility bills, goods and air-time top-up.

[6] GSMA Mobile Money Tracker, www.http://www.wirelessintelligence.com/mobile-money (February 2012), and author research.

INTRODUCTION

BACKGROUND

Modern Microfinance as it is known today can be traced back to the 1970s in pilot programs such as those developed by ACCION International in Latin America, SEWA Bank in India or Mohammed Yunus in Bangladesh (later to become Grameen Bank) – came into being, setting the foundations for the microfinance activities we know today. These programs focused on women, using a group methodology with the primary objective of providing lending and savings products to empower micro-entrepreneurs and to create micro, small and medium enterprises (MSMEs).

These initiatives provided proof that low-income populations (especially women) were credit-worthy and capable of high repayment rates, defying the accepted belief that you cannot lend money to the poor. In the book "*Portfolios of the Poor: How the World's Poor Live on $2 a Day*,"[7] the authors demonstrated that poor people are highly innovative in managing their limited resources, and are able to save, invest and even re-invest.

Microfinance Fast Facts

- AN ESTIMATED 2.7 BILLION PEOPLE AROUND THE WORLD HAVE NO ACCESS TO FORMAL FINANCIAL SERVICES (CGAP)
- AN ESTIMATED 154 MILLION MICROFINANCE CUSTOMERS (MICROCREDIT SUMMIT)
- TOTAL POTENTIAL CUSTOMERS: 1.5 BILLION (CGAP)
- TOTAL ESTIMATED MICROFINANCE LOANS OUTSTANDING: $70 BILLION (MIX MARKET)
- TOTAL ESTIMATED SAVINGS DEPOSITS GLOBALLY: $33 BILLION (MIX MARKET)

Today, microfinance is widely accepted as a poverty-reduction tool, representing $70 billion in outstanding loans and a global outreach of 200 million clients.[8]

[7] D. Collins, J. Murdoch, S. Rutherford, O. Ruthven (UCT Press, 2009).

Nonetheless, modern microfinance is not without criticism, the greatest ones involving the high interest rates and costs associated with providing financial access to a segment of the population that is deemed too risky by most formal financial institutions. High operational costs relating to the high-touch, labor-intensive nature of the business model and the need to build brick-and-mortar branches in remote areas are reflected in interest rates higher than those offered to those with good credit in developed or developing countries.

It is therefore a primary objective for the microfinance community to examine ways, such as branchless banking, in which operational and infrastructure costs can be reduced.

With advances made in mobile technology and the greater affordability of mobile phones, mobile money seems to hold great potential. This is especially true in the developing world, where an adult is more likely to own a mobile phone than a bank account. In addition, mobile subscriptions are increasing at a faster rate each year, both in developing and developed countries (see Chart 1 – *"Growth of Mobile Subscriptions 2001-2011"* below).

Kenya has already shown the difference that MFS can make. In 2006, before the advent of mobile money, only 20 percent of Kenyan adults had access to financial services (i.e., credit, savings and accounts with formal financial institutions). By the end of 2010, three years after the introduction of mobile money, that share had jumped to 75 percent.[9]

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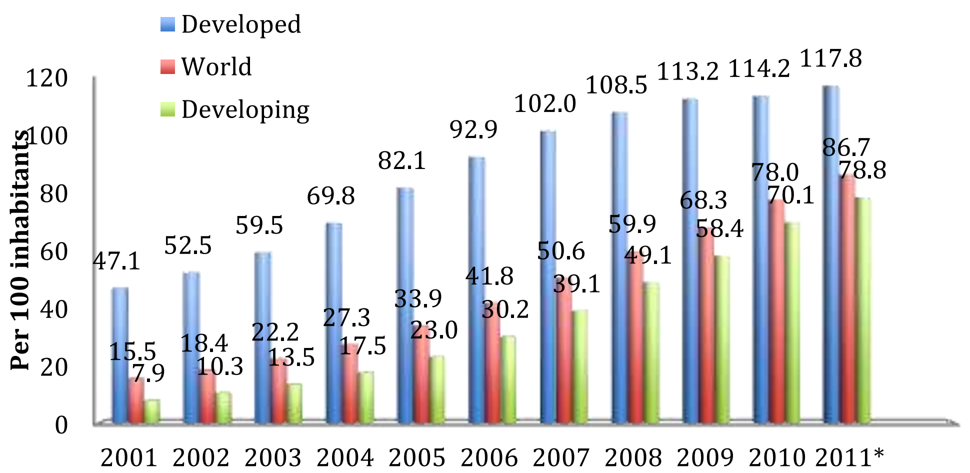
[8] CGAP.

[9] Fengler,W, M. Joseph, and P. Mugvenvi. "Mobile Money: A Game Changer for Financial Inclusion." (2011) http: //whatmatters.mckinseydigital.com.

Chart 1 - Growth of mobile subscriptions (2001 – 2011)



* Estimate.
The developed/developing country classifications are based on the UN M49, see: http://www.itu.int/ITU-D/ict/definitions/regions/index.html
Source: ITU World Telecommunication /ICT Indicators database

However, the first joint initiatives between MNOs and MFIs were not successful, for various reasons.

In Kenya, Vodacom/Safaricom's M-PESA was initially designed as a pilot, conducted in partnership with the microfinance institution Faulu in 2003, to assess whether mobile phones could be used by microfinance institutions to better serve their clients.

In the Philippines, Negros Women for Tomorrow Foundation, Inc. (NWTF) partnered with Smart Telecommunications in 2008 to provide services to its clients.

In both cases, the pilot programs did not lead to a full rollout of joint services. Indeed, engaging in MFS entails several major organizational and operational changes, involving such areas as IT/MIS, marketing, communications or risk mitigation. This was especially the case for Faulu, which did not have an adequate IT/MIS and was still struggling to establish itself using traditional microfinance methods at that time. Like many other MFIs, the implementation of mobile technology was an investment Faulu was not ready, or even able, to make. Since that time, Faulu has made much progress and has delved deeper into mobile financial services, partnering once again with an MNO.

For other more-mature MFIs, such as NWTF, the issues were mainly related to negotiating with the MNOs to provide better-tailored services to serve the microfinance sector, and to being able to commit their own time and/or money. All MFIs must also overcome a general reluctance to change the way business is conducted.

Another poignant example involves the partnership between WING and WorldVision Fund (WVF) Cambodia. WING was created in 2009 by ANZ Bank in Cambodia, with the hope of leveraging synergies between MFIs and banks to serve the poor. Drawn in by the promise of quick development and outreach to new clients, WVF Cambodia invested large sums of money to hire and train agents to promote the service and register new clients. But client adoption in Cambodia was below expectation. WING faced challenges of financial and language literacy, as well as a population that was still distrustful of the financial system after a major banking collapse in the 1990's.

After more than a year of implementation, WING was far from reaching the projected numbers and it became clear that WVF would not be able to fully benefit from WING's services as initially perceived. The persons hired by WVF eventually became full WING agents. WVF abandoned the mobile services and has begun to consider developing its own system. WING continued to actively seek strategic partnerships with MFIs, but it refocused its activities around remittance services.

Today, mobile money has enabled an increasing number of the unbanked to carry out basic financial transactions based on person-to-person transfers, but relatively few have adopted banking services via their mobile. One large Kenyan bank noted that M-PESA is causing disintermediation with its own clientele.

The research conducted for this report revealed that few MFIs to date have been able to leverage the full potential of MFS to deepen financial inclusion, capture new clients and significantly reduce operational costs to enable them to offer lower interest rates. But given the early stage of MFS adoption, this is to be expected. The only exception is in Kenya, where MFIs have benefited from the fact that mobile money has become quasi-ubiquitous throughout all income levels of the population. As such, MFIs in Kenya did not have to work as hard to gain clients' trust. Because the mobile money brand was well accepted, it was easier for them to focus on traditional banking products.

Another important lesson learned from Kenya is that for MFS to thrive, there has to be a sufficient volume of users and transactions upon which MFIs can build their own services. Studies[10] have shown that a good indicator is the number of agents (or cash-in/cash-out points) in relation to the number of bank branches; this ratio should be at least 10 to 1. As a further example of the easier path for Kenyan MFI adoption of MFS, Kenya has more than 50,000[11] agents for 1,045 bank branches.[12] Hence, to assess the kind of investment that will be needed to promote the service, as well as the best time to launch it, it is important to understand how mature the mobile money market is in a country.

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[10] Mas, I., & D. Radcliffe *"Scaling Mobile Money,"* (Sept. 2010).

[11] Safaricom figure: http://siteresources.worldbank.org/FINANCIALSECTOR/Resources/282044-1323805522895/2-Innovation-BettyMwangi.pdf; Orange Money figure: http://www.orange.co.ke/Orange_money_home.html; Airtel figure: http://www.africa.airtel.com/wps/wcm/connect/africaairtel/Kenya/AirtelMoney/.

[12] As of December 2011. http://www.centralbank.go.ke/financialsystem/banks/Register.aspx

It is clear from the study that there are only a handful of countries – such as Kenya, Tanzania, Uganda and Pakistan – out of the 64[13] countries currently rolling out mobile money that have a sufficient critical mass of mobile money clients (defined by when the number of mobile money subscribers is at least 10 percent of telecom subscribers) to allow easy adoption by MFI clients. Nonetheless, there are some valuable lessons to be learned from the early pioneers in this space.

Objectives of the Study

The objective of this study is to review MFI experiences with mobile financial services, to understand the main challenges and opportunities faced during implementation.

Both qualitative and quantitative survey techniques (focus groups, direct interviews and online surveys) were used to achieve the following specific objectives:

1) Identify best practices for enabling new microfinance adopters to advance innovation faster
2) Understand the best approach and business model for bringing clients on board
3) Understand which products and services have been successful using the mobile channel to meet poor clients' needs
4) Provide research-based guidelines to inform mobile microfinance practice and policy
5) Identify factors critical to successful mobile microfinance adoption, and develop guidelines and recommendations for MFIs

[13] http://www.wirelessintelligence.com/mobile-money/unbanked/

Scope of the Study

The study investigated factors that influence MFS adoption by microfinance clients, and the methodologies and best practices that MFIs have adopted to evolve their models, their approach and their products to better serve their clients using mobile technologies. More specifically, the study examines how MFIs approach the development of mobile financial services as a whole, with a special focus on providing financial services.

Mobile Financial Services

Overview

Few people today would refute the fact that mobile technology is one of the innovations of the 20th century that has had the most impact on our lives. Coupled with the advent of 3G technology, broadband Internet connections and fiber-optic cables, mobile devices have revolutionized the way by which we communicate, conduct business and share knowledge. While mobile phones might not be as ubiquitous in developing countries, more and more households – and in some cases entire villages – own a phone or have access to a shared phone. In its report *"Measuring Financial Access Around the World,"* CGAP estimated that in 2010 2.7 billion (72%) of adults living in developing countries were unbanked, and that by 2012 1.7 billion of these people will have a mobile phone (see Figure 1 below).

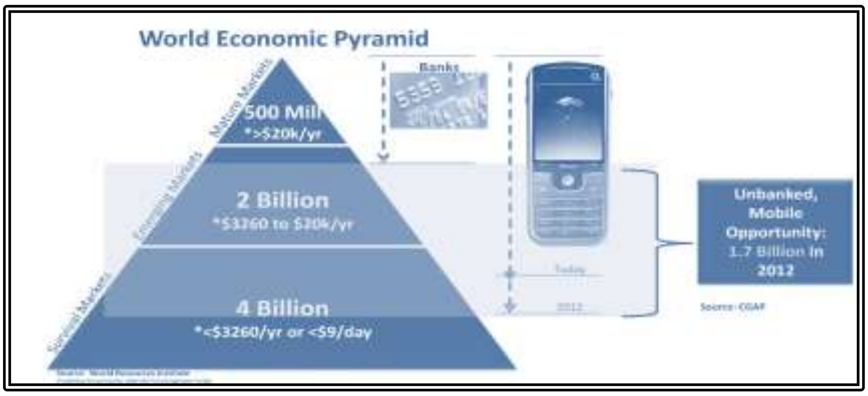
Mobile phone fast facts[14]

- *5.9 billion mobile cellular subscriptions worldwide*
- *87% global penetration (79% in the developing world)*
- *10% of the world not covered by a signal (compared to 39% in 2003)*

[14] ITU statistics database – 2011 estimates

Fueled by the need for basic financial services in the developing world, Juniper Research expects active users of mobile money products to more than double, to more than 200 million, by 2013.[15]

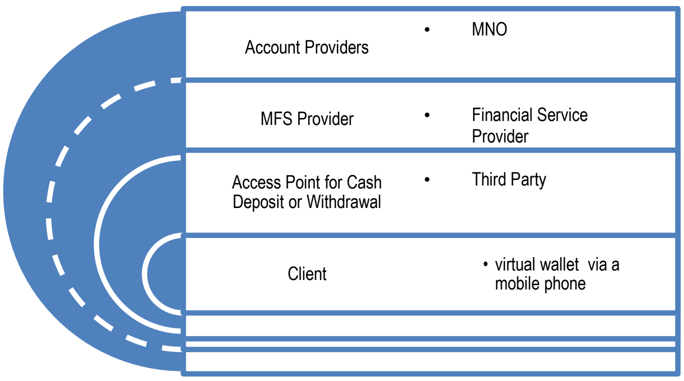
Figure 1 – World Economic Pyramid



It is therefore evident that the market for mobile financial services has a high potential for growth. Before exposing the findings of the study, however, it is important to understand the mobile financial services ecosystem.

