

CENTRAL BANK OF SUDAN

**STUDY FOR THE ESTABLISHMENT OF
PRO-POOR BRANCHLESS BANKING IN SUDAN**

FINAL REPORT

January 2011

EXECUTIVE SUMMARY

Scope of the pro-poor branchless banking study

In October 2010, the Central Bank of Sudan (CBOS) contracted two consultants from Horus Development Finance to investigate a pro-poor branchless banking initiative in Sudan.

A branchless banking initiative can be qualified as pro-poor based on its contribution to achieving financial inclusion of the poor. Measuring this requires defining three increasing levels of financial inclusion: (1) access to simple cash services (cash remittance, cash transfers from organization, cash payment to organization), (2) access to some kind of current account (used for transfers and payments, but also to store small amounts), (3) access to a broad range of financial services (project finance, current and savings account, insurance...).

CBOS and the consultants chose to focus the content of this study on this most commonly accepted definition of branchless banking: *the delivery of financial services outside of bank branches using information and communications technologies and non-bank retail agents, for example, over card-based networks or with mobile phones (CGAP)*. As they agreed that the ubiquity of mobile phones and the good mobile network coverage, even in rural areas, make mobile technology one of the most promising tools to expand access-to-finance, they chose to focus the study on Mobile Financial Services, the delivery of financial services using mobile phones, as a tool for financial inclusion.

They nonetheless believe that other solutions to supply financial services outside branches (such as opening small field offices, using roaming agents or partnering with NGOs/CBOs...) should be implemented by Sudanese microfinance providers as a complement or an alternative to Mobile Financial Services.

Context in Sudan

The consultants have identified the following opportunities and constraints for a pro-poor branchless banking initiative, which would be specific to the Sudanese environment:

- ❑ The need for Mobile Financial Services is obvious, as illustrated by the existence of an informal Mobile Money Transfer system based on airtime.
- ❑ Microfinance is still underdeveloped in Sudan. Most commercial banks are reluctant to engage in microfinance because they consider it to be unprofitable and unsustainable due to the strong prevailing “charity” culture in Sudanese microfinance and they are wary to invest in a business that they don’t master. Most MFIs are small, with weak processes

and MIS. As a consequence, doubts can arise on whether Sudanese microfinance providers (banks and MFIs) are capable of playing a leading role in any MFS initiative. In any case, most of them should strengthen their capacity to supply sustainable services from their branch infrastructure before considering branchless banking.

- ❑ Although Mobile Network Operations have not yet launched any MFS project due to regulatory restrictions, Zain and MTN operate e-wallet systems in other countries, and are willing to launch them in Sudan.

Understanding possible business models for Mobile Financial Services

One of the aims of the present report is to provide all stakeholders in Sudan with the right level of understanding on the constraints and possibilities of Mobile Financial Services, in order for them to make the right choices in the content of the pro-poor branchless banking initiative based on Mobile Financial Services.

Mobile Financial Services (MFS) is a broad term that refers to a range of financial services that can be offered using mobile phones: (i) *mobile money transfers (MMT)* consist in using a mobile phone to transfer money electronically to another person; (ii) *mobile payments* are person-to-business payments made via mobile phone, such as payment to merchants, payment of bills... (iii) *mobile banking* allows customers to use their mobile phone as another channel to access banking services (project finance, savings, current account, insurance...), (iv) *SMS banking* consists in an exchange of financial information (loan installment alert, balance inquiry...).

The supplier of Mobile Financial Services (referred to as MFS provider) can be a MNO, an independent service provider or a financial institution. Third party non-bank outlets, referred to as agents, are used in MFS transactions to provide cash to (or receive cash from) clients on behalf of the MFS provider (agents are sometimes referred to as "human ATMs"). Agents, and, in most cases, clients, are required to have an account with the MFS provider.

2 main types of business models exist to supply Mobile Financial Services:

- ❑ In the e-wallet MFS business model:
 - ✓ Mobile Financial Services are provided by a MNO or a service provider, who uses its own network of retail agents to perform cash transactions. As the MFS provider is not a financial institution, accounts used for MFS transactions are called e-wallets (or virtual accounts) and require the use of e-money.
 - ✓ In terms of financial inclusion, usual e-wallet business models help clients to achieve simple cash transactions and current account transactions using their e-wallets, (level 1 and 2 of financial inclusion), but are not aimed at linking clients with microfinance providers to achieve full financial inclusion. Nevertheless, the success of M-KESHO in Kenya illustrates the potential of integrated partnerships linking e-wallets supplied by a

non-bank MFS provider to bank accounts supplied by microfinance providers. This such a linkage, it is possible to supply mobile banking services and thus promote full financial inclusion.

- ❑ In the bank-led business model:
 - ✓ A licensed financial institution (bank or MFI) implements MFS as a new distribution channel for clients to reach their bank accounts. No e-money is required. The technical infrastructure and the network of third party agents can be owned and managed by the financial institution itself, or possibly mutualized between several banks/MFIs and/or subcontracted to a service provider.
 - ✓ Bank-led MFS business models enable to supply mobile banking services and thus promote full financial inclusion. As compared to linking the bank accounts they provide to e-wallet MFS systems, becoming a bank-led MFS provider enables financial institutions to retain control on all services (including remittances), transactions and clients. However, bank-led business models require significant project management capacities.

Implementing branchless banking would require a regulatory framework which presently does not exist in Sudan. Key points to be addressed include:

- ❑ Defining the conditions under which non-bank third party agents can conduct cash transactions on behalf of MFS providers, and possibly initiate account opening process (as this would be a key driver to increase outreach of a branchless banking initiative).
- ❑ Defining reduced KYC requirements to avoid burdensome procedures for low value accounts and small transactions, given the low level of AML-related risk.
- ❑ Define e-money, protect the funds deposited in e-money accounts and adapt legal account features (KYC, ceilings for account balance and transactions...).

Scenarios for a branchless banking initiatives based on Mobile Financial Services

The choice of a business model for Mobile Financial Services depends on the type of MFS that we aim to promote: MMTs, M-Payments, or Mobile Banking. In this particular case, making formal transfers and payments in Sudan more accessible and more attractive by developing MMTs and M-Payments is definitely a first step in financial inclusion. Nevertheless, a pro-poor branchless banking initiative must aim at driving poor clients towards full financial inclusion, enabling access to a broader range of financial services (project financing, insurance, savings) through their mobile phone, not only MMTs and M-Payments). This requires a business model that enables to develop Mobile Banking services. There are two scenarios for this:

- ❑ In scenario 1, MNOs supply Mobile Financial Services, based on an e-wallet MFS business model. But a certain number of conditions are imposed on MNOs by CBOS, to make sure that these MFS serve the development of microfinance in Sudan. The main condition is to enable links between e-wallet and the "normal" bank accounts provided by

microfinance providers. From the client's point of view, scenario 1 will provide a two-tiered service: the e-wallet provided by the MNO will enable MMT and M-Payments (as provided by "usual" e-wallets), but also be used as a transit account to remotely reach his bank account. As client of a microfinance provider, he will have access to a broad range of financial services. From an organizational point of view, MNOs control most of the infrastructure and client interface in scenario. But MNOs must use their systems to serve both their goals and those of partner microfinance providers, which is a real challenge.

- In scenario 2, Mobile Financial Services are supplied directly by several microfinance providers through a shared technical platform and network, independently from any e-wallet systems that MNOs could possibly supply or not. Mobile phones are used as an additional channel for clients to access the microfinance provider's services: current account services (including account transfers and payments), savings, project finance, insurance, and cash to cash transfers (even for unbanked clients). Scenario 2 requires setting up a complex organization, with an *ad hoc* company managing the shared platform and shared network of agents, microfinance providers providing the financial services to their clients, and MNOs acting as technical partners.

CBOS and the consultants chose to investigate further the scenario 2. The main reasons behind this choice is that scenario 2 is implemented by microfinance providers, the only regulated suppliers of financial services for the poor, rather than by MNOs. Therefore, scenario 2 enables microfinance providers to retain control over processes, pricing, and the whole technical infrastructure. It also enables microfinance providers to benefit from the revenues of some key services (Mobile Money Transfers and Mobile Payments), revenues they need to supply other Mobile Financial services. On the contrary, scenario 1 would have put the whole system under the control of MNOs, who are eager to supply MMTs and M-Payment services, but whose willingness to cooperate in providing more thorough financial inclusion through Mobile Banking services remains questionable on the short term.

The action plan for scenario 2 is based on the creation of a dedicated project structure to support the establishment of a mutualized bank-led scheme. The Project will support the launch of a commercial mobile financial services Operator managing the services and will drive a framework of supporting measures, in close cooperation with existing programs and facilities: assistance to MFIs (MIS adaptation, new processes), campaigns to ease the adoption of the new services, etc. The duration of such a project structure should be 5 years.

The consultants would like to stress that the success of scenario 2 remains questionable for the following reasons: first, as mentioned above, scenario 2 is driven by microfinance providers, whereas the microfinance sector in Sudan suffers from serious weaknesses affecting its sustainability and many microfinance providers are still too weak in terms of project management, processes, or MIS to engage in such a project without putting their activity at risk. Second, as scenario 2 is a complex project, it will not be able to deliver any output before early 2013, which is quite late considering the urgent needs for financial services such as Mobile Money Transfers in Sudan (as illustrated by the ongoing informal system using airtime).

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LIST OF ACRONYMS

ADSL	Asymmetric Digital Subscriber Line
AML / CFT	Anti Money Laundering / Combating the Financing of Terrorism
ATM	Automatic Teller Machine
CBO	Community Based Organization (plural: CBOs)
CBOS	Central Bank of Sudan
CBS	Core Banking System (main component of financial institutions' MIS)
CDMA	Code Division Multiple Access
CGAP	Consultative Group to Assist the Poor
GSM	Global System for Mobile Communications
IFI	International Finance Institutions
MB	Mobile Banking
MFI	Microfinance Institution
Microfinance provider	Microfinance provider (bank, MFI...)
MFS	Mobile Financial Services
MFSO	Mobile Financial Services Operator
MFU	Microfinance Unit
MIS	Management Information System
MNO	Mobile Network Operator
NTC	National Telecommunications Council
POS	Point of Sales (terminal) –EPOS: Electronic Point of Sale
PDA	Personal Digital Assistant
SMDF	Sudanese Microfinance Development Facility
SMS	Short Message Service
TELCO	Telecommunications Operator
UMTS	Universal Mobile Telephone System
USSD	Unstructured Supplementary Service Data
WAP	Wireless Application Protocol

INTRODUCTION

In 2006, a Central Bank of Sudan (CBOS) sponsored report noted that microfinance is still in its infancy in Sudan, with supply of formal microfinance covering only about 1-3% of the potential demand. Although Sudan has a diversified experience of microfinance projects scattered throughout the country, which provide lessons for future activities, very few interventions have truly addressed the needs of the poorest, promoted sustainability or attempted to mobilize sufficient resources to enable the sector to grow.

