

Mobile Financial Services: the microfinance perspective

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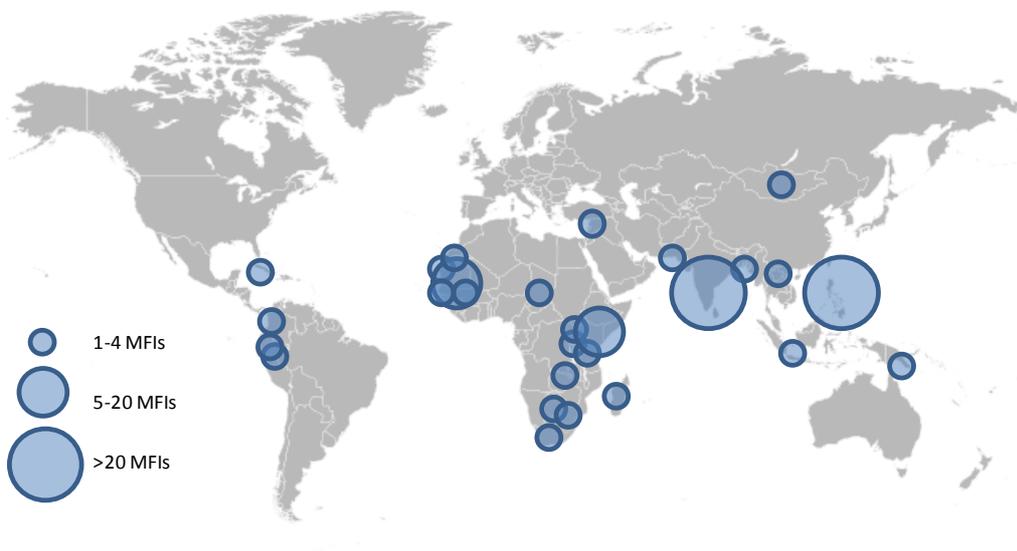
1. Introduction

This PHB Briefing Note is based on projects that PHB Development performed for microfinance clients over the last years and on examples and case studies from other sources¹. It is first in a series that will elaborate on the various components required for a Microfinance Institution (MFI) to successfully introduce Mobile Financial Services (MFS), sometimes also called mobile banking. Also, it may serve for social investors or donors who want to effectively support the development of such services.

We found that currently a limited number of MFIs are actively using the Mobile channel, namely around 154 institutions worldwide (of which 73 rural banks in the Philippines that are 'agent' for GCash). The MFIs use the mobile network for easier repayments of loans and deposit making. In other cases the MFI is acting as 'agent' for cash-in and cash-out services. MFIs using mobile phones or the mobile network to make their internal operations more efficient are mostly found in India and Africa. Finally, a few MFIs, mostly large institutions with bank licenses, have built their own M-banking systems.

This Briefing Note describes 4 models of how MFIs are involved in Mobile Financial Services. Moreover, benefits and costs for the MFI as well as what is required from the MFI are listed. The Note concludes with some suggestions for support by funders and donors.

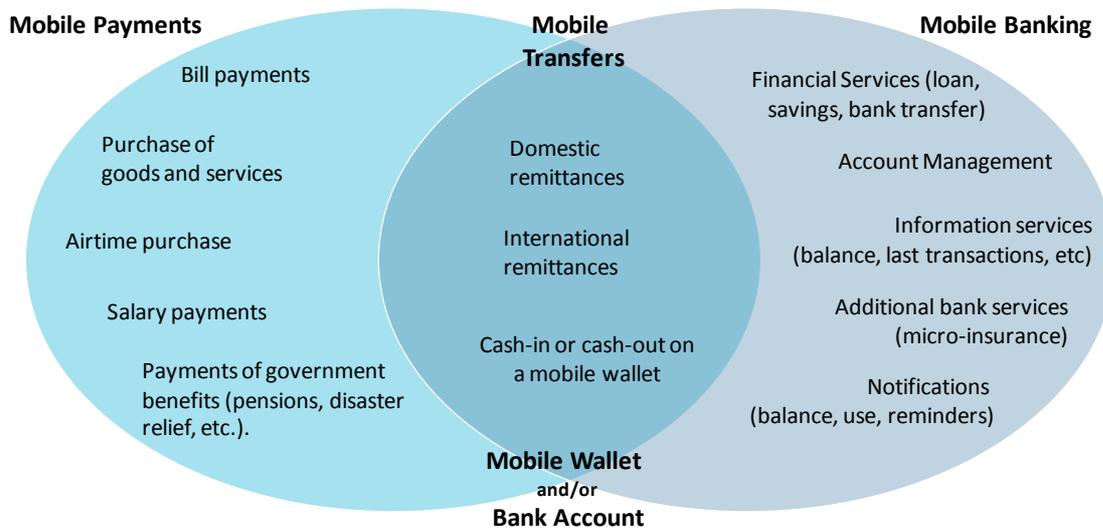
Microfinance Institutions and MF-Banks using the mobile network