The Mobile Financial Services Ecosystem

Though the MFS ecosystem is continuing to evolve, it is composed essentially of six players.



a) **The account provider** is the company that manages the client accounts. The account provider can be a financial institution (bank, MFI, etc.) or a non-bank MFS provider (e.g., Safaricom in Kenya or G-Cash in the Philippines). In the case of the latter, the

[15] http://www.3gamericas.org/index.cfm?fuseaction=page&pageid=1183

client will have an account with the non-bank entity, but the funds will have to be deposited with a partner financial institution.

b) **The MFS provider.** This is the entity that hosts the mobile money platform over which transactions are recorded. The MFS provider can be the same entity that manages the account.

c) **The mobile network operator (MNO).** Mobile financial services cannot, of course, be delivered without the existence of a mobile telephone network that makes it possible to carry the data from one mobile device to another. The network also is how the interfaces of the different players communicate and how they exchange information on the transactions carried out.

d) **The agent** is the entity that operates the cash service point where the customer does cash-in and cash-out transactions. The agent can also register new customers. An important characteristic of a mobile money service is the ease with which clients can convert their virtual money to physical cash. Hence, for the system to succeed, agents must have access to high volumes of cash (liquidity or e-float) that they can use to convert cash to e-money and back to cash.

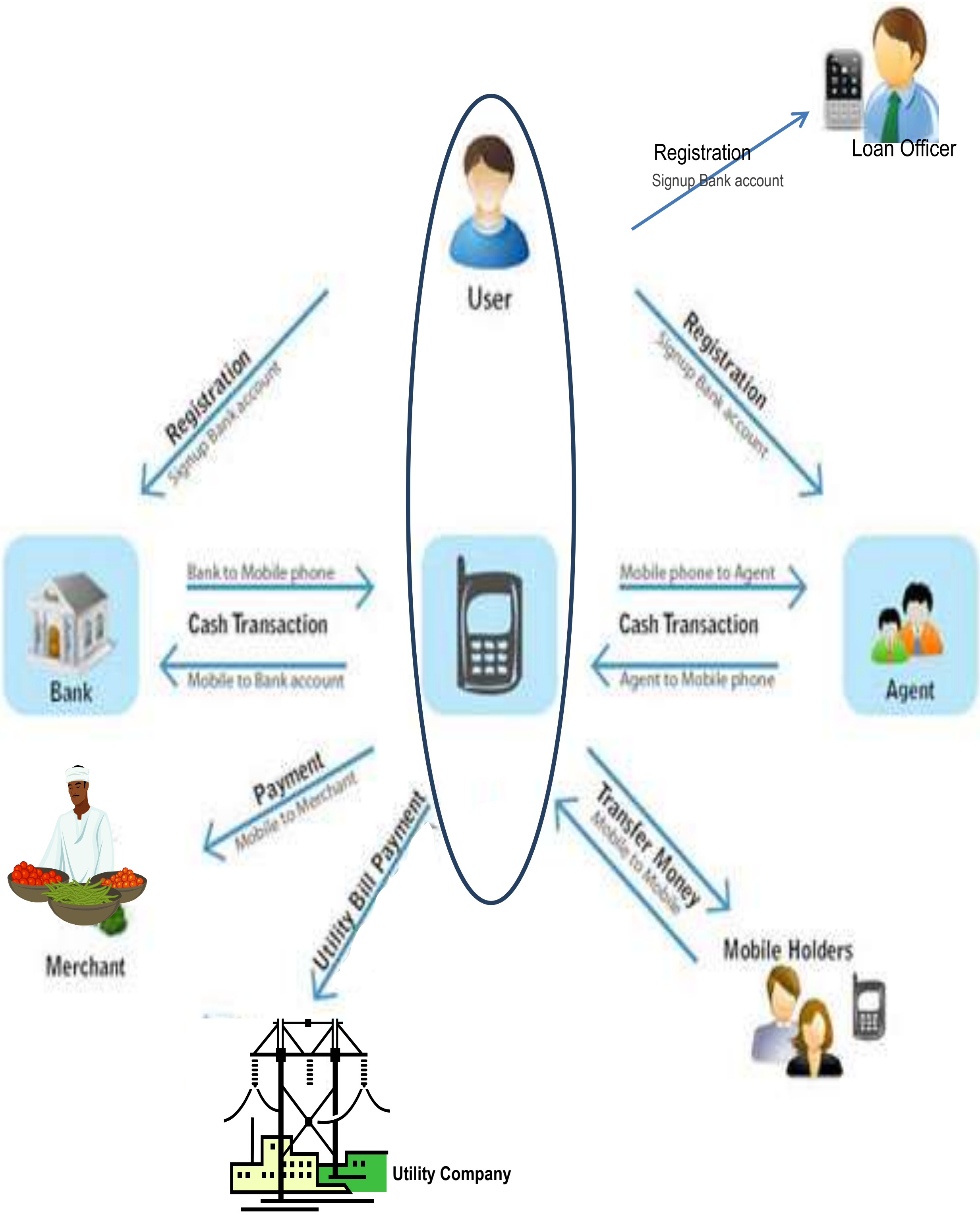
e) **Third-party operators.** These encompass all entities that provide services aimed at improving the delivery of mobile financial services. These include mobile money platforms (e.g., Taggitude or Obopay), software companies and even NGOs that have developed products based on mobile money transactions. Finally, third-party operators also include agent network managers – companies that specialise in managing the agents of the service. With the rise in popularity of the market, the number of players and the role they play is expected to expand in the future.

f) **The customer** is the end-user of the service.

How Do Mobile Financial Services Work?

Many mobile money users find the concept of mobile money hard to grasp, especially if the market environment is predominantly cash-based and characterized by low literacy rates. However, in countries where virtual airtime top-up exists, the transition is easier, because the concept is simple to test and trust is gained quickly. In reality, all transactions that are carried out “virtually” via mobile money have to be mirrored by the physical movement of cash within the financial system. Therefore, reconciliations are carried out between the cash-in/cash-out points (agents), the accounts of the users and the bank accounts in which the funds are pooled, either in real time or at least several times a day.

Below are the main steps for using mobile money:

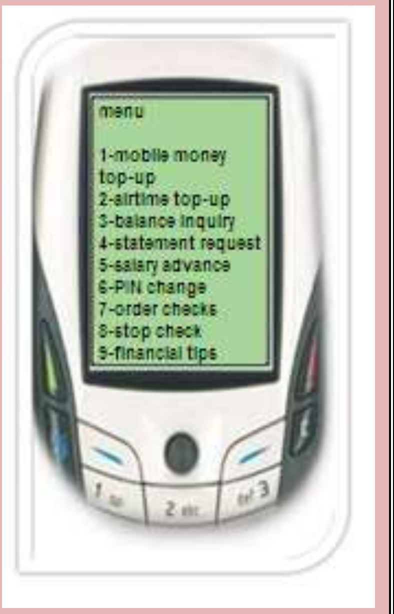


Source: Modified from Kumari Bank Ltd.

Box 3 – A Quick Primer on Solutions

SIM-dependent and integrated solutions – The best known example of such a solution is M-PESA from Safaricom, which is now pre-loaded on all new Safaricom SIM cards. Because it's integrated into the SIM card, the solution can operate on the most basic phone, and has end-to-end encryption. However, given the degree of technological integration necessary, this type of solution is extremely difficult for a non-MNO to offer and thus gives MNOs a huge advantage over other mobile payments providers. Consequently, it is a core feature of leading MNO business models.

USSD solutions – Equally successful are solutions that use unstructured supplementary service data (USSD) and simple menus to provide mobile payment solutions. Bank mobile payment providers in South Africa have seen the greatest success with USSD services. However, as the initial leg of the transaction is not encrypted or secure, most of these services have been confined to "closed-loop transactions," where money is passed between accounts or users at a single bank, but not between banks. This is a huge constraint to achieving widespread use of mobile payments, because interactions will be confined to the bank's own customers, and out-of-network payments need to be through cash. As all phones can use USSD, the solution can reach large target segments, and because the USSD service does not require integration with the SIM card, these services can be launched with minimal involvement of a MNO. In USSD solutions, anybody can "play," and banks have tended to be the winners.



GPRS/Java solutions – As noted above, downloading solutions to an "enhanced" phone is considerably easier, and an increasing number of people have higher-quality phones or soon will have them. It is likely that most people who are banked now have phones that can handle such downloads. This business model is perhaps the most contestable, because the downloadable application can be from a bank, MNO or any other third party. The drawback remains that the solution is no more secure than accessing the Internet, and to compensate the provider for the associated risk, transaction fees tend to be higher.

Source: "Mobile Payments – Ten Years on, What Has Changed?" R. Ketley (May 2010). http://ezinearticles.com/?Mobile-Payments---Ten-Years-on,-What-Has-Changed?&id=4366008

MOBILE FINANCIAL SERVICES BUSINESS MODELS

There are four main types of business models that have appeared on the market today.

MNO-led. This is the most prominent business model found today. In our survey, 58% of the respondents answered that, in their country, mobile financial services were provided by MNOs (compared to 27% that were bank-led, and 15% who did not know). The advantage of this model is that MNOs usually have an already-existing agent-distribution network. However, the network may be limited in its geographical outreach, posing a challenge for MFIs wishing to partner with an MNO. Also, the services offered focus more on person-to-person (P2P) transactions, and merchant and utility payments, although more and more are diversifying the range of products offered (e.g., salary payments).

Most MNOs do not have a banking license and therefore need to be linked to a licensed financial institution if they wish to provide savings. MNOs are required to deposit their funds with a licensed financial institution into a trust account. Because the funds deposited must at all times mirror the amount of funds circulating virtually in the e-wallet, reconciliations are done regularly, often several times a day.

The main disadvantage of this model is that MNOs are more focused on high-revenue market segments or partners. The MNOs in early stages of mobile money focus their attention on developing services and products that have large appeal to their existing customers, including anything from bill payment to remittances, which require few additional changes in their existing infrastructure or processes and procedures. There is little willingness to dedicate resources or offer much flexibility on solutions until there is greater uptake in the market, so MFIs often need to work with a one-size-fits-all solution rather than a more customized offering. The institution can link its core banking system to the MNO, if available; otherwise it is necessary to build an interface to link into the system. This again is a challenge for MFIs, which sometimes struggle to reach an agreement with MNOs to develop interfaces and services that are more in line with the needs of their microfinance clients. This was the case for NWTF, an MFI in the Philippines that decided to develop its own closed-loop system that functions only for its clients.

Another disadvantage of MNO-led models for MFIs is that such models are usually not agnostic to the mobile service (e.g., you need to have a SIM card from the MNO to send money). MFIs and other institutions wishing to use the services have to create interfaces for each MNO that offers mobile payment services, which ends up being quite costly. In most cases, MFIs opt to partner with the MNO having the largest market share, but there are examples of MFIs working on common platforms in Ecuador and Senegal, for example (see boxes 5 and 8). Due to the costs of creating the linkages, it might make sense for MFIs to explore collaboration with other MFIs to share expenses (which can be substantial – for example, one MFI in the Philippines was told by the MNO that it would cost $65,000 to start the conversation, showing that there is a long way to go in the negotiation process).

Bank/financial institution-led. In this model, it is the bank or financial institution that takes the initiative to provide its clients with a mobile banking service, rather than the MNO. An example of a bank-led model is XacBank Mongolia.

In this case, the financial institution relies on the infrastructure of the MNO to transfer the data of the transactions, but uses its own branches or partners for the distribution network. Depending on the design of its system, it may also need to enter a partnership with the MNO to pre-load the SIM with a special application (a SIM toolkit) that would enable the user to access the menu directly from their phone or, for a short code, to offer USSD services.

Although justifiable in some environments, engaging in your own mobile payment network is a huge investment that should be considered only if no viable partnership opportunities are available in the long term.

One should also consider the limitations this puts on the client, comparing the tradeoffs spelled out in Table 2, below. Training clients to utilize a closed-loop system lowers the potential benefits of the overall ecosystem when, for example, clients could also access additional services, such as insurance.

Third party-led models. In this business model, the institution providing the service is one that is created specifically for that purpose. Due to the increasing interest in the MFS market, several service companies have come into being recently. Although these companies target all MFS providers, including commercial banks and network operators, they can be a judicial choice for small MFIs that are struggling with the implementation and integration of their MFS.

Wizzit in South Africa, WING Money in Cambodia, Yellow Pepper in Latin America and G-Cash in the Philippines are prime examples of third-party models, in which the institution has an authorization or license from the central bank to offer financial services or partner with a financial services provider. Although the focus does remain on money transfers and merchant payments, these models also provide an existing platform for MFIs and other financial institutions to build their MFS on.

Mobile money service providers are geared toward microbanking platforms that directly manage the wide range of MFS for their partners: remittances, mobile top-up, bill payment, merchant purchases and even managing agent networks. Some mobile money service providers are also able to give access to cloud-based core banking systems that can be leveraged and used to the advantage of the MFI. Hence, they provide an interesting alternative for MFIs that choose to outsource their mobile payment services.

The hybrid model. This involves a joint venture between an MNO and a financial institution. The most successful example of such a model is Tameer Bank in Pakistan, which partnered with Telenor. Telenor owns 51% of Tameer Bank and together they offer the service EasyPaisa. As a newer model in the early stages, it is focused on developing market share primarily through traditional services such as payments or money transfers, so it has yet to reach the market serving typical MFI clients (savings and loans are generally not first products, because clients need to build trust in systems and feel comfortable leaving cash in their e-wallets before taking the next step toward savings and loans). For an MFI, this model should be considered much in the same way that a third-party model could be considered. One of the main advantages of this model is that it can make the most of both the financial services of the financial institution and the agent network of the MNO.