To better understand the sector and promote access to microfinance in Sudan, UNDP co-sponsored a National Consultative Forum on Microfinance hosted by the Central Bank of Sudan, jointly with World Bank, DED and IFAD in 2007. The forum was able to review and build upon past and ongoing experiences in the microfinance sector within Sudan, as well as globally, by reviewing, among other issues, mobile microfinance key case studies. It also enabled to foster a partnership between potential mobile microfinance providers and other key actors in Sudan.

As a result of this forum, recognizing the potential of Pro-Poor Branchless Banking as crucial tool for leap-frogging traditional expansion of a sustainable microfinance industry in Sudan, the Central Bank of Sudan and the United Nations Development Program decided to jointly investigate feasible business models, and suitable regulatory and policy frameworks for the establishment of Pro-Poor Branchless Banking in Sudan.

Horus was contracted to conduct the above mentioned feasibility study, with two on-site missions scheduled to take place in Sudan. The first mission was conducted between November 2nd and November 17th 2010, following which a draft report was produced. These draft conclusions were discussed with various stakeholders during a second mission between December 10th and December 20th 2010. The present report is the final report, following the two on-site missions. It is completed by another document (Annex 1) developing an action plan for scenario 2.

1. MOBILE FINANCIAL SERVICES AS A TOOL FOR PRO-POOR BRANCHLESS BANKING

1.1. FINANCIAL INCLUSION OF THE POOR

(1) The need for financial services can be classified according to three levels of financial inclusion: access to simple cash services, access to some kind of current account, access to a broad range of financial services (full financial inclusion).

Full financial inclusion can be defined as “access to a full suite of quality financial services, provided at affordable prices, in a convenient manner, and with dignity for the clients¹”.

Whereas full financial inclusion should be the long term objective of any pro-poor development finance initiative, lowering costs and increasing the level of security of any type of formal financial transactions, making them more accessible and more attractive for unbanked clients, should also be valued. Going formal on some transactions (remittances, savings) that they presently conduct informally can be considered as the first step for unbanked people to access a broader range of financial products: project financing, insurance, savings...

As a consequence, we have classified the needs for financial services according to 3 levels of financial inclusion, as a tool to assess the contribution of a pro-poor branchless banking initiative to financial inclusion.

Financial need	Service (from microfinance provider's perspective)
Level 1: Access to simple cash services	
Send / receive cash to/from home	Cash to cash remittance
Send/ receive cash to/from business partner	
Cash out social benefit	Cash transfer from organization
Cash out salaries	
Cash payment of bill (post-paid)	Cash payment to organization
Cash payment of pre-paid services	

¹ Accion, Center for Financial Inclusion website, 2010.

Level 2: Access to some kind of current account (more details about the kinds of current accounts available can be found in paragraph 2.2.1.)	
Cashless payment of bill (post-paid)	Account payment to organization
Cashless payment of pre-paid services	
Cashless payment of tax, zakat...	
Cashless payment of goods from merchant	Account transfer
Cashless payment to business partner	
Store money in safe place	On-demand account
Request for balance / mini statement	Information "pull"
Level 3: Access to a broad range of financial services	
Insurance	Insurance
Save money	Saving account
Repayment of in-cash installments	Loans / Project finance
Alerts / reminders	Information "push"
Information request on financial situation	Information "pull"

Additional services such as financial education and business training are also needed to make sure potential customers are able to fully benefit from the services they have access to.

(2) Most financial services are usually provided from bank/MFI branches. Improving financial inclusion of the poor will require developing alternative delivery channels.

The key providers of financial services for the poor are financial institutions such as banks and microfinance institutions (MFIs). They traditionally supply financial services through their staff, based in branches. Nevertheless, this is not always adapted to serve poor clients, as opening branches in areas where poor people live is not always possible or cost-effective for the following reasons:

- ❑ Low population density (rural areas) and poor road infrastructure usually result in increasing transportation costs/time between the client's location and the branch, both for the bank/MFI's officers and the clients themselves;
- ❑ Lack of access to basic utilities results in higher costs for the bank/MFI to run a branch (need for a generator, fuel supply, office supplies...);
- ❑ Cash management is more costly and dangerous, as cash needs to be transported on longer distances, thus reducing frequency and entailing higher levels of liquidity necessary as compared to the level of activity;
- ❑ Difficulty to appoint and keep educated staff in remote places entails higher training and supervision costs.

As a consequence, different solutions have been experimented in the last 30 years, especially in rural finance, to provide financial services outside the conventional branch infrastructure.

1.2. SUPPLYING FINANCIAL SERVICES OUT OF BRANCHES

(1) The case for delivering financial services outside of conventional branches must be assessed for each type of financial service, process by process.

Determining which of the activities related to the provision of financial services can be performed out of conventional branches requires listing the key processes linked to each type of financial service provided by banks/MFIS (in this report, we will use the expression "microfinance provider" when we refer to MFIs or a bank's microfinance unit).

Services	Main processes	Activities involved	Constraints of performing these activities outside branches
Cash to cash remittance		Cash in/cash out	Cash management, registration, security
Cash transfers from organization		Cash out	Cash management, registration, security
Cash payment to organization		Cash in	Cash management, registration, security
Account payment to organization		No cash transaction	Registration and security
Account transfer		No cash transaction	Registration and security
Project Financing / Loans	Application	Inform client Collect documents (KYC, documents on client project...)	Giving information requires training Documents need to be channeled back to bank staff for appraisal
	Appraisal	Study documents, conduct field visit	Is necessarily done out of branches. Loan officers need to be closely supervised & coached from branch to avoid fraud/weaknesses
	Decision	Decide on financing	Microfinance provider should aim at keeping decisions in branches
	Disbursements	Purchase supplies or cash out (depending on the product)	In-kind disbursement cannot be done outside of branches
	Reimbursement	Cash in or reimbursement in kind (depending on the product)	In-kind reimbursement cannot be done outside of branches
	Monitoring	Client visits, phone calls...	Is necessarily done outside branches. Need for a strong supervision and coaching from branches
Current and savings account	Account opening	Inform client Collect KYC documents	Giving information requires training Documents collected need to be channeled back to bank staff for checking
	Deposit	Cash in	Cash management, registration, security
	Withdrawal	Cash out	Cash management, registration, security
	Transfer	No cash transaction	Registration and security
Micro-insurance	Insurance contracting	Inform clients Client documents (KYC...), field visits	Giving information requires training Documents collected need to be channeled back to bank staff for checking

	Payment of insurance premium	Cash in or Account payment	Cash management, registration, security Registration and security
	Follow-up of claims	Client visits, documentation	Is necessarily done out of branches. Close supervision necessary
	Reimbursement of losses	Cash out or account payment	Cash management, registration, security
Information "push"	Mini statement...		Confidentiality
Information "pull"	Balance enquiry...		Identification and confidentiality

(2) There are two ways of performing financial transactions outside of branches: have it conducted outside conventional branches by staff of the microfinance provider ("expanding"), or have it conducted by a non-bank agent, on behalf of the microfinance provider ("outsourcing")

- ❑ We will refer to situations where activities are conducted outside conventional branches by the microfinance provider's staff as "expansion" schemes. For instance:
 - ✓ Opening field offices (permanent or temporary) closer to clients' locations
 - ✓ Mobile vans
 - ✓ Roaming agents
- ❑ We will refer to situations where activities are conducted by non-bank staff as "outsourcing". For instance:
 - ✓ Using non-bank retail agents as cash in/cash out points (for instance: mobile financial services), and possibly more (e.g.: banking correspondents in Brazil also selling some of the bank's products and services such as loans).
 - ✓ Partnerships with NGOs/CBOs who liaise with clients, inform them, screen them, support them, monitor them...

(3) The use of ICT has opened new perspectives to conduct financial transactions outside of branches.

Even if financial institution have conducted transactions out of branches for decades, Information and Communication Technologies (ICT) considerably facilitate this, by enabling exchange of data between the branch (microfinance provider's MIS) and the location where the transaction takes place:

- ❑ Before the transaction takes place: identification of the client (through a phone number, plastic card, fingerprint...), remote check of the situation of the client as registered in the financial institution's MIS.

- After the transaction is done: registration of the transaction in the MIS.

In order to outsource or expand a transaction, a bank needs to communicate data from its MIS to the agent who is going to perform the transaction on its behalf and, after completion of the transaction, from the agent to the bank's MIS. Before ICT, transmission of information could only be done manually, which did not guarantee security of transaction, exhaustivity of data and integrity of processes. Although paper transmission is still used where outlets are not computerized, transmission of information today can be done through periodic batch transactions or online connection.

Security of transactions is tremendously increased by automatic entry of data in the bank's MIS, which ensures exhaustivity of data and integrity of processes. This opens the possibility of working with independent agents who could not be monitored closely enough without automation of transactions. On-line connection is moreover indispensable for some types of transactions (immediate withdrawal from bank account, for example).

The following table summarizes the main possibilities to conduct financial transactions outside of branches:

Scheme	Expand or outsource ?	Technology	Description
Sub-branches, Field Offices and kiosks	Expanding	- Connectivity with the branch - small microfinance software and batch synchronization - Mobile Phone	Subset of services performed in small-size premises of bank-MFI
Roaming agents	Expanding	- PDA, notebooks and / or EPOS with online or (most often) offline synchronization - Mobile Phone	Door to door cash service (for repayments in cash or deposits)
Outsourcing core financing processes to non-bank organizations	Outsourcing	- small microfinance software, with batch updates of core MIS	Take advantage of NGO/CBO/ROSCA's knowledge/existing ties with local clientele
Mobile Financial Services	Outsourcing	- Mobile Phone - and EPOS/ web-applications for agents (if high transaction volumes)	Access to cash and non-cash financial transactions using mobile phone to register transactions. Non-bank retail agents are used in cash transactions
Banking correspondents	Outsourcing	- EPOS and smartcards - Internet connection to core CBS - Specific remittance system interfaced with core CBS	Build on existing networks of retail agents to conduct not only cash transaction, but also information on products, taking applications, client screening...

1.3. FOCUS ON BRANCHLESS BANKING USING MOBILE PHONE

1.3.1. DEFINITION OF BRANCHLESS BANKING

(1) Although there are other ways of performing financial transactions, CBOS and the consultants agreed to focus this study on a the most commonly accepted definition of branchless banking, involving the use of ICT and non-bank retail agents.

As mentioned in paragraph 1.2, there is a wide array of possibilities to perform financial transactions outside of conventional branches. Nevertheless, in recent literature, branchless banking most often refers to “the delivery of financial services outside of bank branches using information and communications technologies and non-bank retail agents, for example, over card-based networks or with mobile phones”².

CBOS and the consultants chose to focus the content of this study on this most commonly accepted definition of branchless banking. They nonetheless believe that other solutions to supply financial services outside branches, as shortly described in annex 6 can be implemented by Sudanese microfinance providers as a complement or an alternative to branchless banking.