2. Some basics of Mobile Financial Services (MFS)

A distinction between M-banking, M-wallet and M-payments is key to better understand Mobile Financial Services, as illustrated by the graph on the next page.

¹ CGAP database; Planetfinance.org/projects.php; <http://www.tec-in.org/>; inputs from individual experts



Mobile payments cover payments which are either initiated or completed using mobile phones. **Mobile transfers** are typically person-to person money transfers and cash-in or cash-out transactions made using a phone. Mobile transfers and mobile payments can be done from an M-wallet or a bank account. Finally, **mobile banking** is the use of the mobile phone to access a bank account to perform typical operations as account management and to transfer payments to other accounts. All together we talk about **Mobile Financial Services** or MFS.

The development of Mobile Financial Services is complex because it always involves a range of other parties besides the so called **Mobile Network Operator** (MNO or Telco). It includes a **Network of Agents** where users can be registered, money can be deposited or taken out (cash-in and cash-out) and a **Bank** for safekeeping the money deposited in the M-wallets and in some cases for providing a bank account to end-users. Also, an **IT Solution Provider** is needed to administer the M-wallets platform. The **Regulator** plays a major role in the regulation for the e-money issuance and for the use of non-banking agents and AML/KYC rules²; financial services typically have more strict client identification-rules as compared to the sale of SIM card for calls (e.g. a new client has to show an ID when opening an M-wallet). Finally, for the development of mobile payments, **Government and Companies** are also involved, e.g. for bill payments or pension and salary payments. The result is the so called Mobile Financial Services 'ecosystem' with various players.

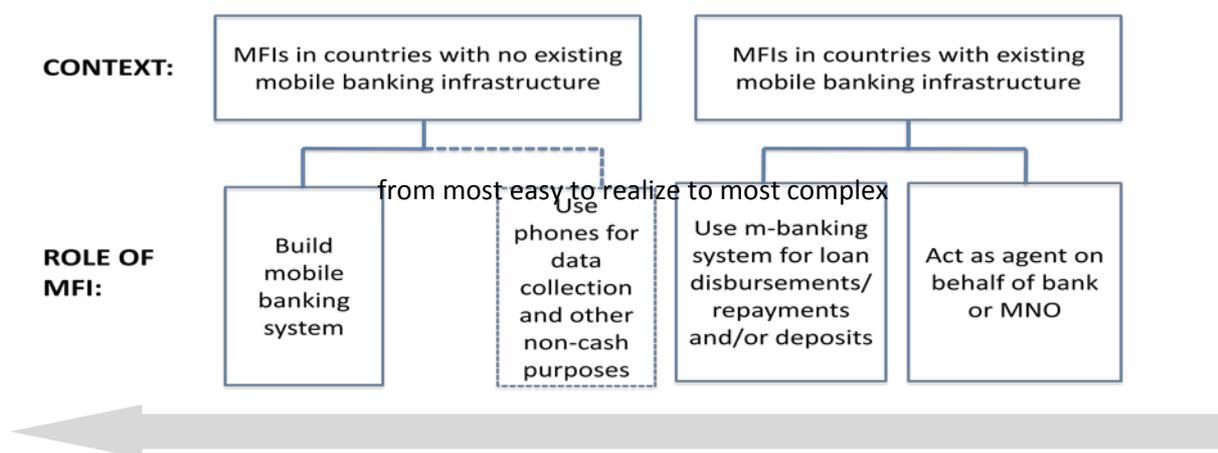
In general, 3 MFS models exist when looking at this ecosystem at the level of a country:

- **MNO-led model** = the MNO is the MFS operator, receives the approval from the Regulator to run Mobile Financial Services and owns the MFS-platform. Famous examples: M-Pesa in Kenya and M-Paisa in Afghanistan.
- **Bank-led model** = the bank is the MFS operator and owns the MFS-platform, backed by an MNO to provide the mobile channel (SMS, USSD, data). An M-wallet may be integrated with other financial products and services, such as a bank deposit account or a card. Examples are Wizzit in South Africa, FNB in South Africa and WING in Cambodia.
- **Independent or third party led model** = a 3rd party becomes the MFS operator and owns the MFS platform. Multiple banks and MNOs can link. Examples are Obopay/Nokia money, MobiKash in Kenya and YellowPepper in Latin America.