Daily usage is an issue that Orange Money Kenya sought to address through its own mobile money service, Iko Pesa, launched at the end of 2010. Iko Pesa is a fully mapped bank account integrated into a mobile platform. Hence, all transfers are registered as account-to-account transactions, without passing through an e-wallet – meaning that the client is transacting using his or her own bank account and all bank features, and the system is linked to the core banking system and the bank's security. The comparisons are noted in Table 4, below.

Table 4 – Stored Value versus Mapped Bank Accounts[16]

	Stored Value Account	Mapped Bank Account
Security	**Limited**	**Bank-level AML and KYC**
Float	**Need for separate float account**	**Ease of transfer from any bank account**
Deposit protection	**Limited protection**	**Individual accounts protected**
Financial intermediation	**Funds collected not available for mass market**	**Funds collects are lent back to mass market**
Transaction history	**Not all transactions are captured within the banking system**	**Full record of transactions within the banking system**
Access to other financial services	**Limited to money transfer**	**Money transfer, credit (MasterCard)or debit card**

[16] Orange Company presentation.

Implementing Mobile Financial Services

Best Practices and Lessons Learned

The decision of whether or not to enter the MFS market will be based on a number of factors, as noted in Table 5.

For many MFIs, the task can be daunting, as financial resources and human capacity often are limited. Therefore, rather than "reinvent the wheel," MFIs should make the most of existing experiences and draw certain conclusions on the best approach to provide mobile financial services to their clients in an efficient and affordable manner.

Table 5 – Balancing Priorities

Feasibility Study	Critical			Very Important
Agent Network		Critical	Critical	Critical
Product	Critical	Critical		Critical
Process Re-engineering	Critical	Very Important	Very Important	Very Important
Internal Commitment	Critical	Critical	Critical	Critical
Change Management	Critical	Critical	Critical	Critical

Partnerships	Very Important			Important
Regulations	Important		Important	Important
IT	Critical	Critical		Very Important

1. Conducting research

As mentioned above, the first step to implementing MFS would be to carry out extensive research, preferably in the form of a feasibility study. MFIs should bear in mind that, despite pressure from the market, it is necessary to take the proper amount of time to prepare the launch of the service.

In an article published by Triple Jump Advisory Services,[17] Carol Caruso stresses the importance of taking your time. Moreover, our online survey revealed that 9% of the respondents had not conducted any form of research before implementing MFS and that only 5% had carried out a cost/benefit analysis (CBA). The majority of the respondents (32%) had only carried out superficial surveys, such as literature review and focus groups, and had relied instead on existing studies. Also, during the interviews, when asked if a CBA had been carried out, a significant number had replied that they "did not need to" because the cost benefits were "obvious," especially when comparing e-transactions to the traditional methods (collecting receipts, sending checks and documents by courier, etc.). Furthermore, our study showed that even when a cost analysis is carried out, this is mostly done focusing on the potential savings for the client, such as less time spent away from their business, no

[17] "Mobile banking for MFIs: why it pays to take your time," C. Caruso, Managing Director, Triple Jump Advisory Services (2011).

transportation costs and the lower risk of losing cash.

It is important to understand costs related to changes in an MFI’s core processes, as well as to map out those changes. In the pre-launch phase, the process re-engineering, technology and internal change management will take longer than estimated and MFIs should plan accordingly (see responses to questions 31 and 32 in the survey results).

It is understandable that the need to maintain a competitive edge could push MFIs to launch services before they have taken the necessary measures. However, in this case, implementation can be very rocky. Because it is extremely difficult to regain the trust of disgruntled clients, it is preferable to ensure that the service is tested and running smoothly with a diverse group of clients before rolling it out across the broader organization.

The adverse effects do not only emanate from clients, but also internally from staff. If the application is seen as failing or creates additional work, then MFIs face the risk of losing staff’s trust in the efficiency of the service, and this sentiment will eventually be conveyed to the clients.

The interviews also revealed that when research is rushed, internal costs to the organization – such as training, upgrading the IT/MIS and developing the agent network – are rarely factored in, making it impossible for MFIs to calculate the real costs of implementing MFS.

By conducting a feasibility study, MFIs can ensure that they have examined all aspects of the market and are fully aware not only of the costs and risks, but also of the opportunities and benefits to expect from MFS.

MFIs should examine the following areas. The list below is not exhaustive, but aims to raise awareness about some key issues.

a) **Consumer profiles**

- How can I segment my clients? (Phone-literate? Living in high-risk security areas?)
- What kind of products are clients looking for? How do they "invest" today? (Cows, food stock, etc.?)
- What kinds of products would be appropriate for potential clients?
- How many of my clients own a phone? If they do not own a phone, how many own a SIM card?
- What are the pain points of my clients regarding technology?
- What are the pain points of my clients regarding access to finance?
- How will literacy levels affect the adoption of my product?
- Do I have the capacity to develop products that respond to their needs?
- How is mobile money perceived?
- How much will I need to invest in training my clients on using mobile money?
- What is the geographical distribution of my clients compared to network coverage?
- How far away is the closest cash-in/cash-out point?
- How much does it cost a client to collect a loan, pay a loan or put away savings?
- What features are most important to a client for a product/service?
- What risks does the client see using this product/service?
- What does a successful product/service look like from the client's viewpoint?
- What fees are the clients willing to pay?

b) **Staff**

- What are the major concerns of staff in implementing MFS?

- What training tools do clients/staff need?
- Which job descriptions need to be modified and what new roles must be created?
- What key performance indicators need to be modified?
- What types of incentives will be necessary to facilitate adoption?
- Is staff already using MFS?
- What is phone ownership among staff and will the MFI need to purchase/ subsidize/offer loans to upgrade handsets?
- What does a successful product/service look like from the staff's viewpoint?

c) Regulatory Framework

- Is a special license required to carry out e-transactions?
- Are there limits to the amounts that can be sent or stored on the e-wallet?
- What KYC (know your customer) measures need to be put in place?

d) Processes

- How do I serve my clients today and what changes need to take place to implement mobile payments?
- Which systems need to interconnect? How to prioritize?
- What audit systems need to be in place?
- If automating systems, how do approvals change?
- How will I train and market the new services?

e) Competition

- What are my competitors doing and what can I learn from them?
- Is there a niche that is not covered by my competitors?

- Should I collaborate on a shared system?

f) IT/MIS

- What is the state of my IT/MIS? Can it support mobile money or will I need to upgrade?
- Will the MNO cooperate in providing the information I need to develop an adequate interface?
- What are the costs for implementation and integration of my MIS with the MNO, bank or third-party platform?
- What special skill sets do I need in my IT department?
- What reports will I need to manage my business?

g) Technology

- What phones are accessible to my client and at what cost?
- Will it be possible to create applications in the local language?
- Do I need to provide interactive voice response (IVR) service?

h) Network

MNOs:

- How many operators are in the country?
- Is there a leader? If so, what is their market share?
- What percentage of voice subscribers are active mobile money users?
- What is the network coverage and does it overlap with my catchment area?
- How many agents are there and what is their geographical distribution?
- How reliable is the network signal?

- What are the tariffs and are they negotiable?
- What are the transaction fees for the clients?
- Do I need to invest in additional hardware or software?
- Who pays for the integration into the core banking software?
- What are the implications of exclusivity?
- Do I offer real-time transactions and reconciliations?
- Who owns the customer?
- What marketing assistance could one expect?
- What types of reports are available? Is customization possible and, if so, at what cost?

Banks (in addition to questions under MNOs if bank-led model):

- How many branches/agents does the bank have and what is their geographical distribution?
- What will be the cost of linking to the bank's branch network? ATMs? Other switches?
- Who will own the relationship with my clients? (i.e., can they approach them with their own competing products?)
- Do I need to invest in additional hardware or software?
- What are the implications of exclusivity?

Third parties:

- What is the fee structure/cost of services?
- Do I need to invest in additional hardware or software?

- Do they have an agent network and what is their geographical distribution? Will they have access to information on my clients?
- Are the services interoperable? Are there any exclusivities that could affect your operations?
- Do they have a track record in my country? Elsewhere?

i) Agent network

MFIs first need to establish whether there is an existing network that they can leverage, or whether they will be developing their own network from scratch.

If there is an existing agent network:

- How many agent points are there and what is their geographical distribution?
- What incentives are they currently receiving? Are they happy with the fee structure and incentives plan?
- Do the agents often encounter problems with managing their liquidity (e-float)?
- Do the agents have the capacity (and willingness) to register new clients?
- Do the retailers have an exclusivity contract with the MNO (i.e., are they allowed to act as agents for other mobile money services)?

If there is no existing agent network, the following areas are important to look into:

- Are there local businesses that can act as retailers for my service (e.g., convenience or mom-and-pop stores, postal offices, air-time resellers)?
- How much training will I need to invest in my agents?
- What kind of incentive will they need to become interested in becoming a retail agent and what quality control measures will I need to put in place?
- How easy is it for the agents to manage liquidity?
- Could my loan officers or group leaders act as agents and use existing infrastructure?

Best Practices

- *Examine all aspects of the market: regulation, consumer behavior, competition, technology developments, socio-economic profiles of the client, network coverage.*
- *Take your time when conducting your research, but be decisive once the results are conclusive.*
- *MFIs should also consider the option of NOT implementing mobile financial services. If your organization or the market is not ready, it may be preferable to wait for new developments that would make it more viable.*

2. Choosing the right business model

Once the research is completed, the next important step will be to decide on the type of business model to implement. Questions will arise as to whether to create your own platform, to partner with one or several MNOs, partner with a bank or third party, or merge with a partner institution. The decision should be based on the results of the feasibility study.

The majority of MFIs implementing MFS today do so in partnership with an MNO or third party (e.g., Wizzit or Wing Money). This is largely due to the fact that, in many cases, the MNO has already started developing remittance services, clients trust its systems and the MFI wishes to take advantage of its existing network and visibility among the population.

Before engaging in a partnership with an MNO, the MFI must keep in mind the following:

a) **Respective vision and mission statements**. The business objectives of potential partners and MFIs are inherently different and some would even say diverging. For example, MNOs are focused on expanding their ability to provide payment services using their existing infrastructure. This leads to a focus on urban and semi-urban areas where antennas are in place and the agent network is generally well-established.

MFIs, on the other hand, are hoping to use mobile financial services to increase outreach to areas where it would not otherwise be cost-effective to establish a brick-and-mortar branch. There is also a social objective that motivates MFIs (which also need to focus on operational and financial sustainability), which is not the case for MNOs or third parties. Therefore it is important to ensure that your partnership would not entail a drift in mission.

b) **Negotiating power.** Just because an MFI is small does not necessarily mean that it cannot negotiate tariffs with a potential partner. In fact, our survey showed that 44% of respondents had negotiated tariffs with MNOs. During a group interview with 14 MFIs in Kenya, we discovered that the two smallest MFIs had negotiated better tariffs than their larger counterparts in the same market. In the case where prices are not set, it is important to negotiate. Small MFIs should consider creating an alliance with other MFIs to increase bargaining and lobbying power.

c) **Consumer protection.** In the Philippines, clients of an MFI using a third-party system started receiving text messages from the MNO promoting competing products. As it turned out, in the fine print of the contract, the MFI had given the MNO the right to commercially exploit the information it had acquired about the MFI's clients. As a result, clients felt harassed by the messages and lost trust in the ability of the MFI to protect the privacy of their information. The MFI learned that it is important to scrutinize the contract to understand what rights the MNO, bank or third party will have over client information and how they can use it, as well as the importance of choosing partners wisely and understanding their long-term strategy.

Many MFIs, however, are non-deposit-taking (whether by choice or due to existing regulations) and have no choice but to partner with a bank if they wish to offer savings products. If this is the case, the partnership should clearly protect the MFI's sole right to its clients' information.

d) **Ensuring confidentiality of data.** Financial services are data-sensitive. As mentioned above, the information you keep on your clients can be valuable for many service companies. It is therefore important, in addition to carefully reviewing the contract, to ensure that there is a sufficient encryption level of the data that is being transmitted over the MNO network and through the systems of third-party operators. Access to the client and transaction information should not be granted to any entity outside of the MFI.

e) **Interoperability.** Interoperability is the ability to offer products or services that are agnostic to the mobile phone network of your users. This is particularly important in countries that have a large number of networks, none of which have a leading share of the market. In this case, partnering exclusively with one MNO would make it difficult to achieve the economies of scale required to make the service sustainable. In countries where one MNO has the lion's share of the market (e.g., Safaricom in Kenya, with an estimated 70% market share), it is not essential to achieve full interoperability – but there are few countries globally with this type of environment.

f) **Real-time reconciliation.** There are implications for operations based on a real-time approach versus offline updates. For example, there have been instances in which clients would use their phone to repay a loan at a meeting and then immediately go to an ATM to withdraw funds, although normally they should have been denied due to an insufficient balance. This was only rendered possible by the fact that reconciliations were only carried out at the end of the day. Therefore, it is important to ensure that the system has the capacity to update transaction data in real-time, and not only at the end of the day.[18]

It is also possible that there are no existing services being deployed, which may encourage the MFI to create its own platform. On the basis of the feedback received from MFIs and experts, there is general consensus that this should only be undertaken by an MFI if there is:

a) An enabling regulatory framework

b) A significantly high level of latent demand

c) Very little prospect of an MNO or mobile money service provider appearing on the market before the MFI has fully rolled out its services

Ultimately, it is the prevailing market environment that will guide the MFI on the best business model.

Best Practices

- *There are a variety of models available to MFIs, with new ones appearing every day. Therefore, it is important to carefully research the players in your environment to identify possible partnership possibilities.*
- *Developing your own mobile money platform is a very complex and resource-intensive option. Creating your own system should be a decision weighed against the probability of having new entrants in the market.*
- *Create partnerships with like-minded institutions whenever possible to increase your ability to influence market trends.*

[18] Note that this differs from the actual settlement of cash, which is often done several times a day or at the end of the day.