(2) Branchless banking should be understood as “banking beyond branches” rather than “banking without branches”.

Let us however underline that the term *branchless* banking is misleading in that it suggests that branches are irrelevant in these models. The idea is rather of *banking beyond branches*, as framed by Alexandre, Mas and Radcliffe ³, the branch infrastructure remaining necessary for two major roles: (i) organizational unit of the FI, which remain a necessary infrastructure to enable small outlets to handle the ‘last mile’ (ii) personalized client servicing, including credit evaluations and loan recovery procedures.

² See Pickens et al. (2009)

³ Alexandre, Mas and Radcliffe.(2010) : Regulating New Banking Models that can Bring Financial Services to all.

1.3.2. TECHNOLOGY USED IN BRANCHLESS BANKING

(1) Depending on the financial services supplied and on the main processes to deliver them, different ICT tools can facilitate the delivery of financial services “beyond branches”.

A table in Annex 5 lists some of the technologies used in microfinance and especially in branchless banking, by financial service and main processes.

(2) The use of information and telecommunication technologies allows financial institutions to deliver their services via various channels. However, the capacity and quality of each delivery channel differ if the IT systems can be integrated in “real time” with their core MIS or not.

A table in Annex 5 lists possible ITC tools by delivery channel and highlights the impacts if the IT architecture of the financial institution does not provide a “real-time” online interface with the core MIS.

(3) When considering the introduction of specific tools and technologies, microfinance providers should take into account both upfront investment cost of each additional device and recurring costs.

The table bellows provides indications on investments and recurring costs to be evaluated.

	entry cost (system set-up)		cost of each additional device		transaction cost	
PDA	**	- requires specific developments to "mobilize" part of the CBS application - requires an in-depth market research to select the technology and devices	**		*	
POS - internal	***		*		*	
Cooperate with MFS e-wallet systems	**	- moderate: connexion between Telco & FI MISs for bill payment - moderate +: for account information & transfer from / to account	(negligible)	-	**	can be high
Develop bank-led MFS system	****	- high: specific MB soft + connexion to Telco system + promotion	*	unit cost of agent management	*	cost of SMS sent by the FI Beware, some providers ask for an annual fee per active customer
SMS-banking only	**		0	-		cost of SMS sent by the FI
ATM - self-supported by the FI	***	- card system software, interfaced with CBS - Set-up fee to install and network the ATMs	****	unit cost of each ATM (+installation+ maintenance...)	**	- costs depend on the nature and volume of cards issued - costs of refilling ATMs with cash...
ATM - joining an existing network	**	- network participation fee - Set-up fee to install and network the ATMs - interface with CBS	***	unit cost of each ATM (+installation+ maintenance...)	**(*)	Usage fee, either per transaction or on a monthly basis Careful: if Visa (or other international network): investment may be lower but transaction fees are hefty!
SOURCE: Horus estimates						

(4) In the last decade, PDAs were considered as very promising for microfinance. Their relevance needs to be reconsidered with regard to the evolution of technologies.

Basically, a PDA hosts an application and a “database” enabling the agent (loan officer or cashier) to record and validate transactions. It is as if the agent was carrying a reduced version of the microfinance provider’s main MIS, with only the data pertaining to his/her customers. The PDA “database” is synchronized with the main database once the agent comes back to the office. Using PDA’s requires specific developments to “mobilize” a subset of the MIS features. PDA developments are dependent on the operating system and the technical capacities of PDA. The usage of PDA will be less and less interesting in the future, when notebooks (small PCs) become more and more affordable and with smart phones evolving towards “mobile PCs”.

(5) ATMs are only fit for urban environments.

ATMs are very convenient equipments in an urban environment. They are not adapted to rural environments where electrical power and communications infrastructures are not reliable enough and where the volume of transactions cannot justify the investment and maintenance costs.

(6) Electronic Points of Sale (EPOS) and mobile phone technologies are both adapted to support pro-poor remote transactions. Combining them can be an interesting option if EPOS and ATMs are already in place.

Electronic Point of Sales offer services quite similar to those of ATMs and can be used to safely record cash transactions. Besides, they enable customers with an EPOS card (a standard bank card or more elaborate smartcards) to pay electronically for purchases in stores that have installed terminals (the retailers accepting payments via EPOS are called “merchants”).

Should a pro-poor branchless banking favor a system based on mobile phones or on EPOS?

- Both platforms offer similar transactional capabilities, and can support a majority of transactions conducted by lower income individuals in under-banked environments
- Mobile phone devices offer a cost advantage over EPOS.
- Using a mobile phone-based system is ideal in lower transaction volume environments;
- POS has the capability to process transactions more quickly;
- POS are capable of printing customer transaction records;

- ❑ POS offers an advantage over mobile phone for bank cards, allowing customers to use their bank cards to make payments using existing POS and ATM terminals.
- ❑ Ultimately, models that combine the benefits, and provide a mobile phone-based system along with a POS card that builds on the existing network of POS and ATM terminals, could offer a significant advantage over an only mobile phone-based or only POS-based solution – provided that the usage of EPOS and ATMs is already developed⁴.

(7) The usage of mobile phones is growing everywhere at a tremendous pace. The ubiquity of mobile phones and the good coverage of mobile networks, even in rural areas, make mobile technology one of the most interesting tools to expand access-to-finance.

There are around 500 000 bank branches in the world, 1 million ATMs and now 4 billion people with access to a mobile phone (CGAP estimations). In Sudan, the mobile phone technology is one of the fastest growing businesses. The mobile network covers about 80% of the population and is expanding quickly further to the remotest areas.



Mobile money solutions in the World

The *GSM Mobile Money Deployment Tracker* counts 94 live mobile money deployments and 94 planned projects (and the list is not exhaustive)⁵. An overview of major mobile phone based branchless banking international experiences is given in Annex 3.

Mobile phone technology is the most promising technology to extend access-to-finance, as already demonstrated in several countries. Therefore CBOS and the consultants agreed to focus this study on the opportunity to establish a Pro-Poor branchless banking initiative using mobile phones.

⁴ Adapted from: MicroSave Briefing Note # 66

⁵ Source: *GSMA Mobile Money Exchange* website (15/12/2010): <http://www.wirelessintelligence.com/mobile-money/>

2. MOBILE FINANCIAL SERVICES

2.1. WHICH MOBILE FINANCIAL SERVICES TO ACHIEVE WHICH LEVEL OF FINANCIAL INCLUSION?

(1) Mobile Financial Services can be defined as a variety of branchless banking, where the transmission of information required by the financial transaction is done through mobile phone. This notion actually includes many distinct services: mobile money transfers, mobile payments, mobile banking and SMS banking.

As a general notion, mobile financial services refer to the use of mobile phones to supply financial services. But this actually includes many distinct services and concepts, and thus leads to frequent confusions. To avoid misunderstandings, we chose to clearly define the concepts we will be using in the present report. As there are presently no universally accepted definitions for mobile financial services/mobile banking concepts (the subject is not mature enough), we chose to use the ones published in the World Bank/International Finance Corporation's Private Sector Development Blog⁶.

- ❑ *Mobile Financial Services (MFS) is a broad term that refers to a range of financial services that can be offered across the mobile phone. Three of the leading forms of MFS are mobile money transfer, mobile payments, and mobile banking.*
- ❑ *Mobile money transfers (MMT) consist in using a mobile phone to transfer money electronically to another person;*
- ❑ *Mobile payments refer to person-to-business payments that are made with a mobile phone (non-cash payment of goods at merchants, payment of bills...);*
- ❑ *Mobile Banking consists in connecting a mobile phone with a bank account. Mobile banking allows customers to use their mobile phone as another channel for their banking services, such as deposits, withdrawals, account transfer, bill payment, and balance inquiry.*
- ❑ *SMS banking consists in an exchange of financial information, initiated by a financial institution (loan installment alert, marketing offer, transaction receipt) or by the client (balance inquiry, request for statement...);*

⁶ <http://psdblog.worldbank.org/psdblog/2009/01/emoney-mobile-money-mobile-banking-whats-the-difference.html>

(2) Studying Mobile Financial Services with a financial inclusion perspective requires understanding how the financial needs of the poor are met by each kind of Mobile Financial Service.

The following table shows how the different types of Mobile Financial Services can contribute to supplying the needs for financial services, according to the levels of financial inclusion defined in paragraph 1.1.

Financial needs	Category of financial need	MFS to address this need
Level 1 : Access to simple cash services		
Send / receive cash to/from home	Cash to cash remittance	MMT
Send/ receive cash to/from business partner	Cash to cash remittance	MMT
Cash out social benefit	Cash transfer from organization	MMT
Cash out salaries	Cash transfer from organization	MMT
Cash payment of bill (post-paid)	Cash payment to organization	M-Payment
Cash payment of pre-paid services	Cash payment to organization	M-Payment
Level 2 : Access to some kind of current account		
Cashless payment of bill (post-paid)	Account payment to organization	M-Payment
Cashless payment of pre-paid services	Account payment to organization	M-Payment
Cashless payment of tax, zakat...	Account payment to organization	M-Payment
Cashless payment of goods from merchant	Account transfer	M-Payment
Cashless payment to business partner	Account transfer	M-Payment
Store money in safe place	On-demand account	"Mobile banking"*
Request for balance / mini statement	SMS Banking "pull"	SMS Banking
Level 3: Access to a broad range of financial services		
Insurance	Insurance	M-Payment
Save money	Save money	Mobile Banking
Loan / project finance	Loan / project finance	Mobile Banking
Alerts / reminders	SMS Banking "push"	SMS Banking
Information request on financial situation	SMS Banking "pull"	SMS Banking

*Store money in a safe place can also be done through a non-bank accounts, although this does not qualify as "mobile banking" if we stick to the definition mentioned above

Which type of Mobile Financial Service to serve financial inclusion?

As a conclusion:

- ❑ The basic level 1 of financial inclusion (simple cash services) requires only MMTs and M-Payment services.
- ❑ MMT and M-Payment services are not enough to reach level 2 of financial inclusion, which requires giving the client access to some kind of current account where he can store money. According to the definitions mentioned above, providing access to a current account through mobile phone only qualifies as "mobile banking" if the account is a regular bank account with a microfinance provider, but it is not always the case: a non-bank institution can also supply the functional equivalent of a current account, on which the client can store money and make transactions using his mobile phone (virtual account or e-wallet). More developments on the type of accounts used can be found in the following paragraphs.

- ❑ Only mobile banking (connecting a mobile phone with a bank account) can give the client access to a broad range of financial services, supplied by a microfinance provider.

(3) The right business model for MFS must be chosen based on the expected financial needs to address, and hence the type of Mobile Financial Services to provide.

As described above, whereas MMT and M-Payment provide useful cash services (level 1 of financial inclusion), reaching level 2 requires providing access to a current account through mobile phone. Mobile banking is the only type of MFS that enables to supply project finance or savings through mobile phone (full financial inclusion).