² AML/KYC =Anti-Money-Laundering/Know-Your-Customer

3. Mobile Financial Services models for MFIs

Microfinance institutions (MFIs) can also become players in the ecosystem and start using the mobile network and offer MFS. What does this mean and what model applies for them? A helpful overview comes from CGAP³:



The options for MFIs, ranked from most easy to realize to most complex are as follows:

Model 1. As agent for MNO or Bank: ecosystems for M-payments require a network of ‘agents’ where M-wallet holders can subscribe for their M-wallet and cash-in or cash-out money into and from their M-wallet (or sometimes bank account). MFIs can act as agent and receive commission for the different services they perform for the MFS provider(s). This is relatively easy to implement, without having a major impact on the other MFI operations, provided the institution already disposes of a cash management function. An MFI can also become a super-agent, managing a group of agents, training and monitoring them and supplying them with cash. Finally, several MFIs could decide to join forces and jointly negotiate agent terms and conditions with the MFS provider. This also enables them to share key functions (liquidity management, training, monitoring, etc.) and related costs.

MFI-requirements: well managed cash-function in-house (cashiers, cash and liquidity management, cash controls, etc), POS/Internet /Mobile phone in the branches, sufficient opening hours, investments in the organization, training and monitoring of agents, compliance with KYC/AML norms. In case of super-agent also agent contracting.

Model 1: TIAVO is agent for Telma Mvola

TIAVO is a credit cooperative in Madagascar with a network of branches (caisses), which also covers rural areas. TIAVO offers microloans to 8,000 borrowers and has about 43,000 depositors. TIAVO is an agent for the mobile operator Telma since 2010. People can send or receive Telma Mvola money transfers and buy Telma telephone cards at 49 TIAVO branches. TIAVO benefits from the commission it receives on any transaction for Telma. Moreover, due to more people entering the branches, TIAVO experienced a strong growth in membership to 85,000 members in September 2011 from 68,000 in 2010.

³ CGAP, focus note 62, 2010

- **Model 2. Using MFS for better servicing existing MFI-products**, such as repayments of loans, deposits on savings accounts or loan disbursements⁴. This model has the potential to significantly improve the outreach and operations of the MFI, including in remote areas. At the same time it has a large impact on the institution and its current way of operating. This is due to the required interfacing between the MFI's MIS/IT systems and the MFS-platform that registers the transactions.

Products may need to be redesigned, business processes often need to be 'redefined' and reconciliation problems easily arise due to system errors and poor system integration—but also because customers incorrectly type in their account numbers or the receiver's number. Managing these issues requires a good customer service center. The set-up and purpose of group meetings may change as the repayments are now done by phone. So buy-in from clients, loan officers and back office is required to successfully perform this major operational change.

Model 2: Tamweelcom clients repay loans with Zain-e-Mal

Tamweelcom is an MFI (NBFI) in Jordan with 57,000 clients. It offers group loans to women, individual/SME loans and insurance. It started using mobile payments from Zain e-Mal in 2011. Loans can be disbursed to or repaid from the M-wallet of Zain e-Mal. As of November 2011 about 8,000 transactions had been performed. The main challenge is to convince the sometimes illiterate and somewhat technology-averse women clients to use the new channel. Also Tamweelcom branches act as agent for Zain e-

In countries where various MFS-systems are deployed it might be difficult to select an MFS-provider that covers all clients or the entire area where the MFI operates. MFIs may consider setting up a 'switch' that interacts with all the MFS systems, in order to promote 'inter-operability'. This can also be organised by a group of MFIs. To-date this has not yet been implemented but it is being considered by some governments and donors (e.g. for Ghana, Nigeria).