3. CHOOSING YOUR IT/MIS

An efficient and adequate MIS, fully integrated with the core banking system, is crucial to the successful implementation of MFS.

Through the study, we observed that some MFIs attempted to integrate their mobile money transactions gradually, beginning with a manual reconciliation. By doing so, MFIs hoped to reduce cost by staggering implementation steps, giving themselves more time to mobilize the necessary funds and resources for a fully integrated system from donors and/or stakeholders.

Unfortunately, the result was a high number of entry errors, slower transactions and reconciliation, and even higher costs associated with having to restart the transition process from traditional to mobile banking. The adverse affect on operations included an increase in PAR (albeit temporary, according to the interviews), a lack of buy-in by loan officers and low service satisfaction by clients. (The section on Change Management highlights lessons, as well as ways to mitigate risk.) Breeches in trust are much harder to overcome and often are the result of downtimes or lack of follow-through in processes. Box 11 highlights the challenges in the tradeoff of manual buildup versus automation.

Best practice dictates that IT/MIS be a strategic tool for MFIs, which are now realizing that IT and the innovation around it, such as MFS, can enable them to better collect, process and analyze data accurately.

Those that had automated systems noted the importance of reports. As part of the process of re-engineering, MFIs need to consider what data they require from reports to extract and analyze data. The reports assist in decision-making and auditing, to name a few areas. In another example from Kenya, several MFIs realized that they needed clients to pay them 48 hours before meetings, so that loan officers could take reports with them to meetings that were accurate (clients had been paying up until the meeting time). Several MFIs used Internet-enabled handsets, allowing loan officers to view reports live and update client records while still in the field or to take pictures of signoffs or clients.

MOBILE MONEY BRIDGING SOLUTION

From this study it is evident that besides deploying a core banking application, MFIs need to integrate their MIS with MFS from front-end to back-end to gain the full potential of mobile money. The study showed that MFIs have chosen to upgrade gradually, beginning by manually entering transaction to core banking systems, then integrating their MIS with MFIs as a phase two.

Deploying a mobile money bridge has the following benefits for the organization:

- Improved efficiency of processing mobile money payments to the core banking system with automated/real-time solutions.
- Improved accuracy of posting mobile money payments due to elimination of manual processes.
- Clear reconciliation points and support report, to ensure that the MFI has clear control over its mobile money account.
- Increased client confidence that comes from notification of when each payment has been credited to their loan account (for solutions that come with SMS notification – for most solutions, this is an optional component).

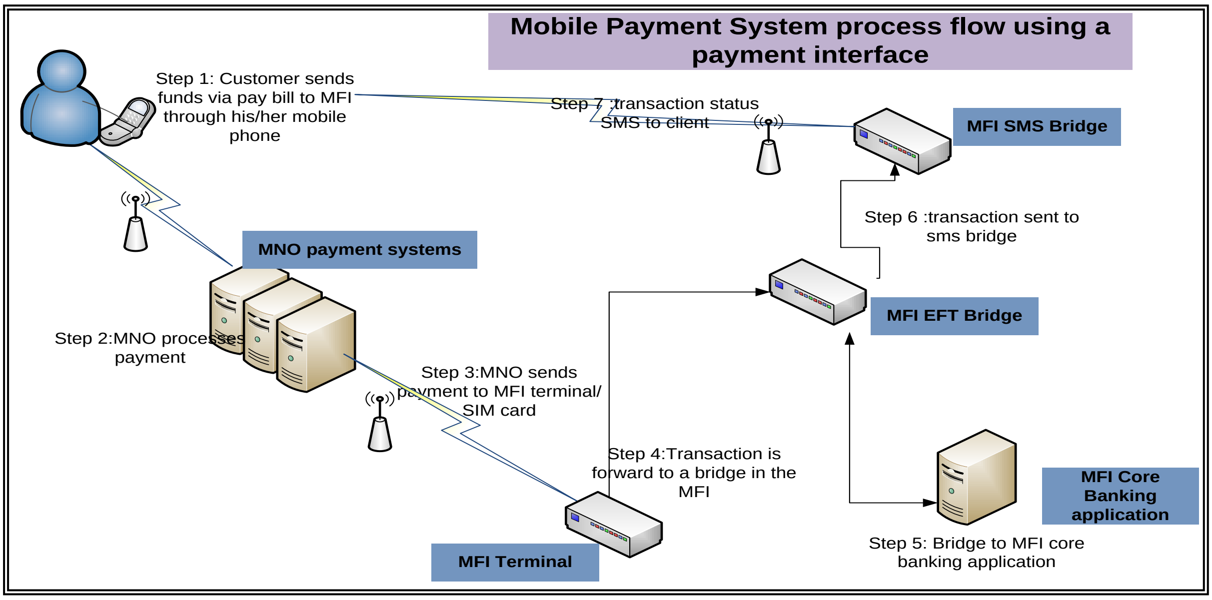
- Client flexibility to send money from any network, and mitigation of the risk of depending on one mobile network operator (when sourcing for a mobile money bridge, MFIs must choose a solution that works with different mobile operators).

The most secure and efficient way to implement a bridge solution is given below, based on a thorough review of how implementation was done by several MFIs. Please note that the example below, Figure 5 and Table 6 are based on interviews with vendors in Kenya. Results may vary from one country to the next, based on regulation and the level of expertise available on the market.

The research showed that successful implementation incorporates one MNO at a time in the project. After going live, MFIs can then rollout a system with other mobile operators – but, again, only one at a time.

From the study, it is difficult to state an appropriate timeframe for implementation, because this varies depending on an MFI's hardware availability and decision-making process, including sign-off executions.

Figure 5 – Mobile Payment System Process Flow



Source: Software Group

Best Practices

- *Ensure the ability to extract information to meet needs; data should be real-time.*
- *To err is human. Therefore, avoid manual reconciliation at all costs.*
- *Manual reconciliation means that the security of your financial system is no longer air-tight, making it more at risk to fraudulent behavior.*
- *It is a fallacy to believe that a partially automated system is sufficient because you are a small MFI.*
- *Choose a vendor that has a proven track record implementing mobile solutions for MFIs.*
- *Incorporate a suspense account to easily resolve errors; develop training tools to resolve the issues.*

4. Product Development

With the exception of Kenya, few countries can report having a significant number of MFIs implementing loan products via mobile, and even fewer offer savings. One of the reasons is that many MFIs do not have a deposit-taking license; hence, their focus is on the disbursement of loans and repayment.

Another reason is that regulation makes it difficult to disburse loans in a cost-efficient manner. Upper limits on the mobile payment system may force the MFI to disburse the loan in several installments, which can increase costs for the client when they wish to cash out.

Taking the above into account, MFIs should try to segment their clients and to understand their specific needs. A simple replication of existing products to mobile platform is not the only solution. MFS provides a channel to deliver innovative products that often had been too costly to implement.

One prime example is the disbursement of small emergency loans. Made available to clients with a good credit history, the loan is of a small amount (usually less than $50) and is to be reimbursed within 48 hours. The cost of traditional microfinance loans would have made it impossible to provide a loan under these conditions. But thanks to mobile phones, such loans can quickly be put in place and provided in an affordable manner, enabling clients to avoid moneylenders.

Best Practices

- *Start small and keep it simple.*
- *Identify a niche that can become your signature product and perfect it before rolling out other services.*
- *Be on the lookout for new user cases that can lead to innovative products.*

5. Change Leadership Plan

A recurring theme in the responses was the importance of securing staff support for MFS. Understanding how their individual roles would change, revising performance expectations and learning the new processes and procedures were all essential elements in guaranteeing the success of MFS implementation. Without the support of the staff, especially loan officers, there is a high probability that adoption by clients will be low. Change in general is often a challenge, but this area was called out consistently as one of the more challenging, more so for staff than by clients. However, this challenge can be overcome by a comprehensive change leadership plan.[19]

1. Set the vision

A key first step is to clearly articulate the institution's vision for MFS and describe how this fits into the overall business strategy and social mission. Communicating this to all

[19] See "Change Leadership: A Microsavings Case Study," Grameen Foundation (2011). http://www.grameenfoundation.org/sites/default/files/GF_Change_Leadership_Case_Study.pdfhttp://www.grameenfoundation.org/sites/default/files/GF_Change_Leadership_Case_Study.pdf

employees is important, because adopting MFS is a significant change in the way that an MFI provides services. Senior leaders should take every opportunity to reinforce these messages on a regular basis.

2. Engage frontline staff

As the institution considers the process changes that will be required, it should consider including frontline employees in the discussions. They can help keep a focus on field-level realities, anticipate challenges and help ensure that changes can be implemented. These employees can also serve as MFS champions with their peers. Make sure that all field-level functions are represented. Engaging employees in this way also makes it far more likely they will support the changes required.

3. Provide comprehensive training on new processes

It's especially important to MFS implementation success that affected employees receive detailed training on the new processes and procedures. Developing job aids, such as checklists and product-feature summaries, will help them explain the MFS to the clients and ensure operational consistency across the institution. Test the draft processes and procedures by piloting them at a few different branches that represent a range of client types and market conditions.

Below are recommended steps to ensure training success, compiled from the various direct interviews.

1. Begin by training the branch managers.

The branch managers should be included in the development of the change-leadership plan in a collaborative manner. This would involve explaining the long-term strategy and the reasons for implementing MFS.[20] Provide them with the results of your feasibility study and identify areas in which they can contribute directly.

Walk them through the expected changes to procedures and clearly point out the areas where you expect them to contribute. Also explain what new "know your customer" (KYC) procedures will be implemented and how that will affect their day-to-day operations. Present several scenarios if available.

Finally, give them a tentative timeline, to enable them to organize their own units.

2. **The branch managers should be given the responsibility of training the staff within their own branches.**

Branch Managers should liaise back to HQ about any feedback or setbacks foreseen. It is important to ensure that they understand the stakes and the expected outcomes. If the branch managers are acting as trainers, there needs to be a system of monitoring and supervision to ensure consistency.

As the frontline representative of your savings and loans operations, the loan officer will be your most valuable herald for promoting your services, so their understanding and support of MFS is crucial.

The study revealed that loan officers tended to have two main concerns regarding mobile money:

a.) **The first is the fear of losing their jobs.** Mobile money means that the client can potentially bypass the loan officer and send money directly through mobile money.

[21] http://www.surveyconsole.com/

This also makes the loan officer's task of managing their portfolio much more difficult, which could affect their PAR. It is important to involve the loan officers in the re-engineering process so that they understand the strategic direction, and can ask questions to alleviate their fears, including questions about changes to roles and responsibilities, job-performance expectations and key performance indicators. Several MFIs said that they created small taskforces staffed by loan officers elected by their peers, which helped the loan officers feel included.

b.) **The second major concern involves the efficiency of the service.** Downtimes and technical troubleshooting could mean that the repayments are not registered, again affecting PAR. Frustration from clients on the quality of the service will mean that they lose trust in the institution, which could negatively affect operations. This is why taking the time to map the processes and to pilot-test the system before rolling it out across the MFI is so critical.

Finally, on a lesser level, some loan officers felt that MFS was just another "fad" by management and not worth investing the time needed to develop it.

Communication, training and support are key to addressing these concerns. If loan officers are left in the dark, they may "sabotage" the rollout, either consciously or unconsciously, by their lack of enthusiasm for the MFS, by lack of knowledge of the process, products and features, or through negative or lack of advertising (i.e., refusing to promote the product to their clients).

3. **Develop and follow a change-leadership plan.**

This does not have to be a very complex or detailed document, but should reassert the objectives, the expected results and setbacks, and the timeline. A person at the senior management level should be designated as the change leader, developing a communications plan, ensuring that the plan is followed, pooling all questions and queries, and helping to resolve any issues that arise.

Once the staff is duly informed and supportive, it is time to start informing clients about the changes.

6. Client training

The online survey showed that, for most MFIs, the most effective way of training clients is through face-to-face training, either individually or during the group meetings.

A live demonstration is a good tool for explaining the new product, but it is not sufficient. The technological side may in fact be the simplest area for the client to understand; they may rely on family, friends or other group members to help with this. It is more important to show the advantages they could gain from MFS.

Some clients will have issues with the concept of e-money, especially if they are used to living in a cash-based society. For countries where virtual airtime top-ups exist instead of scratch cards, adoption is easier, because the concept of a virtual transaction has already been tested. There may be a feeling of distrust regarding the reliability of the service; therefore it is important to walk clients through the possible areas of troubleshooting.

Here are some concerns raised by the clients of the MFIs that we interviewed:

- What happens if there's a network failure?
- I don't have paper receipts anymore. How will I prove that I paid my loan?
- What happens if I lose my phone or it is stolen? Will my money disappear?
- What happens if I lose my PIN code?

- What happens if I send in the wrong amount?
- Why do I have to pay for deposits when it was previously free for a loan officer to collect it?

Clients have as much a right to understand your strategy and reasons for offering MFS as your staff and stakeholders. Make it clear to them that in the beginning there may be some bumps, and that you will rely on their feedback to smooth things out and provide the best kind of service possible.

Fliers explaining the service are also helpful, but should be a support rather than the main methodology for training your clients and bringing them on board. This is especially the case if low literacy is an issue for your clients. The fliers should use simple language that is easily understood by those who can read. It should also include images and visuals depicting the different steps (see Annex VI for examples).

In some instances, the MFIs include a short explanation with the relevant short codes in the client's passbook, which they usually have with them at all times. Additionally, USSD codes could be saved in the handset phonebook for common transactions.