We will call “MFS business models” the possible technical and organizational frameworks to provide such Mobile Financial Services. As each MFS business model has specific technical and financial challenges (more details about possible MFS business models can be found below), it is necessary to choose the right business model based on the targeted financial needs, and hence the type of Mobile Financial Services to provided).

To be successful, mobile financial services require simple transaction procedures. This is impossible for transactions involving large amounts, for obvious security reasons and to comply with anti-money laundering rules. As a consequence, MFS should not be considered for transactions over a few hundred USD.

2.2. DIVERSITY OF MOBILE FINANCIAL SERVICES BUSINESS MODELS

2.2.1. GENERAL PRINCIPLES

2.2.1.1. Who are the main stakeholders in all MFS business models?

- ❑ The Mobile Financial Services provider (MFS provider) is the institution providing the mobile financial services, for instance MMT, mobile payments or mobile banking, to the client. Who can be these MFS providers, and what services do they supply?
 - ✓ MNOs are the most common MFS providers: they mostly supply MMTs and mobile payments
 - ✓ Independent service providers : they mostly supply MMTs and mobile payments
 - ✓ Financial institutions: they supply mobile financial services to their clients, as an additional delivery channel to access the client's account in the financial institution. They can also supply MMTs to non-clients.

- ❑ The client: he makes cash transactions and possibly account transactions with the Mobile Financial Services provider. His needs for financial transactions are summarized in paragraph 2.1.
- ❑ The agent is an independent retail outlet. Additionally to his core business, the agent signs a contract with the MFS provider, enabling him to collect cash from (or provide cash to) the client in the name of the MFS provider (the agent is sometimes referred to as a “human ATM”). To do this, he needs to have an account with the MFS provider, because all cash transactions between the client and the agent are offset by corresponding transactions on the client's and the agent's account.
- ❑ Other stakeholders are the potential technical partners of the Mobile Financial Services provider, according to the needs of each MFS business model:
 - ✓ Unless the MFS provider is an MNO himself, the MFS provider needs an agreement with MNOs to use their mobile phone network to send/receive information during MFS transactions.
 - ✓ For mobile bill payment services, the MFS provider needs to partner with companies such as utilities...
 - ✓ If the MFS provider is not a financial institution himself, he can partner with a bank or a MFI (more details will be found in paragraph 2.2.4.)
 - ✓ Part of the activities required to supply MFS (management of a network of third party agents, management of a technical IT platform) can be outsourced to an independent technical provider.

2.2.1.2. What kind of account do the client and the agent hold?

(1) In all MFS business models, clients need to hold an account with the MFS provider unless they want to do only cash transfers and cash payments. Agents systematically hold accounts with the MFS provider.

Although cash-to-cash transfers or cash payments (level 1 of financial inclusion: same types of transactions that are presently performed by firms such as Western Union and Moneygram) do not technically require the client to hold an account with the MFS provider, in most cases the MFS provider will prefer the client to open an account. Having an account is also interesting for the client, as he cannot meet the financial needs classified under level 2 of financial inclusion without having an account with the MFS provider.

When it comes to the nature of the account that clients and agents have with the MFS, it is important to understand that services such as MMT and mobile payments can be achieved both using a bank account accessed through a mobile phone (bank-led MFS business model) or by using a non-bank account (e-wallet MFS business model), as will be explained in chapter 2.2.3.

(2) When MFS are provided by a bank to its clients, the account used for MFS transactions is the client's current account in the institution.

When MFS are provided by a financial institution, the client will be able to make transactions on one or several of his accounts (current account, saving account) although sometimes, for technical reasons, a specific type of current account will be opened for this client by the institution.

(3) When MFS are provided by another type of provider (MNO, service provider) who does not have the right to provide deposit accounts, electronic accounts, which are the functional equivalents of current accounts, are created to be used in MFS transactions.

In many cases, MFS providers are not financial institutions and not licensed to collect deposits. As a consequence, they cannot open bank accounts for clients to conduct MFS transactions. As a substitute for bank accounts, they create "electronic wallets" (also deemed "virtual accounts" or "pre-paid accounts"), defined as "*cash value that is stored on a card, phone, or other electronic device*"⁷ (rather than stored on a bank account). A client can deposit money on his e-wallet, in order to use it for MMT or mobile payments, or simply store it and cash it out later. In fact, these electronic wallets are the functional equivalent of current accounts, although, in most countries, the balance and transaction amounts on e-wallets are capped, and such accounts cannot bear interests.

2.2.2. USE CASES

Use cases (examples of processes for different MFS transactions) are detailed in annex 2.

2.2.3. WHAT CRITERIA DIFFERENTIATE THESE BUSINESS MODELS?

(1) Understanding the types of MFS business models is crucial as differences have impacts not only on technical aspects, but also in terms of services provided, organization and regulation

As it can be understood from the explanations above, several business models exist, each of them enabling to provide a certain range of financial services.

⁷ <http://psdblog.worldbank.org/psdblog/2009/01/emoney-mobile-money-mobile-banking-whats-the-difference.html>

Several criteria can be used to classify the business models:

- ❑ Who provides the service?
- ❑ Who manages the IT infrastructure and the network of agents?
- ❑ Does the business model require the use of e-money?

(2) The MFS provider with whom the client has a contract can be a MNO, a financial institution or a service provider.

In the following examples, the Mobile Financial Services are provided by:

- ❑ A Mobile Network Operator: Safaricom (M-Pesa), MTN MobileMoney, Orange Money, Zain (Zap)
- ❑ A service provider: Wing in Cambodia
- ❑ A financial institution: Xac Bank in Mongolia (Amar), First National Bank in South Africa, Tameer Microfinance Bank (Easypaisa) in Pakistan, E-Zwitch⁸ in Ghana

In each of these cases, the client has a contract directly with the MFS provider.

(3) Not all systems require the use of electronic money (e-money).

According to the definition in the European Union's Electronic Money Institutions Directive (2000), endorsed by CGAP in its branchless banking diagnosis framework, electronic money (e-money) is a monetary value **stored on an electronic device** which is issued on receipt of funds and accepted as a means of payment by parties other than the issuer.

In practice, MFS systems involve e-money **when the institution managing the account used for MFS transactions is not regulated to take deposits** (in this case, the accounts used are e-wallets rather than bank accounts, as mentioned in chapter 2.2.1.).

- ❑ In schemes where MFS are provided by MNOs (M-PESA...) or service providers (Wing...), the provider is also the manager of the account. As such providers are not licensed to take deposits, the value stored on accounts they provide is considered e-money.

⁸ Although E-Zwitch in Ghana is card-based, hence does not use mobile phone, we chose to include it in the scope of our benchmark as it is a very interesting example of a shared platform, initiated by the Central Bank of Ghana.

- ❑ In schemes where MFS are provided by financial institutions, 2 cases occur :
 - ✓ If the account used for MFS transactions is a normal bank account held by the institution, no e-money is involved.
 - ✓ Nevertheless, in some cases, for technical reasons, the account on which MFS transactions are made is separated from the financial institution's "normal" accounts, and its management is outsourced to an external service provider (in this case, the financial institutions will only follow the total balance of all accounts, not individual accounts). If this service provider is not licensed to take deposits, then this account used for MFS transactions is an e-wallet and involves the use of e-money. For instance, this is the case in Ghana for E-Zwitch: E-Zwitch account is provided by the financial institutions (clients have contracts with financial institutions to open E-Zwitch accounts) but the management and storage of these accounts is outsourced to GHIPPS, a service provider. As a consequence, E-Zwitch accounts are considered as e-wallets and the value of E-Zwitch accounts is considered e-money).

(4) The IT platform and the network of agents are either managed directly by the MFS provider, or can be outsourced.

(5) Using these criteria, MFS schemes can be classified into 2 categories, E-wallet systems and bank-led, each of them divided into sub-categories.

There are 2 main types of MFS business models: e-wallet model and bank-led model.

- ❑ In the e-wallet MFS business model, Mobile Financial Services are provided by a non financial institution, either a MNO (this specific business model is called "telco-led e-wallet model") or a by service provider ("service led e-wallet model"). As a consequence, accounts used for MFS transaction are virtual accounts (e-wallets) supplied by the non-financial MFS provider. Establishing links between these e-wallets and "real" bank accounts with microfinance providers is only optional.
- ❑ In the bank-led MFS business model, Mobile Financial Services are provided by financial institutions. MNOs are used only as technical partners (providing phone network infrastructure). Bank-led MFS can be implemented by a single financial institution, or mutualized between several financial institutions, which requires outsourcing the management of the shared IT platform and shared network of agents outsourced to a service provider.

The following table illustrates who is responsible for what in category of MFS scheme.

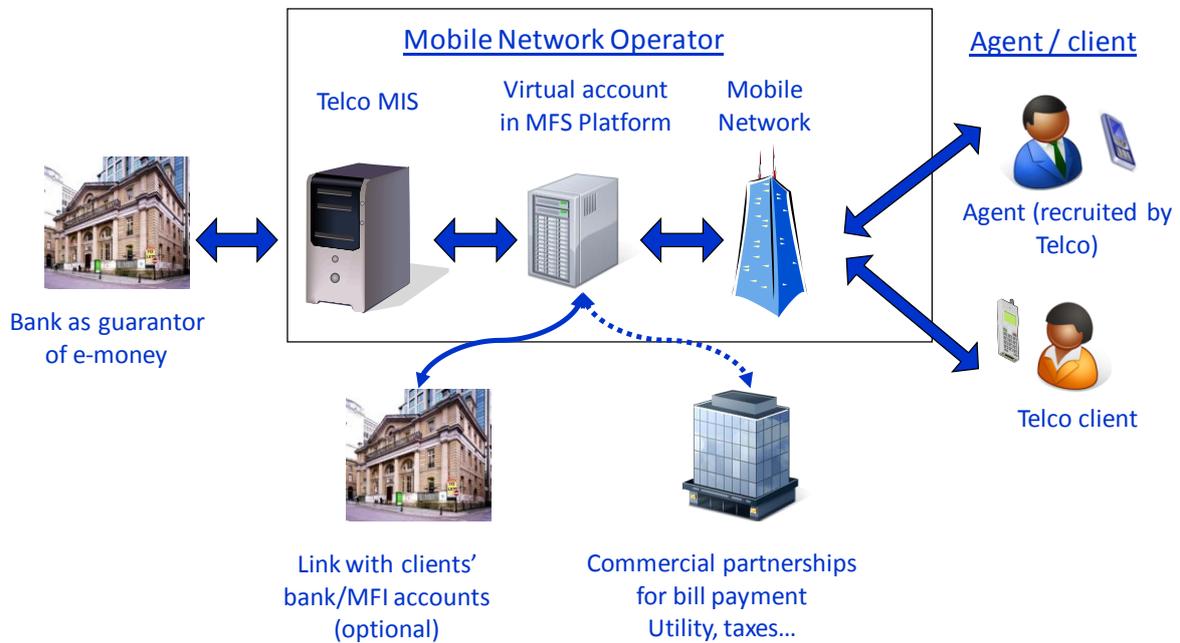
	Name of scheme	Phone network	Mgt of network of Agents	Mgt of IT platform	Management of account used in MFS transactions	Management of other linked bank accounts	E-money Involved?	Examples
E-Wallet Model	Telco-led E-wallet	Single MNO	MNO			Optional Partner financial institutions	Yes	Ex : M-Pesa, MTN Money, Orange Money, Zap... Partnership with financial institutions : Zap, M-Kesho, Orange Money Kenya
	Service-led e-wallet	Multi-MNO	Service Provider			Optional Partner financial institutions	Yes	Ex : Wing (Cambodia)
Bank-led Models	Single bank-led	Multi-MNO	Single financial institution				No	Ex : Xac Bank
	Mutualized bank-led	Multi-MNO	Service Provider	Multi-financial institutions			No	Ex : Project by the Government of Sénégal
	Mutualized bank-led with e-money	Multi-MNO	Service Provider			Multi-financial institutions	Yes	Ex : E-Zwitch