MFI-requirements: managerial focus and negotiation power towards the MFS-provider, back-end automation (MIS or core bank system), financial reconciliation experience, clear definitions and descriptions of business processes, customer service centre, MFS literacy training and communication to staff and clients.

- **Model 3. Using the mobile network to improve the MFI's internal operational processes** such as for data collection and non-cash purposes. The mobile channel can also be used by the MFI to communicate more easily with clients, or to connect the loan officers in the field with its headquarters. This model can improve the efficiency of the MFI's operations, especially for those that operate in remote areas. The most well-known examples are:

Model 3: Loan officers of IFMR use Mobile for direct data entry of transactions

IFMR Rural channels (IRC) is a rural finance entity in India focusing on complete access to financial services. It offers loans, savings and insurance and remittance products. It is currently operating in 3 states of India (Tamil Nadu, Orissa and Uttarakhand) with a network of 108 branches and a client base of 173,000. IRC branches have a high degree of automation. All the branches have connectivity to the customer management systems and Core Banking Solution (CBS). 'Wealth managers' in the branches interact with customers and post transactions in the systems on a real time basis. Wealth managers also use alternate channels like mobile phones for enrollment and transactions in the field (using identification based on biometrics).

<http://ruralchannels.ifmr.co.in>

⁴ In most MFS-platforms loan repayments and deposits can be done using the 'Bill payments' functionality that is offered.

- **Internal Operations:** loan officers use the phone or a Point of Sale device (POS) for directly registering transactions into the MIS system and sending the data via the mobile channel to the head office (online or end-of day processing). Sometimes also account-to-account transfers are possible, performed by the MFI-staff for the customer;
- **Information services:** for loan officers, informing them of work planning or of repayment schemes via an application on the POS/smartphone or by SMS messages. For clients, SMS-services, e.g. warnings on upcoming loan repayments. This is relatively easy to automate and already used by numerous MFIs. Clear benefits have been reported. In the Philippines for example, sending an SMS before or on the due date led to a 30% improvement of the repayment rate on the due date.

Groups of MFIs could also consider developing the required technological platforms together, in order to save costs. This might be especially interesting for MFIs organized in cooperatives or associations.

MFI-requirements: back-end automation (MIS or core bank system), regular connectivity (Internet/Mobile phone) with loan officers and branches, clear definitions and descriptions of business processes. Investment in IT interfaces, mobiles/PDAs/POS-terminals for staff and cards, training of field staff and to some extent clients (for cards).

- **Model 4. Setting up your own MFS service, as MFI or as an association of MFIs.**

An MFI could launch its own internal MFS platform or establish a national MFS platform (bank-led model). Alternatively, a group of MFIs (e.g. from an association) could establish an MFS platform together. OIBM in Malawi, Xacbank in Mongolia, Bank South Pacific in Papua New Guinea and MiBanco in Peru have chosen this approach for M-banking. Clients can make balance and transaction enquiries via the phone as well as perform funds transfers to other account holders of the MFI or bank. This approach is only feasible when the MFI is particularly large and has strong financial, management and technical capabilities. It also makes more sense in case no other MNO or bank is planning to launch MFS soon. The vast majority of MFIs will not be leading the pack but will be following the M-money providers.

Model 4: XacBank offers M-banking with AMAR

Xacbank is a community development bank and MFI in Mongolia, a country with an extremely low population density. Xacbank has 190,000 depositors and around 75,000 borrowers. In 2009 it launched its own M-banking system AMAR. It is linked to Xacbank accounts and offers the possibility to make account-to account transfers, remittances and bill payments, as well as loan repayments. More than 70% of the 35,000 M-banking subscribers are located outside the capital Ulaanbataar. Also the majority of the 2,500 agents is in the rural areas. In November 2011 Xacbank reported 6,000 active users, covering 2% of total Xacbank transactions. The main challenge for Xacbank is to activate the clients and the agents to use the M-banking services.

MFI-requirements: strong managerial and technical capabilities and focus, back-end automation (MIS or core bank system), funding to invest in the new system, training of field staff and clients, marketing and in some cases the set-up of an agent network.