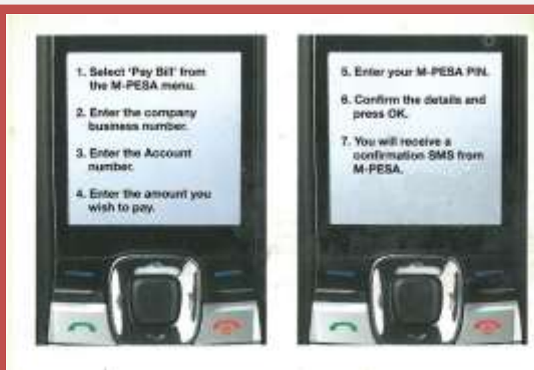
Finally, if the resources are available, set up a hotline that clients can use to request information any time, at least during the first months of implementation. This will not only reassure clients, but will also be a valuable source of information on how well or how badly your service is doing, while helping to identify areas that need to be addressed. Ensuring that clients know how to reach the provider's hotline (if using an MNO system, for example) also will help with general questions, such as how to change a PIN code.

Group attendance issues. One of the challenges experienced by MFIs implementing MFS involves maintaining group cohesion among their lending groups. In some instances, group meetings were affected by absenteeism after the MFS was rolled out, because some clients no longer saw the need to attend meetings once the cash had been sent.

Group meetings should not be conducted solely for cash collection and disbursement. It is important to make sure that there are other reasons to come to the group meeting, especially if the group has been in existence a long time and members start to become tired of the frequency of the meetings.

To address these issues, MFIs have taken several approaches.

- When implemented correctly, MFS gives the loan officer more time, due to faster reconciliation and reduced paperwork. This additional time at meetings can be directed toward activities focusing on capacity building, on training and on addressing client concerns.
- Certain MFIs have implemented self-help groups for small savings programs within the group.
- Some groups have implemented penalties for absent members.
- Money is also sent only to the group treasurer, who is then responsible for sending the group payment to the loan officer. This maintains the traditional hierarchy and positions of responsibility, so there is less disruption to the group's solidarity.



Sample flyer

- Some groups have found that gradually decreasing the frequency of meetings is effective.

Training to mitigate fraud risks. Less scrupulous clients might believe that MFS offers them an opportunity to default on their repayment. They may claim that they have paid when they have not. In other instances, less educated (or poorly trained) clients will send money directly to the loan officer's personal e-wallet (rather than to the MFI's billing account). Use of a shared phone might mean that there is no guarantee that the money sent to the registered account reached the intended user. Payments might be combined from multiple clients or on behalf of other clients, so processes need to be developed regarding clients' phone habits. MFIs must therefore include these issues in their training, and design checks and balances in their processes to mitigate the risk of fraud, whether from clients or their own loan officers.

Best Practices

- *Resistance to change is human. In some instances, converting your own staff to MFS will prove more difficult than converting your clients. This can be overcome by a comprehensive change-leadership plan that includes frequent communication, engaging frontline employees in process redesign and ensuring that all affected staff are thoroughly trained on the new processes and procedures.*
- *Take time to train your clients and involve the group leaders in the training.*
- *If you are doing group lending, ensure that the group meetings serve a higher purpose than simply collecting cash. This will help sustain group cohesion.*
- *Provide a channel for receiving feedback from both your clients and staff, especially during the initial months of implementation.*
- *Provide theoretical and on-the-job training for your staff on new material and how to resolve issues.*
- *A picture is worth a thousand words. Use simple language and visuals to describe your service.*
- *Inform your clients on the possible risks of fraud, and set up mechanisms and design training to minimize the risks.*
- *Design systems to take into account the usage of shared phones.*

7. Conducting a successful pilot

An important element in implementing MFS involves designing a pilot. Through the careful selection of pilot groups, the MFI provides a semi-controlled environment for testing the new products. This in turn will enable the MFI to understand the issues and resolve them before it makes the service available on a large scale.

Some key elements for conducting a successful pilot include the following:

- **Develop a complete system.** A pilot should be seen as an accurate representation of the services that will be rolled out on a large scale. The system developed should therefore be complete, to be able to account for any potential problem areas that may arise when the service is fully rolled out.

- **Carefully select staff to be included in the pilot.** Make sure you have a cross-section of performance levels in your pilot, so you can monitor the challenges that average or even slightly underperforming employees encounter when implementing MFS.

- **Develop a list of key milestones to test hypotheses.** Develop a list of parameters to test around process re-engineering, auditing and job responsibilities, technology to improve efficiencies, client understanding and uptake, training and marketing, and adequacy of training, as measured by qualitative interviews with staff and quantitative assessment of targets achieved.

- **Vary your pilot groups**. The service you provide will be received differently depending on whether it is provided in urban, semi-urban areas or in rural areas. The pilots can be small, but should enable you to test how the product is perceived by your different client profiles. If you do not have the resources to conduct several pilots, the sample chosen should allow you to test a diversity of client profiles.

- **Give it sufficient time**. It will take some time for the feedback to get to your institution and for you to test the changes you have made. Ideally, a pilot should last at least three to six months.

- **Inform your clients.** Make it clear to your clients that you are testing a service, and that you welcome their comments on how it can be improved. This will prepare them for possible setbacks and will make them feel as part of the process. Good practice is to increasingly involve the group leaders throughout the pilot.

By conducting a pilot, it is possible to answer questions about issues that were not identified in the market study. For example:

- Is the application user-friendly? Is it readily understood and mastered by clients?
- Is literacy an issue?
- Is the agent network in an acceptable distance to promote usage?
- What are the potential sources of errors when carrying out a transaction?
- Are sufficient KYC measures put in place?
- How well is liquidity managed by the agent?
- Is the price policy adequate?
- Is the training satisfactory?
- How prevalent is shared phone usage?

Based on the results of the pilot, it is possible to fine-tune the service to ensure that there will be minimal issues across the system once it is fully rolled out.

Best Practices

- *Design the pilot so that it is as accurate a representation of the full-scale rollout as possible.*
- *Plan enough time to implement the pilot, to receive feedback on it and to implement/test any changes.*
- *Inform staff as well as clients of your activities, to prepare them for possible setbacks and opportunities for improvement.*
- *Involve group leaders and keep staff at all levels informed.*

8. Marketing and Communication

MFIs often underestimate the importance of marketing and communication in developing their products and services. However, when it comes to mobile-money marketing and communication (specifically branding and piloting), a new product could make the difference between its success and its failure.

Communication must begin within your own institution. This implies involving *all* staff members in the development process, not only staff in the departments that will be directly affected by the rollout of mobile services. Share proposed client communication pieces with field staff first, to gather their opinions on clarity, simplicity, etc.

It is also important to "communicate up." Your Board of Directors and other stakeholders will appreciate being regularly informed, and have the right to fully understand what is happening and how it will affect operations. Having the full support of your Board and staff will ensure that you will in turn be supported when there are setbacks. Examples of communication materials developed by a selection of MFIs are provided in Annex IV.

Regarding external communication, differentiating your product through a well-targeted advertising and branding campaign can help speed adoption by your clients.

In addition to the usual communication tools (fliers, posters, newspapers, radio and television advertisements), word of mouth is an effective way of promoting your MFS, even more than with other products.

Another is that literacy levels are a challenge, meaning written communication might have a limited effect. Finally, microfinance clients are usually more responsive to communication campaigns that are based on human interaction.

Best Practices

- *Communication must be carried out both internally and externally.*
- *Adapt your communication campaign to your clients by using media they are familiar with and can identify with.*
- *Involve staff and group leaders to promote the services.*

9. Managing your agent network

Based on the interviews we conducted, there is an overall consensus that a well-established agent footprint is pivotal to the success of MFS. In cases where there is no existing agent network, it remains one of the greater pain points for MFIs developing MFS.

Imagine an MFI that has only one branch situated in a remote village and has developed the perfect product for its clients. Without a widespread branch network, the MFI will not be able to reach the wider population and will be limited to its immediate geographic area.

The same applies to mobile financial services. It is not sufficient to create a product and consider only affordability and appropriateness. It is also necessary to make that product conveniently accessible. Without a dense agent network, mobile financial services will not achieve their purpose – i.e., facilitating access of your clients to your institution's products and services.

M-PESA, often commended on the quality of its agent network, increased the number of Safaricom agents from 2,000 to 9,000 in the course of one year in parallel with client growth. It also diversified the type of retailers that could act as agents. Initially, Safaricom only used their air-time sellers, but as M-PESA's popularity grew, post offices, banks, grocery stores and ATMs (Pesa Points) were allowed to become agents.

The starting point is to identify which type of retailers can act as reliable agents. Some countries, such as Thailand, have an existing chain of stores that can readily serve as retail agents. Or, small mom-and-pop shops can serve this purpose, as seen in Latin America.

Selection criteria should include the following elements:

a) **Location.** The agent should be close to your target clients, to make it convenient for them. If there is not an agent nearby, then there is no tangible advantage to using mobile money.

b) **Reputation.** It is preferable to work with agents who have a good reputation within the community you intend to serve and, if there is not a common language for the community, who are multi-lingual.

c) **Traffic.** An agent with high traffic is more likely to have more cash at hand, making e-float management easier.

d) **Commitment.** Just like your loan officers, agents represent your institution. Some agents will also be given the responsibility to register new users. Therefore, the agent must be willing (and able) to promote your products.

e) **An existing business.** Cash is costly to transport and an agent business brings in new clients, so using an existing agent is complementary to the business and helps assure sufficient cash flows.

Managing liquidity. Interviews with various institutions showed that one of the greatest frustrations for a client involves going to an agent to collect a loan and being turned away because the agent does not have enough cash.

It is, therefore, important for the agents to be retailers who are able to manage their e-float (i.e., the ability to convert e-money to cash and vice-versa).

There are two ways in which liquidity can be managed.

a) **By the agent.** The selected agent chooses to buy e-float directly from a bank or financial institution.

b) **By an agent manager.** The agent manager is a third party whose role is to monitor a group of agents and ensure that they have enough liquidity to answer to normal daily needs.

Incentivizing the agent. The MFI has to keep in mind that the agent is another type of client. S/he has to be incentivized to ensure loyalty and ensure that they promote the product to new clients. The main incentive will be the commissions that the agent makes from registering new users and carrying out transactions. Another incentive is increased traffic, which improves business.

This means that the MFI has to think of a price structure that will encourage the retailer. A good reference is the retailer's inventory. In Haiti, retailers accept becoming retailers if the increased business generates at least as much cash as their least-selling object. If the income generated by becoming an agent is less than that generated by their slowest-moving inventory, they will not be motivated to promote the service.

Training. In the same way that it is necessary to train clients and staff, agents should be trained on how to manage e-float and on the range of products that they will be expected to promote. Training should also cover the risk-mitigation procedures involved with opening new accounts.

It is best practice to have a training unit for customer service dedicated to agents.

Quality Control. Agents should be subjected to quality-control and performance targets.

The performance of each agent should be monitored over time. If targets are not reached, then the agents should be eliminated from the program.

Best Practices

- *Agents should be treated as a separate segment of clients. Strategies have to be developed to incentivize agents and ensure their loyalty.*
- *Agents should be kept informed about your products.*
- *Location is strategic for the agent.*
- *Agents should be trained on liquidity management.*
- *Agent performance should be monitored and, if needed, poor performers should be eliminated from the program.*

10. Working with Regulators

Dealing with regulators and regulations are important factors for implementing MFS. Regulators balance between two objectives: needing to protect banks and increasing financial inclusion. In an area that involves new players (often from non-financial entities) offering lower-cost solutions, cooperating with regulators becomes even more important, even if it means “sharing the table.”

In our online survey, 52% of the respondents claimed that they had to work with regulators when implementing their services, while 47% claimed that they did not. However, mobile financial services are still unchartered territories for many regulators (ordinarily the central bank), yet the position taken by the regulator can directly affect the outcome of the success of MFS.

Moreover, regulators play an important role in defining and enforcing KYC (know your customer), AML (anti-money laundering) and CFT (combating the finance of terrorism) guidelines. The knowledge that there are regulations also can help build trust among the users of MFS. Lessons learned from microfinance show that without regulation, it is easy to fall into bad practices and create an environment of mistrust between the service providers, financial institutions and clients.

At the same time, an approach that is too restrictive can hinder the market and make it difficult to provide services and products that are affordable and efficient.

Examples from Kenya, Pakistan and the Philippines have shown that MNOs and financial institutions (especially MFIs) can benefit from maintaining good relations and communicating with regulators. Indeed, MFS is still in its infancy and the rules are still evolving.

It is possible, by working together, to encourage the creation of a regulatory framework that is conducive to the development of MFS that will work well for MFIs while protecting the rights of consumers.

Best Practices

- *Identify partners within the regulatory body.*
- *Be on the lookout for developments in national regulations regarding e-money or changes to current regulations.*
- *Actively participate in debates that concern the mobile money market.*
- *Create alliances with like-minded institutions to increase influence on developing sound policies for mobile banking.*

CONCLUSION & RECOMMENDATIONS

There are numerous signs indicating that mobile financial services play an important role in improving the services rendered by MFIs and in contributing to deeper financial inclusion, including:

- A rapid and steady growth in the number of MNOs providing money-transfer services
- Growth in the number of service companies offering mobile money support platforms
- An increasing number of users, especially among NGOs and governments, for salary payments to field workers or conditional cash transfers
- A variety of social applications, such as health, education and vocational training

All these factors contribute to an environment for developing mobile financial services that can be leveraged by MFIs and enable greater efficiency, cost benefits and speed in delivering microfinance products. Mobile money is here to stay – and grow.

Even if our results found fewer than 50 MFIs that had implemented MFS for more than 12 months, and despite the challenges identified through this study, the benefits of mobile finance for those that have taken the steps to implement it do indeed outweigh the overall risks. This is especially true in the case where those deciding to implement MFS properly assessed the opportunities, costs and challenges associated with it.