2.2.4. E-WALLET BUSINESS MODEL

2.2.4.1 Presentation of e-wallet business model

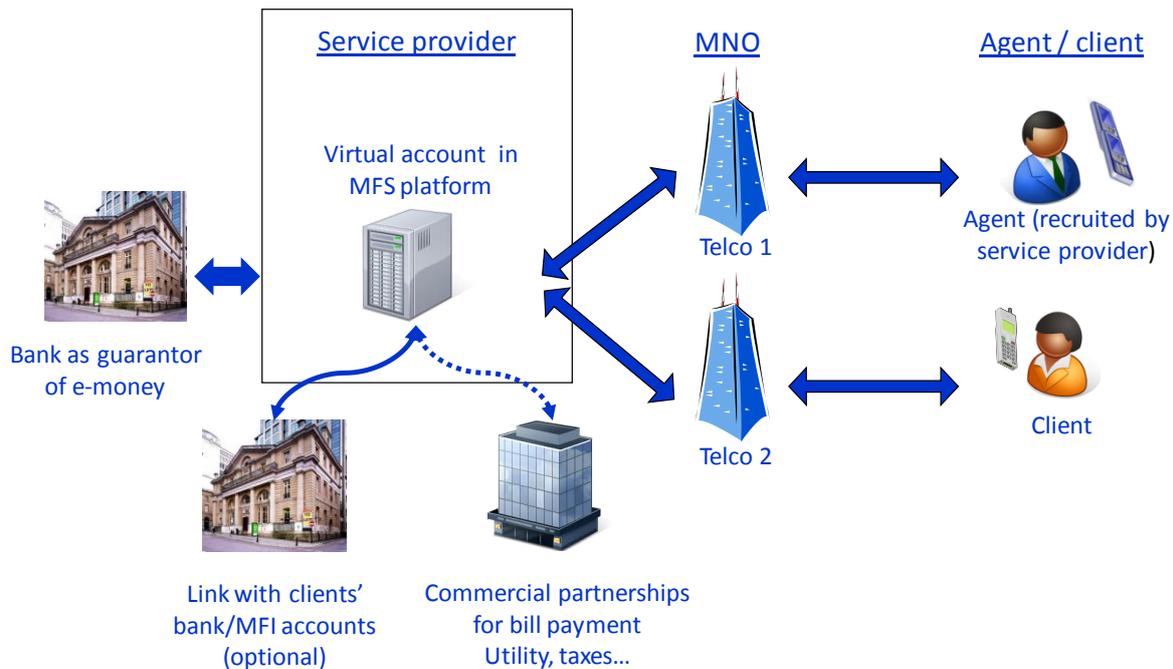
(1) In the e-wallet MFS business model, Mobile Financial Services are provided by a MNO or a service provider, who uses his own network of retail agents to perform cash transactions.

The following diagrams show the stakeholders involved in e-wallet MFS business models. A difference is made between those operated by MNOs (telco-led e-wallet MFS business models) and those operated by service providers (service-provider-led MFS business models)



Architecture of a telco-led e-wallet business model

Telco-led e-wallet business models are used by M-PESA in Kenya, G-Cash in the Philippines, Zain, MTN, Orange in various countries...



Architecture of service provider-led e-wallet business model

Service-provider-led e-wallet business model is used by Wizzit in South Africa, Wing in Cambodia.

(2) As the MFS provider is not a financial institution, accounts used for transactions are e-wallets (or virtual accounts). As a consequence, such business models involve the use of e-money.

(3) Nevertheless, even in e-wallet business models, financial institutions are needed to act as partner of the non-bank MFS provider.

Financial institutions interact with e-wallet MFS provider in 2 distinct ways:

- ❑ Regulating authorities often require that the total amount of funds stored on clients' e-wallets ("float") is guaranteed by a bank. In most cases, the e-wallet MFS provider is required to keep this amount on a bank account.
- ❑ Some e-wallet MFS providers (M-Kesho and Iko-Pesa in Kenya, Zap) have recently started giving clients the possibility of opening a bank account in a financial institution, which they can link to their e-wallet (to be used as a current account for small amounts), thus broadening the client's access to financial services. Facing the technical and marketing challenges of such joint product requires building a strong partnership between the provider of the MFS services and the financial institution.

2.2.4.2. E-wallet business models from a financial inclusion perspective

(1) Basic e-wallet business models help clients to achieve simple cash transactions and current account transactions (level 1 and 2 of financial inclusion), but are not aimed at linking clients with microfinance providers to achieve full financial inclusion.

In e-wallet MFS business models, clients open a virtual account (e-wallet) with the MFS provider, thus enabling clients to use their mobile phone to perform both cash transactions (level 1 of financial inclusion), and current account transactions (level 2 of financial inclusion), although capped in amount.

Nevertheless, one must bear in mind that the original aim of most e-wallet MFS providers such as MNOs is to target lucrative markets such as MMTs and mobile payments. As a consequence:

- ❑ Actual geographical coverage of such MFS tends to focus on most profitable areas for the e-wallet MFS provider and its agents (urban areas, active rural markets) rather than on remote rural areas.
- ❑ Helping clients to open bank accounts linked to their e-wallets, in order to facilitate clients' access to a broader range of financial services such as loans, savings accounts, transfer of large amounts, etc. (level 3 of financial inclusion) is not part of their initial objectives.

What are MNOs' motivations to develop e-wallet systems?

Explaining MNOs' motivations in developing e-wallet systems helps to understand why they are mostly motivated in providing MMT and mobile payments services.

- ❑ Increase income (in a context where Average Revenue Per User is decreasing):
 - ✓ Subscription fees to access the service
 - ✓ Commissions on remittance/payment transactions
 - ✓ Earn profit by investing the float (=total balance of e-wallets)
- ❑ Marketing reasons:
 - ✓ Attract new clients, sell them new services (payment of bills...)
 - ✓ Customer retention (reduce churn) : the more you are used to a variety of services supplied by the same provider, the harder it is to leave this provider
 - ✓ Reduce operational costs of MNO's core activity through mobile top-up and sharing cost of network with other services than just purchase of airtime

(2) The success of M-Kesho in Kenya illustrates the potential of integrated partnerships linking e-wallets supplied by a non-bank MFS provider to banks accounts supplied by microfinance providers.

Although e-wallet systems were originally designed for MMTs and M-Payments independently from financial institutions, some e-wallet MFS providers have recently partnered with financial institutions, to enable e-wallet holders to gain easy access to microfinance services by opening an account with the partner financial institution, with a possibility to transfer money between their e-wallet and their newly opened bank account.

For the financial institution, the aim is to attract new clients for microfinance services (project finance, savings, insurance...), by enabling them to perform the following financial transactions on their client's bank account with their mobile phone (using the e-wallet as a transit account to reach their bank account):

- ❑ Disbursements/Reimbursements in cash
- ❑ Deposits/withdrawal (this can be useful for clients receiving regular income on their saving account but living far from microfinance provider's branches, like pensioners)
- ❑ Transfer to accounts of other clients of the microfinance provider
- ❑ Payment of insurance

This type of partnership enables to supply the client with mobile banking transactions (as defined in chapter 2.1.: *"connecting a mobile phone with a bank account. Mobile banking allows customers to use their mobile phone as another channel for their banking services, such as deposits, withdrawals, account transfer, bill payment, and balance inquiry"*), using the e-wallet MFS provider's infrastructure.

International experience shows that such integrated partnerships between e-wallet MFS providers and microfinance providers are not easy to forge, because financial institutions and MNOs have difficulties understanding each other's constraints. As a consequence, establishing such partnerships requires a great deal of work to achieve mutual understanding. International evidence suggests the following points to clarify:

- ❑ Pricing: pricing strategies which are acceptable for MMTs or M-Payments may not be adapted to microfinance transactions (with the exception of M-PESA and Zap, most e-wallet MFS providers commonly charge 5-6% commission on transactions). In many countries, agreements were not found between e-wallet MFS providers and MFIs because pricing requirements of e-wallet MFS providers (linked to the structure of their agent network) were incompatible with microfinance providers' pricing constraints.
- ❑ Business model: how will the microfinance provider share the cost with its clients, how will the e-wallet MFS provider share the costs and revenues with the microfinance provider?
- ❑ Regulatory issues: licensing of e-wallet MFS providers, use of non-bank agents for banking transactions, AML/CFT, confidentiality of banking information.

Despite these constraints, this model has been successfully implemented in several East African countries, especially by Zain's Zap (Kenya, Tanzania, Uganda). Nevertheless, the most successful illustration of such scheme can be found in Kenya: taking advantage of the success of Safaricom's e-wallet, M-PESA, in developing MMTs and M-Payments in Kenya, a partnership has been signed between Safaricom and Equity Bank, a major microfinance bank, to create M-Kesho, a specific account in Equity Bank, linked to M-Pesa's e-wallets, and thus accessible through clients' mobile phones. This has led to the creation of over 1 million new bank accounts between June and September 2010¹. Equity Bank has since then replicated such partnerships with other e-wallet systems in Kenya, such as Orange Money (service is called Iko Pesa).

2.2.5. BANK-LED BUSINESS MODEL

2.2.5.1 Presentation of bank-led business model

(1) In a bank-led MFS business model, a licensed financial institution (bank or MFI) implements the MFS as a new distribution channel. No e-money is required

Bank-led MFS schemes enable to supply full-fledged mobile banking services, which means having a mobile phone connected with a bank account, thus enabling the financial institution to increase the accessibility of the following services for its clients:

- ❑ SMS banking
- ❑ Non-cash transactions: account to account transfers, payment of goods at merchants, payment of services (utility bills, phone credit...)
- ❑ Cash transactions: repayments in cash, deposit and withdrawal on bank account, remittance (cash to cash transfer: users of this service do not necessarily need to be clients of the financial institution)

As the MFS transactions take place directly on the client's bank account, there is no need to create additional electronic wallets or use e-money, except in some cases for technical reasons, as explained in paragraph 2.2.3.