4. Exploring the market: MFIs currently active with Mobile Financial Services

Based on a quick scan we found that 154 MFIs worldwide are using the mobile channel. Most of these operate in Africa, India, the Philippines and some other Asian countries. Mostly they work in the slipstream of the MFS systems created by MNOs. Many MFIs use the mobile for loan repayments (model 2) or do act as agents (model 1, especially when we include the rural banks in the Philippines). In Latin America and the MENA region, MFIs still have to start using the mobile channel, as M-payments were recently launched here in most countries. We did not yet find any examples in Eastern Europe and Central Asia. Some MF-banks in Latin America and Asia have started with self created M-banking systems (model 4). MFIs using mobiles for their internal operations (model 3) are predominantly in India as well as Africa, where they are mostly part of MFI networks such as FINCA and Opportunity International.

Methodology: this quick scan only includes MFIs and local MF-Banks that originated from MFIs, such as Mibanco and Acleda. Some local banks that have a clear strategy focusing on reaching the unbanked (e.g. BSP in Papua New Guinea, UBL in Pakistan) were also included. However, all other local banks offering standard M-banking services to existing account holders were not included. Furthermore, using SMS solely for the purpose of providing information or alerts to clients was excluded. This is used by numerous MFIs worldwide and easy to implement. This overview is not exhaustive and will be further expanded. Especially information on MFIs using the mobile channel for their internal operations is hard to find in the Public Domain.

Region	MFIs using M-channels	<u>Model 1</u> As Agent for MFS	<u>Model 2</u> Repayments, deposits, via MFS	<u>Model 3 *)</u> Efficient Internal Ops.	<u>Model 4</u> MFI built MFS-service
Sub Sahara Africa	42	13	17	12	5
Asia	107 **)	79 **)	6	8	6
Latin America	4	1	0	2	1
Middle East and North Africa	1	1	1	0	0
TOTAL	154 **)	21	24	22	12

*) Excluding clients SMS-services, **) includes 73 rural banks in Philippines

5. Benefits, costs and barriers for MFIs

The main benefits that MFIs can realize from MFS are listed in the table below. These benefits depend on a successful implementation of the model and active use of the new services by clients. Also, the specific situation of the MFI is relevant, e.g. the benefit of more easily attracting savings only applies to MFIs that are allowed to offer deposit products.

Benefits for the MFI	<u>Model 1</u> As Agent for MFS	<u>Model 2</u> Repayments, deposits, via MFS	<u>Model 3</u> Efficient internal Ops.	<u>Model 4</u> MFI built MFS-service
Commercial				
Cross-selling opportunities, as more people visit MFI				
Increased availability of MFI-services for client (in time and place)				
'Modern' branding & image				

Benefits for the MFI	<u>Model 1</u> As Agent for MFS	<u>Model 2</u> Repayments, deposits, via MFS	<u>Model 3</u> Efficient internal Ops.	<u>Model 4</u> MFI built MFS-service
Operational				
Less client meetings required				
More security: less cash in branches and with loan officers				
Making clients/staff familiar with the use of technology				
Reducing the operational and financial risks of fraud, delay in data, etc				
Financial				
Lower cost of delivery of MF services				
Commission/Fee income		sometimes		
Easier mobilization of savings				

Costs or barriers

A successful implementation of MFS requires dedicated and specialized capabilities of the MFIs (technical, management, HR & training) as was described in section 3. Typically MFIs may encounter the following main barriers or costs when implementing MFS:

External:

- regulatory impediments may exist, such as not allowing MFIs to act as agents or to use branchless-banking;
- customers must adopt the new technology: they must have a phone, entrust it their money and engage in a major behavioral change to move from cash to mobile money;
- the distribution via the agent network should work impeccably (for cash-in, cash-out) to build clients' trust of mobile money.

Internal:

- strong management skills and negotiation experience are needed to successfully enter into the required partnerships;
- the technical infrastructure of the MFI may be weak and require large investments;
- the product and business process redesign requires significant efforts and sometimes costs, especially for models 2, 3 and 4;
- the financial investments require high transaction volumes to make it profitable, or at least break even, especially for models 2 and 4.

6. Next step for MFIs: How to approach your MFS project

First, some basic questions need to be answered before starting:

- Is there an MFS-system in the country or plans to start one soon?
- Do my clients have a phone and do they subscribe to the MNO(s) offering MFS?
- Are the benefits of the mobile money compelling enough for my customers, compared to the current way of doing business?
- Are our competitors using or offering MFS?
- What are my strategic priorities in the next 3 years and is more efficient service delivery part of it?