As the study has shown, implementing mobile financial services involves a reorganization of an institution's internal processes and procedures. In some cases, there is a need to completely overhaul an organization's IT/MIS structure. Human capital management practices – such as training, performance planning and assessment, and selection – may need to be revised to better support the addition of MFS. And a well-designed communication and branding strategy is required, covering both internal and external stakeholders.

The recommendations given below are based on the findings of the research and are intended to help MFIs in their decision-making process. This is not meant to be an exhaustive set of guidelines, mainly because the market is growing and evolving on a daily basis. New technologies and regulations are coming into play that will need to be considered when implementing MFS.

More important, the environment in which each institution operates is unique to that country. Pointing out the obstacles to be avoided for each country would be a herculean task beyond the scope of this study. Nonetheless, there are identifiable "do's" and "don'ts" applicable to any context.

#1 – Do Not Copy and Paste

As a general rule, business models are not easily transferable, because no two markets are identical.

There is no more compelling case of this than the success of Safaricom's M-PESA in Kenya. Without wanting to take away from the boost that M-PESA's success gave to the development of mobile banking in the last four years, it has also contributed to the misconception that if you build a system, everyone will adopt it.

As neighboring countries such as Uganda, Rwanda and Tanzania learned, adoption rates can be slow and need to be developed for the local context. What rapidly became a phenomenon in Kenya is still a painstakingly slow process in most countries.

√ *The availability of MFS does not automatically create demand for these services.*

√ *Each MFS package of services has to be tailored to the country, and be in line with the market demand and the profiles of the clients targeted in each country.*

#2 – Invest in Research

Before implementing, it is important to have an in-depth understanding of your market. This entails conducting research not only on the demand side, but also on the market environment and the internal situation of your own institution.

Research areas that should not be overlooked include:

- Literary review and benchmarking
- A peer review of your competitors and like-minded institutions
- Client behavior
- Regulatory environment
- Maturity of the MFS ecosystem
- Internal capacities

√ *To avoid having to scale down operations after launch, it is important to conduct an extensive feasibility study, to understand the limitations of the service and products that you plan to offer.*

#3 – Seek Partnerships for Developing MFS

Although it is possible for an MFI to develop mobile money services from scratch, given the state of the MFS market today, it is preferable to seek partnership with an MNO, a bank or third party.

- √ *To avoid mission drift, MFIs must choose their partners with care and seek partners that are willing to help them improve the quality of their services in the short term and increase their outreach in the long term.*

#4 – Establish a Change Leadership Plan

The impact of mobile financial services on internal organization is significant. Therefore, it is important to ensure that the new applications are fully understood not only by your clients, but by your staff as well. New skill-sets may need to be acquired and developed.

- √ *Involve all staff members in the development process, not only those who directly operate the new services.*
- √ *Invest in training and raise awareness among staff and clients.*
- √ *Provide theoretical and on-the-job training for your staff on new material and how to resolve issues.*
- √ *Use simple pictorial fliers/brochures that outline the steps involved in making a mobile transaction.*
- √ *Use language that your customers understand.*

#5 – Develop an Integrated System

An integrated MFS is crucial to the success of your implementation. Manual reconciliation should be avoided at all costs.

- √ *Understand the technological implications of implementing MFS.*
- √ *Link the MFS interface with your core banking system.*
- √ *Train IT staff in customer support, to minimize reaction and turn-around times in case of troubleshooting.*

#6 – Test and Monitor Your Product

It is rare that a new product will work perfectly from the beginning, even when market research has been carried out thoroughly. Pilots are a good way to minimize troubleshooting and setbacks while enabling you to make adjustments.

√ *Start small and focus on specific areas of your business before launching out.*

√ *Carry out the necessary pilots.*

√ *Keep it simple and accessible to your clients.*

√ *Manage your expectations; uptake by staff and clients is likely to be slower than you expect.*

#7 – Communicate, Communicate, Communicate

Both internal and external communication campaigns have to be developed and rolled out for a mobile service rollout to succeed.

√ *Ensure that your branding and marketing strategy is appealing to your clients.*

√ *Differentiate your product marketing from competitors'.*

√ *Communicate to ALL staff, even if they are not directly involved in MFS.*

√ *Use internal communication systems, such as intranets, monthly newsletters, etc.*

√ *Create a channel for receiving staff and client suggestions and feedback throughout the development and rollout phase (especially during the initial months of the rollout).*

#8 – Develop or Leverage an Extensive Agent Footprint

Without a channel and well-designed distribution network, MFS will only have a limited reach.

If developing your own network of agents, put a lot of thought into developing the fee structure and incentive plans. This will ensure loyalty and motivate them to promote your products. If managed well, agents can become valuable promoters of your institution.

If you are relying on an existing agent network (e.g., the MNO's), then performance should be carefully monitored to ensure that your clients are satisfied with the service.

In both cases, agents should be trained on your products and services, to ensure better customer service.

Agents are central to the success of MFS deployment!

- √ *Agents are the bridge between your MFI and your clients, and help make your products accessible.*
- √ *Agents should be treated well and properly incentivized so that they promote your business.*

#9 – Collaborate with regulators

In addition to analyzing the regulatory environment, it is important to build relationships with regulators and provide them with insights about the market. Remember – mobile financial payments are still relatively new for most players, supervisory authorities included.

- √ *Small does not mean powerless. By creating alliances and associations, even small MFIs can become a strong lobbying force for MFS.*

Online Survey Results

Overview

The results presented here are the findings of an online survey conducted from August to December 2011 using the web-based Survey Console tool.[21]

A semi-structured questionnaire (provided in Annex II) was developed by Grameen Foundation and approved by the Institute of Money, Technology & Financial Inclusion (IMTFI) at the University of California, Irvine, and sent to 172 pre-selected MFIs. The selection of the MFIs was based on a desk and literary review that identified institutions with a high probability of having implemented mobile microfinance for more than a year.

The survey was viewed and/or started a total of 115 times, out of which 26 valid questionnaires were retained after screening. The author acknowledges that due to the small size of the sample, the results have to be interpreted with caution and cannot be presented as irrefutable conclusions on mobile money trends. However, when analyzed in conjunction with the information gathered through the literary review and the direct interviews, they do provide more depth and complement the qualitative findings of the study.

[21] http://www.surveyconsole.com/

ANNEX I- BIBLIOGRAPHY & REFERENCES

Alcatel-Lucent Technologies. 2011. "Spotlight: Bringing Financial Services to the Unbanked With Mobile Money Services."

Babcock, Lee. 2011. "Cell Phones Bring Financial Services to the Unbanked."

Bean, Justin, Jake Blackshear, and SeMe Sung. 2011. "Mobile Banking for Equitable International Development Improving Access to Capital Markets for the Unbanked." *A Capital Markets White Paper*

Beigini, Abdoul R., Ali Soleimani, Morteza Ahmadi, and Mahmoud E. Soluklu. 2011. "Examine the Customers' Attitude to Mobile Banking Based on Extended Theory of Planned Behavior (A Case Study in EN Bank)." *International Bulletin of Business Administration* 10

CGAP Technology Program 2010. "Branchless Banking Diagnostic Template."

Calapati, Jimmy C. 2011. "More Filipinos Turning to Mobile Banking." *Malaya Business Insight*

Caruso, Carol. 2011. "Mobile Banking for MFIs Why It Pays to Take Your Time."

Chaia, Alberto, Aparna Dalal, Tony Goland, Maria J. Gonzalez, Jonathan Morduch, and Robert Schiff. 2009. "Half the World Is Unbanked." *Financial Access Initiative Framing*

Collins, Daryl, Jonathan Murdoch, Stuart Rutherford, and Orlanda Ruthhven. 2009. "Portfolios of the Poor How the World's Poor Live on $2 a Day."

Davidson, Neil, and Paul Leishman. 2011. "Building, Incentivising and Managing a Network of Mobile Money Agents A Handbook for Mobile Network Operators." *GSMA MMU*

Dolan, Jonathan. 2009. "Mobile Money Summit 2009 Accelerating the Development of Mobile Money Ecosystems."

Duncombe, Richard. 2009. "Assessing the Potential for Mobile Payments in Africa Approaches and Evidence from Uganda." *Development Informatics Working Paper Series* .

Economist Intelligence Unit and Inter-American Development Bank. 2011. "Global Microscope on the Microfinance Business Environment 2011."

Guaus, Jordi, Liisa Kannianinen, Pasi Koistinen, Pekka Laaksonen, Kevin Murphy, Amro J. Remes, Valimo Oy, Norrie Taylor, and Olli Welin. 2008. "Best Practice for Mobile Financial Services Enrolment Business Model Analysis."

Hishigsuren, Gaamaa. 2006. "Information and Communication Technology and Microfinance Options for Mongolia." *ADB Institute Discussion Paper* 42

Hughes, Nick, and Susie Lonie. 2007. "M-PESA Mobile Money for the ‘Unbanked’ Turning Cellphones into 24-Hour Tellers in Kenya."

International Telecommunications Union. 2010. "The World in 2010: Monitoring the WSIS targets – Mid Term Review."

Ivatury, Gautam, and Ignacio Mas. 2008. "The Early Experience with Branchless Banking." *CGAP Focus Note N° 46*

Iyengar, Kishen P., Najam A. Quadri, and Vikas K. Singh. 2011. "Information Technology and Microfinance Institutions Challenges and Lessons Learned." *Journal of Electronic Commerce in Organisations* 8

Jack, William, and Tavneet Suri. 2010. "The Economics of M-PESA."

Jimenez, Eduardo C., and Pia B. Roman. 2009. "Case Study on Philippines - Electronic Banking Delivering Microfinance Services to the Poor in the Philippines."

Kendall, Jake, Phillip Machoka, Clara Veniard, and Bill Maurer. 2011. "An Emerging Platform From Money Transfer System to Mobile Money Ecosystem." *Legal Studies Research Paper Series*

Klein, Michael, and Colin Mayer. 2011. "Mobile Banking and Financial Inclusion , The Regulatory Lessons." *Policy Research Working Paper N°5664*

Kumar, Kabir, Claudia McKay, and Sarah Rotman. 2010. "Microfinance and Mobile Banking The Story So Far." *CGAP Focus Note* 62

Leishman, Paul. 2009. "Serving the Unbanked … By Serving the Bank Lessons from Safaricom, SMART, Globe and Zain."

Maes, Jan P. 2012. "State of the Microcredit Summit Campaign Report 2012."

Maimbo, Samuel, Nicholas Strychacz, and Tania Saranga. 2010. "Facilitating Cross-Border Mobile Banking in Southern Africa." *Trade Policy Notes Africa*

Mas, Ignacio, and Colin Mayer. 2011. "Savings as Forward Payments Innovations on Mobile Money Platforms."

Mas, Ignacio, and Dan Radcliffe. 2010. "Mobile Payments Go Viral M-PESA in Kenya."

Mas, Ignacio, and Jim Rosenberg. 2009. "The Role of Mobile Operators in Expanding Access to Finance." *CGAP Brief*

Mas, Ignacio, and Kabir Kumar. 2008. "Banking on Mobiles Why, How, for Whom?" *CGAP Focus Note* 48

McKay, Claudia, and Mark Pickens. 2010. "Branchless Banking 2010 Who’s Served? At What Price? What’s Next?" *CGAP Focus Note* 66

Morawczynski, Olga, and Mark Pickens. 2009. "Poor People Using Mobile Financial Services Observations on Customer Usage and Impact from M-PESA."

Mus, Britni, Kathleen Ludewig, and John Erickson. 2010. "Mobile Money Cell Phone Banking in Developing Countries." *Policy Matters Journal*

Mylenko, Nataliya, Et. Al. 2010. *CGAP Microfinance Gateway*.

Nataliya, Jake K., and Mylenko A. Ponce. 2010. *Measuring Financial Access around the World*. Working paper no. 5253. Policy Research Working Paper.

Oosthuyen, J.J. 2011."Enhancing Micro Finance for Africa's Development." 2011. Thematic Session #7, *Forum on Financing for Development Mobilizing Resources for Economic Transformation in Africa*

Pickens, Mark. 2009. "Mobile Money 101." *CGAP*

Platt, Ann-Byrd. 2011. "The Business Case for Branchless Banking - What's Missing?" *MicroSave Briefing Note #* 97

Porteous, David. 2006. "The Enabling Environment for Mobile Banking in Africa."

Porteous, David. 2010. "Enabling Mobile Money Interventions – Primer, Diagnostic Checklist, and Model Scopes of Work." *FS Series #9*

Porteous, David. 2010. "Innovations in Financial Services Delivery – Branchless Banking Primer, Diagnostic Checklist, and Model Scopes of Work." *FS Series #11*

Rao, Mandanmohan. 2011. "Mobile Africa Report 2011 Regional Hubs of Excellence and Innovation."

Rosenberg, Jim. 2009 "Mobile Banking, Cambodia and the Financial Crisis." *CGAP*

Rung, Greg, and Arnaud Ventura. 2011. "Beyond Payments Next Generation Mobile Banking for the Masses - Microfinance and Mobile Banking, Strategic and Operational Learnings from Pilots in Emerging Markets."

Sadana, Mukesh, George Mugweru, Joyce Murithi, David Cracknell, and Graham A.N. Wright. 2011. "Riding the M-PESA Rails Advantages & Disadvantages." *MicroSave Briefing Note # 94*

Salmon, Kurt, and PHB Development. 2011. "Development of Mobile Payments Issues and Prospects for the Future."

Telenor Group, and The Boston Consulting Group. 2011. "Shaping Our Financial Future Socio-Economic Impact of Mobile Financial Services."

Tellez, Camilo, M. Y. McCarty, and GSMA MMU. 2011. "Mobile Money in Latin America A Case Study of Tigo Paraguay."