¹ Article in Business Daily (Kenya), Nov 11th 2010.

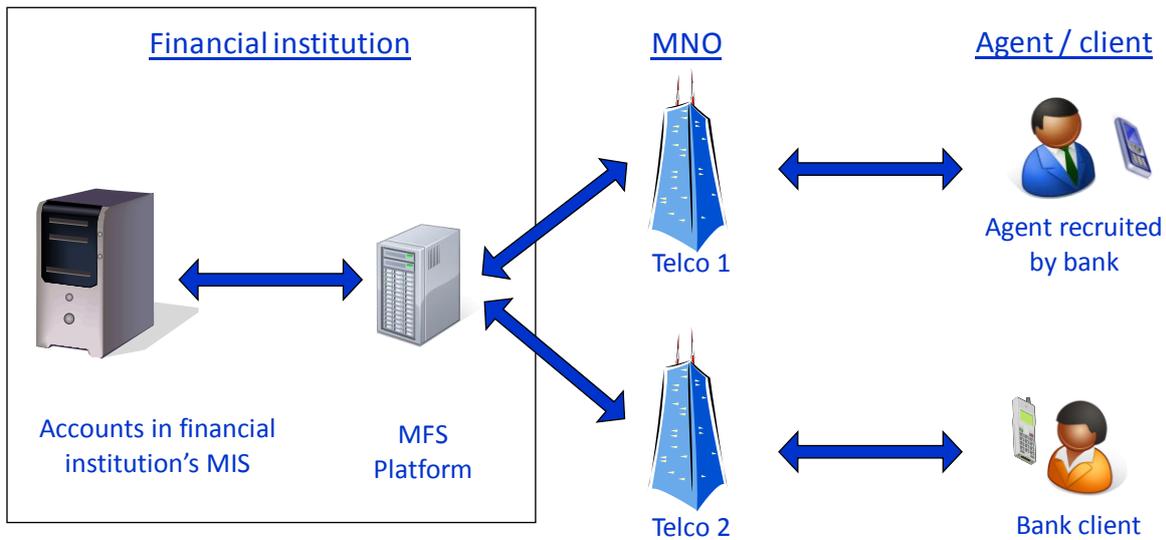
(2) The technical infrastructure can be owned and managed by the financial institution itself, or possibly mutualized and/or subcontracted to a service provider

In a single bank-led MFS business model, the technical infrastructure necessary to manage MFS transactions (mobile platform which makes the link between the accounts in the bank’s MIS and the messages sent through mobile phone networks) is owned and managed directly by the financial institution, enabling it to potentially use all existing mobile networks and reach its clients regardless of which MNO they use.

The case of using mobile financial solution as an internal tool for financial institutions

If the bank’s cashiers have access to the MIS, they can register transactions and deliver receipts, and thus do not need a mobile financial solution for their activities.

By contrast, for cashiers who do not have access to MIS (financial institution’s mobile cashiers or small unconnected outlets), mobile financial solution can be a convenient link to the financial institution’s MIS, thus enabling them to consult the client’s balance before withdrawal, check installment amount before collecting loan reimbursement, register the transaction and send a receipt to the client’s mobile phone. Such a solution can be more cost effective and technically easier to implement than card/EPOS systems.



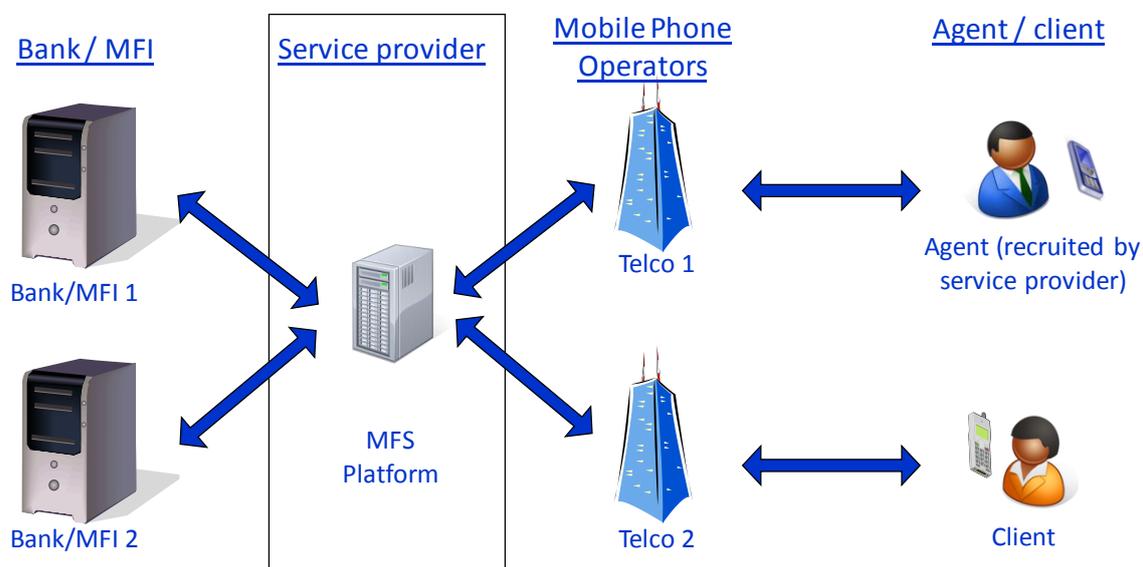
Architecture of a single bank-led MFS business model

The single bank-led MFS scheme is the one used by XacBank in Mongolia, and FNB in South Africa.

It is also possible to mutualize the network of agents and technical infrastructure necessary to supply bank-led MFS by establishing a third party service provider (often a common subsidiary of several financial institutions), responsible for implementing the mobile platform, establishing partnerships with MNOs, setting-up and managing the network of agents. In this business model, each microfinance provider supplies its own services to its clients using the technical

infrastructure and network of agents provided by the service provider, with whom it has a contract.

The government of Senegal (following opportunity and feasibility studies conducted by Horus) plans to set-up a service provider to supply such mutualized bank-led MFS services.



Architecture of a mutualized bank-led MFS scheme (through a service provider)

(3) As compared to linking bank accounts to e-wallet MFS systems, becoming a bank-led MFS provider enables financial institutions to retain control on all services (including remittances), transactions and clients. Nevertheless, they require significant project management capacities.

Unlike partnerships with e-wallet providers, in which the provider of e-wallet and the microfinance provider may compete on some services (especially cash remittances), bank-led MFS are designed to support financial institutions' outreach strategy.

As a consequence, it requires strong involvement of the financial institution, to make sure the activities required to set-up and manage the Mobile Financial Services are conducted according to its interest. Responsibility of conducting these activities is taken by a financial institution or a service provider (in case the MFS is shared between several financial institutions). These activities include: design of services, establishment of agreements with MNOs (to use their technical networks to channel data to the financial institution's MIS), technical implementation of the required IT infrastructure and software (mobile platform), set-up and management (commercial and back-office) of the network of agents, administration of the service: control of transactions, assistance to clients/agents, complaint management.

2.2.5.2. Bank-led business models from a financial inclusion perspective

(1) Bank-led MFS business models offer the broadest range of financial services, but, in order to achieve their financial inclusion potential, they require simplifying account opening procedures.

In bank-led MFS business models, clients have a direct relation with a microfinance provider, thus enabling them to potentially access a full range of financial services. The potential effect on financial inclusion is high, provided poor clients are provided with a simple way of opening an account with the MF provider, without having to come to the branch.

2.3. KEY CHALLENGES IN CONDUCTING A MOBILE FINANCIAL SERVICES PROJECT

2.3.1. CAPACITY OF FINANCIAL INSTITUTIONS

2.3.1.1 Reliable core system as a pre-requisite

(1) Every financial institution needs an information system to manage its portfolio of customers, their accounts and their contracts and to provide timely reporting to management and regulatory authorities.

Only very small institution can afford to rely on a "manual" information system. Therefore, a "Management Information System" (MIS) is a major component of the information system. When implemented and managed well, a sound MIS can help MFIs:

- ❑ Make informed decisions (evaluate performance by branch and loan officers, manage cash flows, monitor loans and PAR)
- ❑ Improve reporting with standard reports recommended by best-practices in microfinance and reduces time and effort spent generating reports for regulators, donors, and investors
- ❑ Last but not least, improve the quality of services provided to customers: improve operational efficiency and transparency, propose more flexible products, speed and secure the approval time for project financing and other products².

² The CGAP technology website is providing useful background documentations and recommendation <http://www.cgap.org/p/site/c/template.rc/1.26.3802/>

It is to be noted that the term “Loan Tracking” system often used to refer to an IT system for microfinance is quite misleading. Every institution has to “track” customers (not only loans), especially in microfinance where socio-economic customers’ data and capacity to analyse social impacts is so important. And even non-deposit taking MFI may want to manage information not related to loans such as compulsory savings, money transfers between branches, micro-insurance, etc.

(2) In microfinance, one of the key decisions to make when selecting an MIS system is to choose between microfinance software and (retail) banking software...or to opt for a combination of both.

Microfinance software has limited functionalities but can be implemented easily, as long as they exactly fit the institution’s requirements. On the other hand, banking software has a wide set of functionalities but any process, whether simple or complex is difficult to set up.

Trying to adapt a banking solution to the specific requirements of microfinance activities is quite difficult and leads in most cases to implement systems that are not adapted to the MFI needs. On the other hand, a dynamic MFI may soon outgrow its microfinance system and would require a more robust core banking system.

(3) In absence of a stable and reliable “core” system, no MFI can develop its activities without incurring unacceptable risks (for itself, and for its customers).

A Management Information System is the foundation of any financial institution. Without this backbone, a MFI cannot expect to successfully use any technologies (and processes) facilitating branchless banking.

(4) In considering branchless banking initiative, it is crucial not to forget this “first thing first” paradigm.

2.3.1.2 Adaptation of processes to branchless banking

(1) Microfinance providers should not consider Mobile Financial Services only as a technical project, as supplying such services will require adapting their organization, products and processes.

- ❑ Specification of products:
 - ✓ From a marketing point of view: which products, for which clients, features and conditions of products, pricing...
 - ✓ From a technical point of view: how to implement such products in the technical environment (MIS, link with MFS provider's platform...)
- ❑ Design of processes to implement the new services, and impact on existing processes, such as account opening, cash management, etc.
- ❑ Change management to take into account how the mobile services offered will impact their organisation and their operational and control processes. With clients being able to transact in most cases without a direct, face to face relations with MFI's staff, special care has to be taken to adapt how the MFI will communicate with clients, assist them, monitor transactions, etc.

2.3.2. REPARTITION OF COSTS AND REVENUES

(1) Whatever the type of business model, implementing Mobile Financial Services involves a large number of stakeholders, which is never simple. In any case, the MFS provider needs to make sure that all parties have a common interest in developing the system.