- Do I have enough internal and financial capacity for the model chosen, especially if it requires major changes (models 2, 3 or 4)?
- Is my IT/MIS sufficiently developed to interface with 3rd parties?
- Can MFS reduce our costs (loan collection costs for example)?
- Do I have sufficient clients to make a return on the investment? What volume of transactions is required to break even?
- Will MFS allow us to grow our business/revenues/reach more clients/introduce new services that are in demand?
- Is there a donor, lender, funder willing to support the implementation?

Second, a successful implementation needs resources, effort and time. PHB Development has developed a specific approach for MFIs interested in entering the MFS ecosystem. It covers the main dimensions that need to be taken into consideration:

- Regulation assessment and Partnerships that need to be established to implement MFS;
- Market and client needs assessment and definition of the MFS products and services;
- Integration of the mobile channel with the other delivery channels of the MFI (sometimes including building up an agent network);
- Assessment of the impact on the organization and business processes and the change plan for adaption (including Technology and Systems).

In general, successfully implementing MFS may require at least 3 months time (e.g. the more simple model 1, to become an agent) but it can easily be stretched to 12 months for the other models.

7. The Involvement of Donors and Funders

Several public donors and social funders are currently supporting or considering financial and technical support of mobile financial services (as part of branchless banking) for the microfinance sector, motivated by the benefits that MFS could offer in improving financial inclusion, operational efficiency and financial sustainability.

Taking a short term opportunistic approach for these projects may prove to be disappointing. In our experience implementing MFS should go hand in hand with a structured transformational journey of the MFI or even the MF-sector. Three important transformations could arise:

- 1- Market and Customer orientation: implementing MFS will contribute to transform the MFI, shifting from a product push approach towards a more market and customer centric approach. Product & services and delivery channels could be improved.
- 2- Operational performance improvement: implementing MFS will drive business process re-engineering in order to manage multiple delivery channels. This will force the institution to improve and more dynamically manage its internal operations, in order to face partnership constraints and interfaces.
- 3- Technical efficiency: connecting the MIS or the core bank system of the MFI to a 'real time' mobile money platform will provide serious constraints and drive improvements in the IT management capacities of the MFI.

Finally, implementing MFS and branchless banking by an MFI can also be viewed as an indirect means to transform the MFI into a more customer centric and operationally efficient organization.

Financial and technical support for these changes can be envisaged at the level of individual MFIs, but in some countries it may be more useful to focus on the level of the MFI-sector, putting in place a structure that will assist the different stakeholders to implement MFS. Typically, grants from (public or private) funders may be necessary for investments in business process reengineering and information systems at the MFI-institution level. Training of agents, customer literacy campaigns and MFI staff training can be considered for support at the sector level, which will help achieve economies of scale.

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References:

- Accion, *Accelerating Financial Inclusion through Innovative Channels*, Amitabh Saxena, Insight nr 27, Dec 2009.
- CGAP, *Microfinance and Mobile banking: the Story so far*, Kabir Kumar, Focus Note 62, July 2010.
- CGAP, *Emerging Lessons of Public Funders in Branchless Banking*, Meritxell Martinez and Claudia McKay, Focus Note 72, July 2011.
- Gates Foundation, *What Can Branchless Banking Do to Advance the Field, and What Can It Not Do? From Mobile Banking to Point of Service*, Claire Alexandre, Microcredit Summit 2011.
- Grameen Technology Fund, *How Technology Is Working for Clients and MFIs*, Camilla Nestor, Microcredit Summit 2011.
- Innopay, *Mobile Payments 2012*.
- NBER Working Papers 16205, *Getting on the Top of Mind: How Reminders Increase Savings*, D. Karlan, M. McConnell, S. Mullainathan, and J. Zinman, 2010.
- Kast, F., S. Meier and D. Pomeranz, *Under-Savers Anonymous: Evidence on Self-Help Groups and Peer Pressure as Savings Commitment Device*, 2010.
- MABS, *Using-s-m-s-technology-to-encourage-savings-and-loan repayments*, www.slideshare.net/MABSIV/using-s-m-s-technology-to-encourage-savings-and-loan
- Microsave, *Analysis of Financial Institutions Riding the MPesa Rails*, March 2011 and various other MicroSave Notes.
- Oliver Wyman and Planet Finance, *Next Generation Mobile Banking*, 2011.