USAID. 2012. *Financial Access for Investing in the Development of Afghanistan (FAIDA)*. Fact Sheet.

Wireless Intelligence. 2010. "Snapshot Mobile Money Helps Safaricom Strengthen Lead in Kenya."

World Economic Forum. 2011. "The Mobile Financial Services Development Report 2011."

ANNEX II – LIST OF INTERVIEWEES

MICROFINANCE INSTITUTIONS		
Name and Position of Interviewee	**Name of Institution**	**Country**
Mr. Sopheap LOEUNG, SVP & Head of Product Development	ACLEDA Bank	Cambodia
Mr. Tay MEANG, VP & Deputy Head of Information Technology Division	ACLEDA Bank	Cambodia
Ms. Chanta YORN, Asst. Senior Vice President, Human Resources Division	ACLEDA Bank	Cambodia
Ms. Mariane MENG, VP & Deputy Head of Finance Division	ACLEDA Bank	Cambodia
Mr. Bunthoun DORK, VP & Manager	ACLEDA Bank	Cambodia
Mr. Thay LY, SVP & Head of Operations Division	ACLEDA Bank	Cambodia
Mrs. Sophea SOK, SVP & Head of Marketing Division	ACLEDA Bank	Cambodia
Ms. Sophy PUM, Deputy Head of Research	AMK CO.,LTD	Cambodia
Mr. Roattana CHEA, Mobile Banking Manager	AMK CO., LTD	Cambodia
Mr. Gabriel KIVUTI, Chairman, SMEP BOD	SMEP Deposit Taking Microfinance, LTD.	Kenya

Mrs. Fiora WEKESSA, Senior Branch Manager, Nairobi Central Branch	SMEP Deposit Taking Microfinance, LTD.	Kenya
Mr. Joseph Sukure SUKUMERR, Head of ICT	SMEP Deposit Taking Microfinance, LTD.	Kenya
Mr. Symon Kamore MWANGI, Head of Finance	SMEP Deposit Taking Microfinance, LTD.	Kenya
Mr. Anthony M. MWAMBURI, Marketing Manager	SMEP Deposit Taking Microfinance, LTD.	Kenya
Ms. Hellen KAHENYA, Corporate Communications and Marketing Manager	KADET, LTD	Kenya
Ms. Alice MUMBI, Branch Manager, Gikomba	Musoni	Kenya
Mr. Peter MUGENDI, Chief Executive Officer	Kadet	Kenya
Ms Anne KIMARI, Head of Finance	Faulu	Kenya
Mr. Richard NGUMEH, Asst. ICT Manager – Alternative Business Channels	Faulu	Kenya
Mr. Joram GACHOKA, Group Finance Manager	MicroAfrica	Kenya
Ms. Edith NYAGA, Group MIS Officer	MicroAfrica	Kenya
Ms. Mary KITHOKA, Group HR Manager	MicroAfrica	Kenya
Mr. Charles NJOROGE, Director of Operations	MicroAfrica	Kenya
Mr. James MUGAMBI, Executive Director	MicroAfrica	Kenya

Mr. Joseph KEVERENGE, Finance & Administration Director	MicroAfrica	Kenya
Mr. George MAINA, Chief Executive Officer	Musoni	Kenya
Mr. James ASIBA, Head of Commercial Services	Faulu	Kenya
Mr. Norbert BENKER, Acting Chief Operations Officer Musoni Kenya	MUSONI	Kenya/The Netherlands
Mr. Nick MEAKIN, Operations Consultant	Opportunity International	Kenya
Mr. Somesh SAWHNEY, Business Analyst	Sahayata Microfinance Pvt. Ltd.	India
Mr. Mansur MEHDI, Director	MISFA	Afghanistan
Mr. Souleymane SARR, Head of Research & Development	ACEP	Senegal
Mr. Cyrus KOMU, Operations & Finance Manager	Keef	Kenya
Ms. Nelly PAUNE, Programs Manager	Bee	South Africa
Ms. Anna MATETE, Credit Manager	Tujijenge	Tanzania
Mr. Victor RWECHUNGURA, Operations Manger	Tujijenge	Tanzania
Mr. Sothy CHREA, IT Manager	World Vision Fund	Cambodia
Mr. Santosh DANIEL, Country Project Manager	Grameen Foundation	India
Mr. Raymond SERIOS, Special Projects Manager	NWTF	Philippines
EXPERTS		

Mr. Amaar IKHLAS, Technology Specialist	AGORA Microfinance Partners	Cambodia
Ms. Loretta MICHAELS	Independent Consultant, Mobile Money	USA
Mr. Anderson RINGU	Independent Software Engineer	Kenya
Mr. Daryl SKOOG, Senior Vice President, Technology	Opportunity International	USA
Mr. Daniel NAVARRO	Independent Consultant, Mobile Money	Colombia
Ms. Carol CARUSO, Director Advisory Services	Triple Jump Advisory Services	France
Mr. Thierno SECK, Director Mobile Financial Services	PlanetFinance	Senegal
Ms. Gera VOORRIPS, Partner and Consultant, Microfinance, Remittances & Mobile Payments	PHB Development International	The Netherlands
Ms. Marcela SABINO, Consultant Product Development	Digicel	Haiti
Mr. Joey MENDOZA, Mobile Money & Branchless Banking Result IV Leader	USAID FAIDA	Afghanistan
MOBILE NETWORK OPERATORS & SERVICE PROVIDERS		
Mr. Zahir KHOJA, Executive Director Mobile Money	MPaisa, Roshan	Afghanistan
Ms. Lee-Anne PITCAITHLY, Acting CEO at WING Cambodia	Wing Money	Cambodia

Mr. Nicholas CORLIN, Strategic Partner Manager at WING	Wing Money	Cambodia
Mr. Chris LEMM, Technical Consultant	Wizzit	South Africa
Geraldine O'Keefe, Chief Operating Officer	Software Group	Kenya

ANNEX III- EXAMPLES OF MARKETING MATERIALS

FREQUENTLY ASKED QUESTIONS

WHO CAN USE THIS SERVICE?

This service is available to M-PESA registered customers through the PAY BILL functionality on the M-PESA menu. You can register for M-PESA at authorized M-PESA agent outlet countrywide for FREE.

- **I am registered for M-PESA but I do not have the pay bill functionality on my M-PESA menu.**
  If you are registered for M-PESA but do not have the 'pay bill' option on your menu, select 'my account' in your M-PESA menu, select 'update menu' and enter your M-PESA PIN. A new menu will be sent to your phone at no cost.

- **What is the KADET business number for M-PESA?**
  The KADET business number is 200555

- **What would happen if I send my money to the old business numbers?**
  The old Business numbers for each branch will still be operational and will be phased out in 3 months.

- **How should I key in my account number while paying for my LOAN OR SAVINGS bill via M-PESA?**
  Enter national ID Number with L for loan repayment or S for savings before the ID number e.g. **L54678765** for loan or **S54678765** for saving

- **Will I be able to make repayments for other products/services?**
  Yes. Type Letter R for Registration, Letter B for Passbook, Letter P for Penalty, Letter Q for Quick access fee, before your National Id Number e.g. Q54678765

- **What should I do if I make an error when entering my account number?**
  You will receive an SMS in your phone alerting you that your payment was not successful. Kindly contact your credit officer immediately for the correction to be made. (Contact your KADET Branch Office or the KADET M-PESA Helpdesk on 0722-200402 or 0723-786990 contact)

- **Will my SAVINGS and LOANS account be updated once I make my payment via M-PESA?**
  Yes, you will also receive your loan balance and savings balance statement immediately in your phone from KADET

- **Can a Member of my Group send money on my behalf?**
  Yes, so long as you give them your National ID number

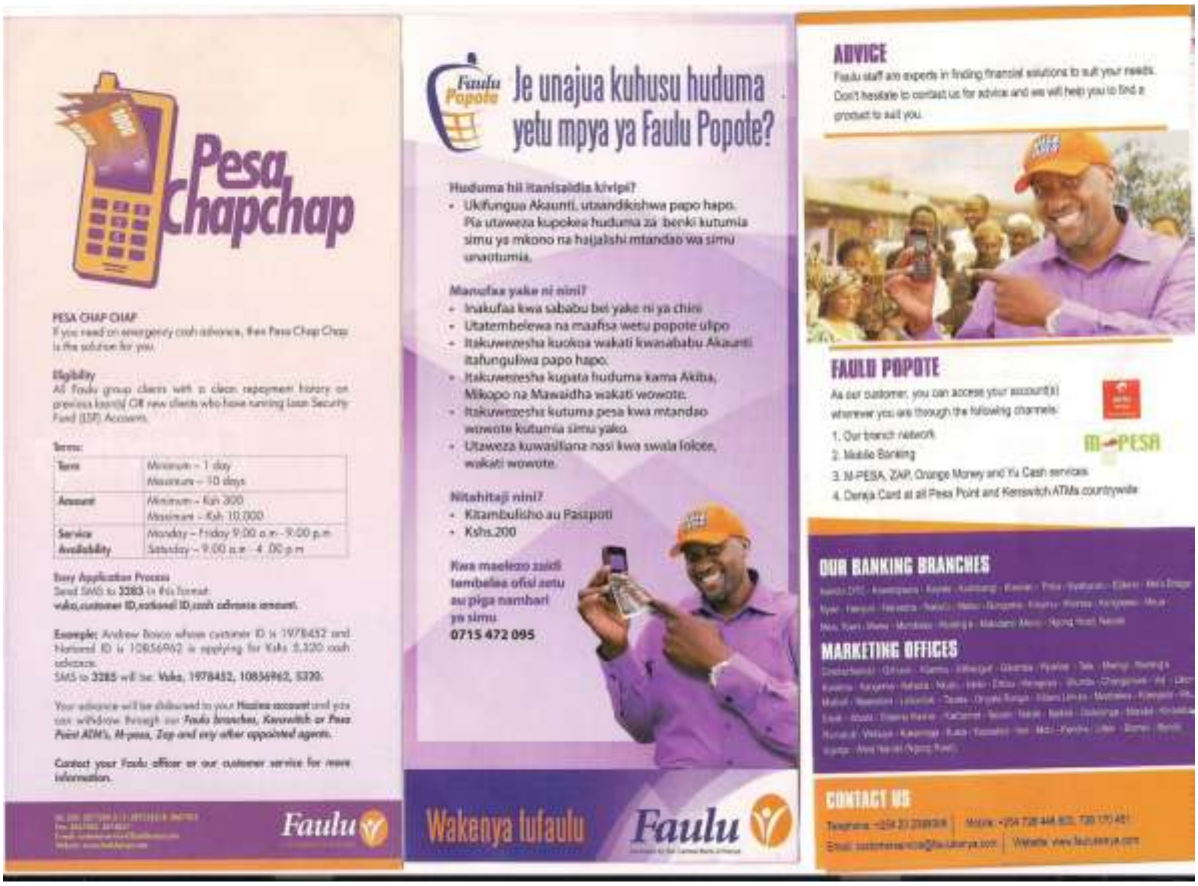
- **How much will it cost me to Send Money to KADET?**
  KADET has greatly subsidized the normal cost of Sending money via MPESA. The table below shows how much the transaction will cost based on the amount being sent. When sending your repayment remember to include Ksh. 2 to enable you receive your statement on your mobile phone.

Charge Band	Min	Max	Customer	SMS Cost
MFI Tariff 1	50.00	99.00	10.00	2
	100.00	999.00	20.00	2
	1,000.00	2,499.00	20.00	2
	2,500.00	4,999.00	20.00	2
	5,000.00	9,999.00	20.00	2
	10,000.00	19,999.00	20.00	2
	20,000.00	34,999.00	20.00	2
	35,000.00	49,999.00	50.00	2
	50,000.00	70,000.00	60.00	2

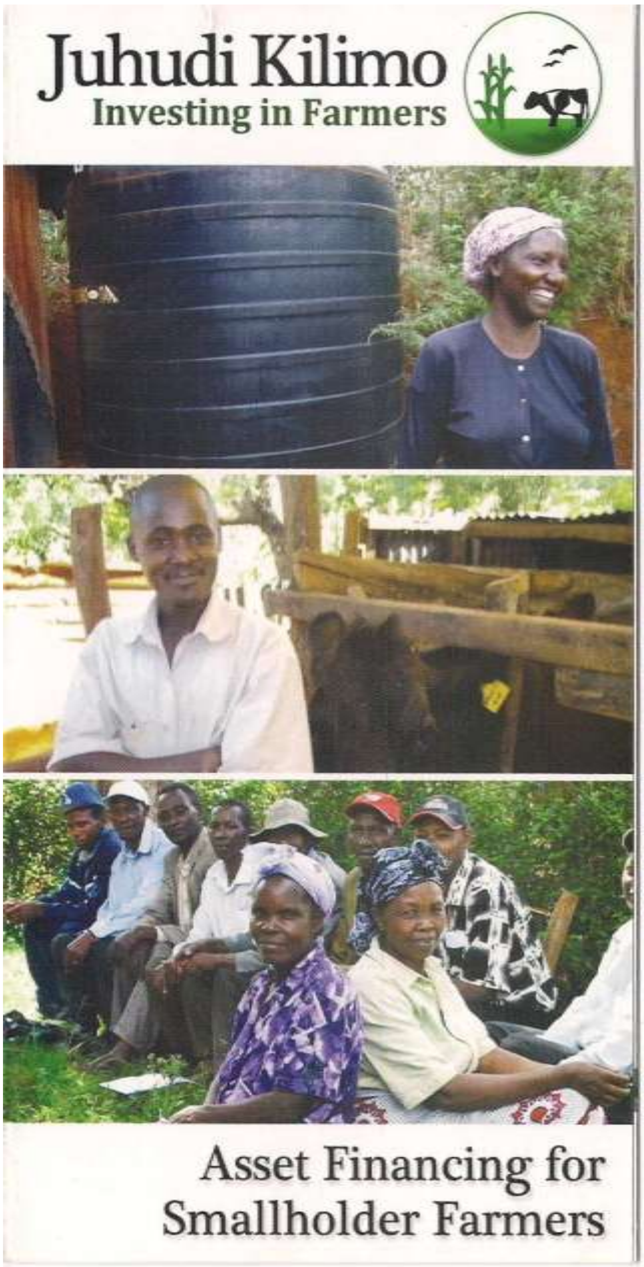
KADET LTD.