- ❑ Customers will only accept to pay for the service if it brings significant added value compared to existing solutions, formal or not, and if the pricing is consistent with their idea of the value of such Mobile Financial Services. For instance, rich customers may accept a 5% commission when they pay their satellite TV subscription through their mobile phone, but the beneficiary of a social transfer might prefer to travel to a branch and queue rather than paying a 5% commission to cash out his social benefit close to his home.
- ❑ Agents are the main interface between the MFS provider and clients, so it is important that he is strongly motivated to deliver the service with high standards of quality. The issue of agents will be detailed in paragraph 2.3.3.
- ❑ Technical partners of the MFS provider must find their interest:
 - ✓ This is a key issue for MNOs in bank-led MFS business models: MNOs are often skeptical about their interest to engage in such partnerships, even though they can expect

direct revenues from the flow of data transiting through their networks, and more indirect revenues later on, when part of their customer bases will be attracted to more sophisticated value added services launched by MNOs themselves.

- ✓ The opposite is also true: MNOs have often tried to use MFIs as third party agents in e-wallet MFS business models, but have not been very successful as the interest for MFIs to engage in such activities remains to be demonstrated.
- In the case where a microfinance provider chooses to partner with an existing MFS provider (whether an e-wallet MFS provider or a mutualized bank-led MFS system), it should be convinced that it will gain in outreach, attract deposits, and share a fraction of the revenues generated by transfers.

(2) A successful pro-poor system should aim at minimizing costs, which requires cutting on costs by mutualizing as large a part of the infrastructure as possible.

- Use existing businesses as third party agents, and if possible share them with other institutions that need a network (utilities, MNOs...) in order to mutualized agent management costs.
- Promote shared technical infrastructures to share investment costs (difficult when MNOs are the MFs providers, but suitable for bank-led MFS business models).

2.3.3. BUILDING A NETWORK OF AGENTS

(1) Third party agents performing cash transactions for Mobile Financial Services must fulfill a certain number of requirements with regards to trustworthiness, capacity and security.

Regardless of any question of regulatory compliance, agents performing MFS transactions with clients would need to fulfill the following requirements:

- Honesty and trustworthiness
- Capacity to conduct transactions safely: agents must be educated/trained enough to perform financial operations without making mistakes; they must meet the material requirements to protect the safety and confidentiality of the transactions;
- In case the agents perform cash transactions, they must have the cash capacity to conduct these MFS transactions without disrupting the cash situation of their own business: cash in and cash out transactions will not always be exactly balanced, so the agent must have the capacity to perform several cash-in (or cash-out) transactions without this creating severe imbalances in his cash position. This can be solved by providing the third party agent with a solution to deposit or withdraw cash when he needs to restore his cash position (through another larger agent such as a petrol station or a financial institution).

(2) The key success factor of the network of agents is not only density, but also choosing the right type of agent at the right place, according to the local economic context.

The mass recruitment of agents is a key-success factor to enable proximity and convenience for a large customer base. Ongoing experiences in different countries show that a mass recruitment of proximity agents is possible when the segmentation of agents matches the segmentation of the target population and the local economic context:

- ❑ In remote areas where the economic activity generates low amounts of money, the number and the amount of transactions is likely to be low at the start of the service. As a consequence, it is not necessary to recruit agents with high cash capacities. A “normal” amount of cash may be defined in a detailed feasibility study on distribution issues;
- ❑ The economic activity in rural areas generates short travels towards hotspots (markets, high circulation crossroads etc.), where it is possible to find retail shops, petrol stations and sometimes MFI branches. These MFS points of service can be used as relay for smaller agents located in remote areas;
- ❑ In urban areas: the density of shops enables a denser coverage of agents as agents are closer to banks, which makes their cash management easier.

(3) Using existing national, branded networks as third party agents makes it easier to meet the requirements mentioned above, but is not always possible.

Using existing national, branded networks, such as post offices, National Electricity Corporation or large networks of retail stores helps to solve most of these issues, as the managers of these networks share the same objective of having trustworthy, well-trained and liquid agents.

Nevertheless, in many countries, piggy-backing on branded national networks is not enough to achieve the required level of outreach in a branchless banking scheme. In such cases, the network of agents should be completed by adding retail outlets on an individual base including village grocers, pharmacists, petrol stations, transportation companies, Internet points, etc.

(4) The amount of work to build and manage a network of agents for the sake of branchless banking should not be underestimated. This task can be outsourced if necessary. Financial institutions can contribute in building a network, by identifying potential agents among their clientele.

In Kenya, Philippines, South Africa and Latin America, or Mongolia, MFS works with thousands of agents. Selecting them, training them, supervising and controlling them require significant capacity from the provider of branchless banking services.

In some countries such as Brazil, banks have outsourced the identification and management of agents to private companies, known as network managers. They are registered by the central bank and provide a wide variety of services such as selection of agents, training related to AML/CFT, marketing, cash management. In terms of sharing responsibilities, network managers often respond to the bank for the actions of the agents in their network.

Agents are typically small retail businesses. As a consequence, there should be plenty of potential agents among microfinance clients. Based on the history of their financial relation with these clients, Microfinance providers should be able to identify those who would best qualify to meet agent requirements.

(5) Although commissions remain a must, agents should have other complementary motivations to participate in the MFS scheme, as the cost of the whole MFS scheme should remain as low as possible to attract clients.

Several reasons can explain why third party agents can be interested in participating in a MFS scheme:

- ❑ Direct revenues : receive commissions for each MFS transaction
- ❑ Differentiate from competitors and attract more clients for their existing business
- ❑ Develop a closer relation with their bank : by becoming an agent for a MFS scheme developed by their bank, agents can expect that this closer relationship will facilitate future financing (it will increase bank's visibility on the agent's business)

Although the relevance of each of these factors might differ from one type of business to the other, it is important not to rely on commissions as the sole motivation for agents to participate in the MFS scheme: in this case, the expectations of agents might be too high. For instance, airtime resellers, for which commission is the only motivation, typically expect to receive 5 to 6% of the value of airtime scratch cards they sell, which would be unacceptably high for an MFS scheme.

2.3.4. TARGETING THE RIGHT SERVICES FOR THE RIGHT TARGET SEGMENTS

(1) The nature of products, their level of sophistications of processes and technologies used should be adapted to the targeted clientele: to be successful, pro-poor MFS should focus on a simple range of services and technologies.

International experience shows that the features of Mobile Financial Services such as MMTs or M-Payments need to be carefully tailored according to the real needs or constraints of target clients.

In several West African countries, MNOs are experiencing difficulties in implementing their e-wallet based Mobile Financial Services, due to non-adapted choices in terms of products and processes (never forget that not all ongoing MFS projects conducted by MNOs are as successful as M-PESA):

- ❑ Overly restrictive KYC and security requirements deter clients who are not already familiar with transacting with agents and mobile phones.
- ❑ Non-adapted partnerships for M-Payment, and high pricing for MMTs limit the attractiveness of services supplied for middle-income and poor clients.

As a consequence, if the targeted clients are rural and poor, services and processes should be kept simple. Serving urban and upper class clients requires different services and different processes. Trying to serve both at the same time, with the same products, processes and technologies would be a mistake.

2.3.5. INTERFACING THE MICROFINANCE PROVIDER'S MIS WITH THE MFS PLATFORM

(1) Each branchless banking delivery channel requires specific IT systems and processes which need to be linked with the core MIS of the microfinance provider.

Each delivery channel has its own technical requirements and requires specific IT solutions. The microfinance provider's "core" MIS must be able to interface with these solutions. This implies a strong core MIS with an "open architecture" to ease the integration of the various delivery channels, and especially Mobile Financial Services.

(2) If the MFS platform cannot access the microfinance provider's MIS online, the scope of possible services is limited.

Whenever a client wants to use his mobile phone to do a financial operation involving his bank account(s), the MFS platform should be able to connect with the microfinance provider's MIS. When the client is checking the balance of his account, he expects to get up-to-date information. When the client conducts a mobile payment or a cash-out transaction (at an agent or other cash-point), the MFS platform should first check the account balance, validate that the operation can be done and afterwards debit the client's account.

Very often, the MIS of microfinance providers is not yet capable to provide an on-line connectivity with a third-party system and to guarantee that all customers and accounts data is really up-to-date (transactions being recorded "off-line" at the end of the day; data being scattered in each branch with delayed consolidation at head office level, etc.)

But in such cases, the mobile system cannot access in "real time" the MIS system where the account is maintained and the scope and quality of available services is reduced. The balance request will show the situation "as at" the last time the information was updated in the mobile system (if the mobile system does store an "image" of account balances, by periodically importing the accounts balances). If the client wants to debit his bank account, either the system will refuse the transaction, or accept it if the financial institution allows an operation that may put the account in overdraft. In that case, the MFI has to specify the amount that can be debited without the system being able to check if the funds are sufficient.

As a conclusion, delivering Mobile Banking services is possible even with an "off-line" MIS (as is also often the case with ATMs transactions), but the services are obviously more limited and the customers' expectations have to be set right. Launching a mobile financial service is therefore a strong incentive to upgrade the MIS of the financial institution.

3. REGULATORY REQUIREMENTS FOR BRANCHLESS BANKING

As a relatively new and rapidly developing phenomenon, branchless banking is rarely addressed directly by the relevant regulatory frameworks. Instead, branchless banking cuts across a broad spectrum of regulatory domains, making a cohesive and coordinated policy and regulatory environment necessary for branchless banking to thrive.

In line with the works of CGAP¹ and of the Bill and Melinda Gates Foundation², we will address the following topics:

- ❑ Major issues
 - ✓ Use of third party agents as cash-in / cash-out points and customer interface.
 - ✓ Tiered AML/CFT/KYC, to adapt requirements to the reality of risks related to remote branchless banking transactions conducted through third party agents.
 - ✓ E-money : authorizing non-bank e-money issuers to raise deposits and process payments (but not to intermediate funds).
 - ✓ Consumer protection : help customers understand and exercise their rights in a complex service delivery chain.

- ❑ Other issues
 - ✓ Competition among providers of MFS
 - ✓ Foreign Exchange Controls
 - ✓ E-Commerce and e-Security
 - ✓ Telecom/Mobile Network Operator (MNO) Regulation
 - ✓ Taxation

For major issues, this chapter will identify the elements of the existing regulation which apply to branchless banking, as well as the “blurs” or missing elements in it. For other issues, this chapter will identify the key points to address.