M-PESA

INTRODUCING
MIMINA
Credit
This is an easy way to recharge your mobile and modem ANYWHERE
from as low as 200Tshs
ZANTEL
Keep talking
Visit any Zantel dealer or shop near you for more information
part of etisalat
*TERMS & CONDITIONS APPLY
AIRTIME VENDORS SIGN UP FOR MIMINA
Super Dealer: Visit our Zantel Dealer Support or Zantel Customer Care.
Subdealer: Visit our Zantel Dealer Support, Zantel Super Dealer Shop or Zantel Shop.
Retailer: Visit Zantel Shop, Zantel Dealer or Zantel Freelancer
For Internet Top Up:
login at mimina.zantel.com
For Mobile Phone Top Up
Dial *1515# for registered vendors only


Pesa Chapchap
PESA CHAP CHAP
If you need an emergency cash advance, then Pesa Chap Chap is the solution for you.
Eligibility
All Faulu group clients with a clean repayment history on previous loan(s) OR new clients who have running Loan Security Fund (LSF) Accounts.
Terms:
Term | Minimum – 1 day | Maximum – 10 days
Amount | Minimum – Ksh 300 | Maximum – Ksh 10,000
Service Availability | Monday – Friday 9.00 a.m - 9.00 p.m | Saturday – 9.00 a.m - 4.00 p.m
Easy Application Process
Send SMS to 3283 in this format:
vuka,customer ID,national ID,cash advance amount.
Example: Andrew Bosco whose customer ID is 1978452 and National ID is 10836962 is applying for Kshs 5,320 cash advance.
SMS to 3283 will be: Vuka, 1978452, 10836962, 5320.
Your advance will be disbursed to your Hazina account and you can withdraw through our Faulu branches, Kenswitch or Pesa Point ATM's, M-pesa, Zap and any other appointed agents.
Contact your Faulu officer or our customer service for more information.
Faulu
Faulu Popote
Je unajua kuhusu huduma yetu mpya ya Faulu Popote?
Huduma hii itanisaidia kivipi?
Ukifungua Akaunti, utaandikishwa papo hapo. Pia utaweza kupokea huduma za benki kutumia simu ya mkono na haijalishi mtandao wa simu unaotumia.
Manufaa yake ni nini?
Inakufaa kwa sababu bei yake ni ya chini
Utatembelewa na maafisa wetu popote ulipo
Itakuwezesha kuokoa wakati kwasababu Akaunti itafunguliwa papo hapo.
Itakuwezesha kupata huduma kama Akiba, Mikopo na Mawaidha wakati wowote.
Itakuwezesha kutuma pesa kwa mtandao wowote kutumia simu yako.
Utaweza kuwasiliana nasi kwa swala lolote, wakati wowote.
Nitahitaji nini?
Kitambulisho au Paspoti
Kshs.200
Kwa maelezo zaidi tembelea ofisi zetu au piga nambari ya simu
0715 472 095
Wakenya tufaulu
Faulu
ADVICE
Faulu staff are experts in finding financial solutions to suit your needs. Don't hesitate to contact us for advice and we will help you to find a product to suit you.
FAULU POPOTE
As our customer, you can access your account(s) wherever you are through the following channels:
1. Our branch network
2. Mobile Banking
3. M-PESA, ZAP, Orange Money and Yu Cash services
4. Debit Card at all Pesa Point and Kenswitch ATMs countrywide
M-PESA
OUR BANKING BRANCHES
MARKETING OFFICES
CONTACT US

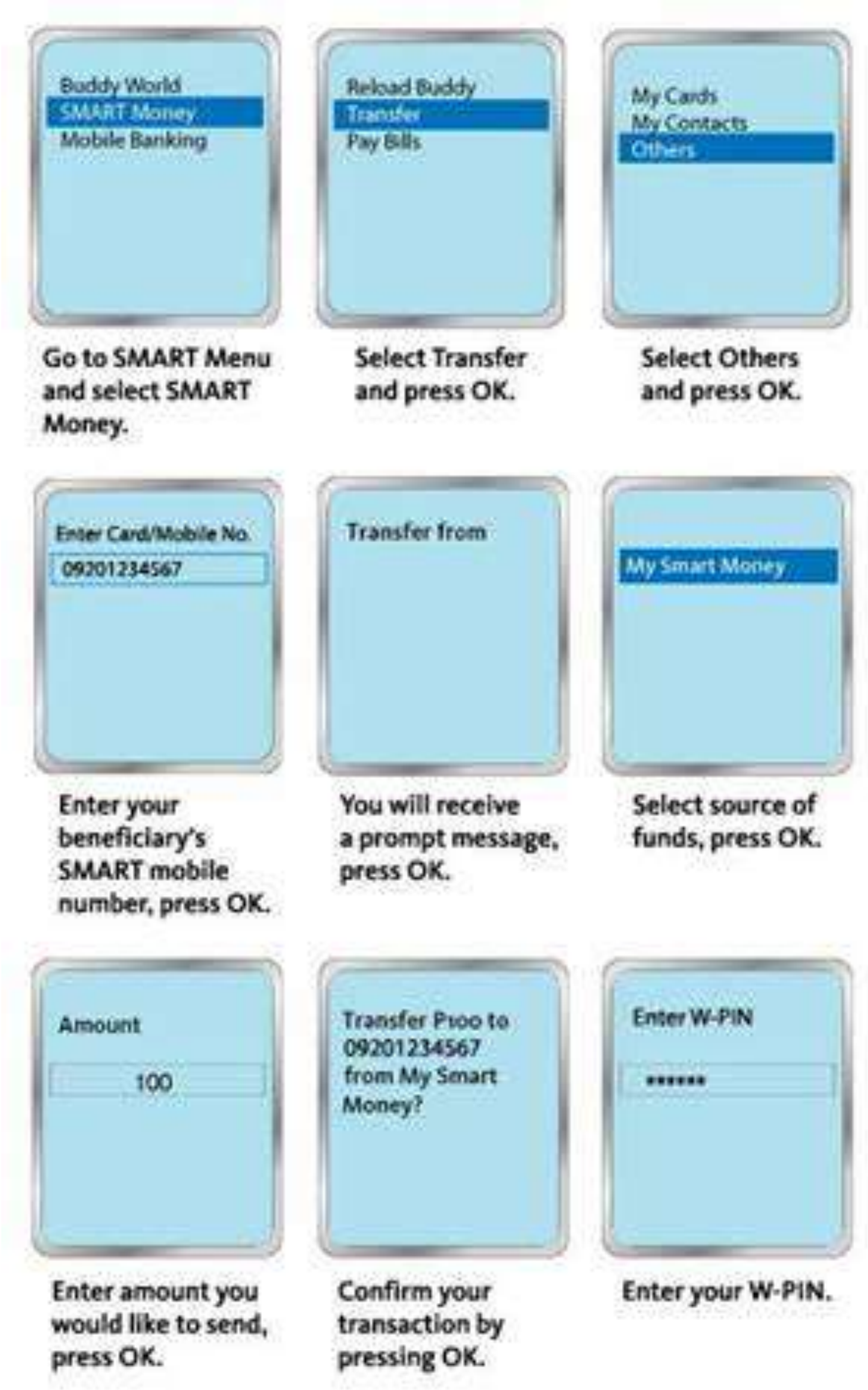

Cellcard
Beeline
metfone
hello
$5
hello
qb
Smart
metfone
Beeline
$5
023 999 989
Wing


Juhudi Kilimo
Investing in Farmers
Asset Financing for
Smallholder Farmers


M-PESA
Juhudi Kilimo
Select "Pay Bill"
Chagua "Lipa huduma"
Business no.
Nambari ya biashara
513900
When asked to "Enter Account no." type in the National ID number for the customer whose loan or deposit you wish to make the payment for
Ukiulizwa "Weka nambari ya akaunti" Weka nambari ya kitambulisho ya mteja anayelipa mkopo ama anayeweka akiba.

ANNEX IV - SAMPLE PHONE MENUS

Smart Money (Philippines)



Express Online continued...

STEP 3 - Fill out the enrollment form

STEP 4 - Activate your enrollment request through any BPI ATM

From the ATM main screen, select "Special Services"

From Special Services, select "Activate Enrollments"

From Activate Enrollments, select "Express Online"

STEP 5 - After 24 hours from activating your enrollment, you can already access your account in BPI Express Online.

Use the telephone to do your banking transactions through

BPI EXPRESS Phone 24/7 BANKING

How to Enroll

Activate your BPI Express Phone Enrollment Now!

To enjoy the convenience of banking through BPI Express Phone, activate your account within 60 days from receipt of your ATM card!

I. Activation Procedure within 60 days

For newly opened accounts or newly changed account numbers, within 60 days from card receipt:

1. Call 89-100
2. Dial 1 for Express Teller
3. Key-in 11 digit access number

• Your 11-digit access number can be found on the face of your ATM card

Last 10 digits of your card number plus the first digit located on the bottom right of your ATM card right across your name

Express Phone continued...

4. Key-in the default Telephone ID Number (TIN)
   - *The temporary PIN reflected on the card carrier/welcome letter shall also serve as your default Telephone ID Number (TIN)*
5. Nominate your preferred 4- digit Telephone ID Number (TIN)

You can start using BPI Express Phone as soon as you nominate your new 4-digit Telephone ID Number.

II. Activation Procedure Beyond 60 days

For those unable to activate their enrollment within 60 days after the card was issued, you can still nominate your own Telephone ID Number (TIN):

- Call 89-100
- Dial 0 for Other Products and Services
- Dial 6 for Telephone ID Number (TIN) Nomination
- Key-in your 11-digit access number
- Nominate your preferred 4-digit Telephone ID Number (TIN)
- Activate your nominated Telephone ID Number (TIN) through any BPI ATM

From the ATM:
Choose Special Services -->Activate Enrollment -->EPhone TIN

You can start using BPI Express Phone after two banking days from ATM activation.

Use your Mobile Phone to do your banking transactions through

BPI EXPRESS Mobile 24/7 BANKING

SMART - How to Enroll

1. Text ENROLL <account #> <JAI>. Send to 3274. You will receive an automated response through SMS.

2. Activate your enrollment through any BPI ATM.
   - From the ATM main screen, select "Special Services".
   - From Special Services, select "Activate Enrollments".
   - From Activate Enrollments, select "ECONNECT - SMS ENROLLMENT".
3. Your initial MPIN will sent to your mobile phone after 1 banking day.

SMART - Change Initial MPIN

1. After changing your MPIN, you can now activate your SMART Mobile Banking Menu

M-PESA transactions made easier for you

For trouble-free M-PESA transactions, we encourage customers to remember the following information at all time

Your M-PESA PIN

This is used to protect the value in your M-PESA account. You will need your PIN for all M-PESA transactions, therefore it is important that you choose a PIN which is easy for you to remember but difficult for others to guess. You can change your M-PESA PIN for Kshs 20, at any time by choosing "Change PIN" under "My Account" on your M-PESA menu.

Please do not share your PIN with anyone, not even Safaricom staff or M-PESA Agents.

Your Identification Card

You will be asked to present your original identification document when registering or transacting with M-PESA. Accepted forms of identification include: Kenyan National ID, passport, Military ID, Diplomatic ID or Alien ID. Photocopies and expired identification documents will not be enough to enable you to register or transact with M-PESA.

Double check the phone number you are sending money to

As part of the transaction, you will be asked to confirm the transaction details. Ensure that the mobile phone number you have entered is correct. We recommend that you write it down for reference purposes.

Your M-PESA Secret Word

You will need your secret word, which was sent to you by M-PESA upon registration, to identify yourself when calling customer care or when you visit a Safaricom Retail Center. You can change your secret word, for free, at any time, to a word that is easier to remember by choosing 'Secret Word' under 'My Account' on your M-PESA menu.

M-PESA Customer Service: call line **234** FREE from your Safaricom line

Safaricom

How to Pay Your Bill via M-PESA

1. Select 'Pay Bill' from the M-PESA menu.
2. Enter the company business number.
3. Enter the Account number.
4. Enter the amount you wish to pay.
5. Enter your M-PESA PIN.
6. Confirm the details and press OK.
7. You will receive a confirmation SMS from M-PESA.

- Pay Bill service is available to M-PESA registered customers. If you are already registered for M-PESA but do not have the 'Pay Bill' option on your M-PESA menu, select 'My Account' in your M-PESA menu, select 'Update Menu' and the new menu will be sent to your phone at no cost.
- Confirm if the company you intend to pay accepts payments via M-PESA before transacting. They will give you their 'business number' and advice on the appropriate 'account number' that you will enter into your M-PESA menu while making the payment.
- Existing M-PESA limits apply when paying bills including maximum transaction amount per day of KShs. 70,000 and the maximum amount transferable per transaction of KShs. 35,000.
- Transaction fees of between KShs. 0 - 30 applicable per transaction depending on the organization you are paying to. For details on the exact amount chargeable, contact the organization you wish to pay a bill to.

Safaricom Customer Care: Call 234 for FREE from your Safaricom line.

M-PESA

Safaricom