¹ CGAP, Branchless Banking Regulatory Framework assessment template

² Alexandre, Mas, Radcliffe, Regulating New Banking Models that can bring Financial Services for All, August 2010

3.1. USE OF THIRD PARTY AGENTS FOR BRANCHLESS BANKING

Banking beyond branches: impact on the regulation on branches

As described in chapter 1.3.1., branchless banking should not be understood as banking without branches, but banking beyond branches: in order to increase outreach, financial institutions should set-up a more tiered distribution network, possibly including branches, field offices and outsourced third party cash agents, such as those used for MFS transactions. Whereas third party cash agents should not be considered as branches, the possibility that microfinance providers create small outlets supplying a reduced range of services or performing a reduced range of activities raises the issue of the possible need to adapt existing regulations on branch requirements. In most countries, the existing "one size fits all" regulation is in fact shaped on the environment and constraints of the largest branches, and is thus unfit for new, more specialized types of bank/MFI offices.

Third-party agents are existing commercial outlets that can be very varied: village shops, pharmacies, gas stations, lottery kiosks, cybercafés, post offices, MFIs, etc. As a prerequisite for being a financial institution's agent, they must have an activity involving cash transactions and be ready to manage a sufficient level of funds; moreover, their existing activity should cover their fixed costs. As a consequence, they have the capacity of reaching out much further than bank branches.

(1) Cash-in/cash out transactions performed by third party agents bear limited risks, as the agent never holds any financial assets belonging to the client or the MFS provider, but nevertheless require a regulatory framework.

In order to develop MFS on a large scale, it is often necessary to use third party agents to take the opposite side in clients' cash transactions. These agents are independent dealers with whom the MFS provider (MNO, service provider or financial institution) is related through a contract.

The main responsibility of these agents is to perform cash in/cash out transactions under the responsibility of the MFS provider:

- ❑ Deposit on/withdrawal from an account (virtual account in the case of an e-wallet MFS business model, bank account in the case of a bank-led MFS business model).
- ❑ Cash to cash remittance sending/reception (this is different from former case because the remittance does not transit through a bank account or virtual account belonging to the client).

The level of risk borne by such transactions is low, because the agent never holds any financial assets belonging to the client or to the MFS provider: all cash transactions that he performs are

immediately offset by an account transaction on the client's and the agent's accounts; as a consequence, the cash in the agent's till always belongs to him, not to the client or to the MFS provider.

Despite the low level of risk, it is necessary that the cash activity of agents be conducted in a clear regulatory framework.

(2) The outreach of branchless banking depends on the possibility of non-bank agents being involved in opening accounts. This specificity of branchless banking requires an adapted regulatory framework.

The outreach of branchless banking schemes will be limited if clients do not have a simple way to join these schemes by opening an account. The most obvious way would be to enable agents to perform the first steps in an account opening process:

- ❑ Opening of a virtual account in the case on an e-wallet MFS business model.
- ❑ Opening of a bank account (possibly a simplified one) in the case of a bank-led MFS business model.

The activities performed by agents to open accounts should be understood as the first steps in the account creation process. In any case, clients' applications and supporting documents must be checked by the MFS provider staff before any account can be opened or activated.

Possible solutions implemented in other countries to open bank accounts out of branches include:

- ❑ Opening of a normal bank account through a 2 stage process:
 - ✓ Third party agents collect client's application and documents.
 - ✓ Documents are sent to branches where they are checked before the bank account can be opened. The client is informed of the opening of his account by a message on his mobile.
- ❑ Creation of a simplified bank account with limited features (cap on balance, transactions...) that can be opened without coming to the branch (through third party agents). Comments :
 - ✓ If it is stored within the microfinance provider, this simplified bank account is not a virtual account and does not use e-money.
 - ✓ This simplified account is used for MFS transaction by clients who do not wish to open a "normal" bank account in a branch. Clients who have a "normal" account do not need to open an additional account for MFS transactions.

(3) The regulation on agents needs to include a definition of which transactions agents are entitled to perform, and under which restrictions. This can possibly lead to creating several types of agents with different rights.

As requirements and capacities of agents are quite diverse, an efficient agent system often includes a hierarchy of agents with different rights:

- ❑ Supervision of other agents;
- ❑ Making transactions with other agents (to restore their cash position when they have made many cash-out transactions, or their account position when they have conducted too many cash-in transactions);
- ❑ Nature and amounts of transactions: cash-in/cash-out, payment of goods, account opening...

(4) Other issues to tackle include licensing process, contract requirement, and supervision.

Future regulations to be introduced on the use of third party agents in MFS transactions should address the following issues:

- ❑ Licensing requirements of third party agents :
 - ✓ Do agents need to be registered or hold a license?
 - ✓ What is the process to receive such a license, and what are the responsibilities of the agent and of the MFS provider in this process? In particular, can registration be done collectively, through the MFS provider, or do agents need to apply separately?
 - ✓ Can a licensed agent work with several MFS providers at the same time?
- ❑ What are the requirements on the relation between the agent and the MFS:
 - ✓ What type of contract is required? Which points should necessarily be addressed?
 - ✓ Are there specific requirements on the MFS provider conducting a due diligence process before he signs a contract with the agent?
 - ✓ What are the requirements on the content of the training agents should receive? Who is allowed to conduct such trainings?
 - ✓ Are there conditions that the MFS provider should meet before he can be authorized to sign contracts with agents?
- ❑ How should the supervision of these agents by the Central Bank of Sudan be organized?

Existing regulations in Ghana and Pakistan offer interesting benchmarks on the issue of using third party agents in branchless banking:

- ❑ Bank of Ghana's "guidelines for branchless banking"
- ❑ State Bank of Pakistan's "branchless banking regulations": licensing/registration of agents, content of the contract between agent and MFS provider.

3.2. AML/CFT REGULATIONS

(1) The clientele and the environment of MFS transactions make it difficult to meet standard KYC rules applied in other financial transactions.

Applied to MFS transactions, KYC procedures typically require customers to present valid identification and MFS providers to verify the documents and store copies. Given the clientele targeted by MFS and the environment in which MFS transactions take place, meeting standard KYC procedures proves a real challenge:

- ❑ Many poor people do not have ready access to documents. In Sudan, from the discussions held with MFI staff, the scope of documents accepted seems to be broad enough to mitigate this risk).
- ❑ In rural areas, retail outlets which do not have access to copy machines or lack stable electricity supply might find it difficult to comply with KYC requirements.
- ❑ Finally, these requirements are costly and might make low-balance accounts economically unprofitable for MFS providers.

(2) Disproportionate KYC procedures undermine the efficiency of the whole AML/CFT process.

As Alexandre, Mas and Radcliffe³ explain it, AML/CFT policies aim at reducing the risk of money laundering by combining two goals:

- ❑ Shift as many transaction flows to traceable electronic platforms;
- ❑ Identify the parties to financial transactions. This is mainly done through KYC procedures.

Developing Mobile Financial Services clearly serves the first goal, but compliance with the second objective is not possible if disproportionate KYC rules are applied to MFS transactions.

³ Alexandre, Mas, Radcliffe, *Regulating New Banking Models that can bring Financial Services for All*, August 2010

(3) Given the low level of AML-related risk in MFS transactions, there is a case for applying reduced KYC procedures for low value accounts and small transactions. Tiered KYC seems to be the best option.

Branchless banking transactions ceilings seldom exceed the equivalent of 200 US dollars. In the case of virtual accounts, they have a ceiling of a few hundred USD. For such low value accounts and transactions, the risk related to money laundering is very low.

As a consequence, applying reduced KYC procedures, enabling the development of traceable MFS transactions (substitute for formerly informal transactions) will definitely increase the efficiency of AML procedures.

A possibility would be to introduce "tiered" KYC, with progressive requirements according to the amounts of each transaction, and different categories of accounts.

(4) The remaining KYC procedures will need to be implemented mainly by agents, which will require training and monitoring from the MFS provider.

3.3. ELECTRONIC MONEY

(1) The main differences between e-money accounts (e-wallets) and current accounts is that e-wallets accounts are provided by non-banks, and that they are used only for small amounts.

According to the European Union's definition, endorsed by CGAP, e-money is a monetary value stored on an electronic device which is issued on receipt of funds and accepted as a means of payment by parties other than the issuer.

In order to understand how e-money ought to be regulated, it is important to understand the difference between an e-wallet (e-money account) and a current account provided by a regulated financial institution:

- ❑ The arguments commonly used to differentiate e-money accounts from ordinary current accounts are that e-money accounts are "electronic" and "pre-paid". In fact, this is also the case for current accounts provided by financial institutions :
 - ✓ Current accounts are stored electronically on the bank's server, and are thus not less "electronic" than e-money accounts.

- ✓ Withdrawals on current accounts are subject to verification that the amount withdrawn does not exceed the balance of the account, making them pre-paid accounts.
- The real differences are the following :
 - ✓ E-money accounts are issued by non-banks, and thus are not protected by the regulation applying to bank deposits;
 - ✓ E-money accounts are meant to be used for small transactions only.

(2) As a consequence, the regulation for e-money needs to address the two following main points: protecting the funds deposited in e-money accounts and adapting legal account features (KYC, ceilings for account balance and transactions...).

- Security of funds deposited in e-money accounts: the non-bank e-money issuer *should maintain unencumbered liquid assets equal to the amount of e-money issued, and the funds underlying issued e-money should be insulated from institutional risks of claims by e-money issuer's creditors, such as claims made in the case of bankruptcy*⁴.
- Adapted rules linked to the reduced level of risk on small transactions/balances:
 - ✓ This requires defining rules to make sure e-money is not used for larger transactions/amounts: establish ceilings on balances, transaction amounts (per transaction, per day, etc.)
 - ✓ Adaptations can be made on KYC rules, supervision, etc, in proportion with the level of perceived risk on e-money accounts and transactions.

In many countries, specific "e-money emission" licenses have been created, enabling non-bank institutions to emit e-money under specific conditions. In some other countries, only banks have the right to emit e-money (in this case, e-money accounts are only a type of simplified account).

3.4. CONSUMER PROTECTION

(1) Having third party agents as a main customer interface requires adequate consumer protection regulations

⁴ CGAP, Focus Note n°63 Nonbank E-Money Issuers: Regulatory Approaches to Protecting Customer Funds

Additionally to existing regulations, branchless banking activities will require reinforcing the legal framework to take into account the following specificities of Mobile Financial Services related to consumer protection (as listed by CGAP):

- ❑ Financial transactions take place outside of branches (sometimes quite far away). This can be an obstacle in solving possible litigations;
- ❑ As a third party agent acts as an intermediary between the client and the financial institution, the responsibilities in case of fraud/abuses/breakdown of service affecting the client must be clearly stated;
- ❑ Given the high number of stakeholders (client, agent financial institution, MNOs...) and products, transparency of pricing (and price structure) can be an issue;

(2) Disclosure norms, data privacy standards and redress mechanisms should be implemented by MFS providers and their network of third party agents.

In order to increase customer protection without increasing the cost of provision of MFS, customer protection measures should focus on the following issues:

- ❑ Disclosure: displaying signs or posters with information on the agents' roles and responsibilities, a table clearly showing fees, MFS provider's call center number
- ❑ Redress mechanisms: MFS providers should be requested to implement redress mechanisms (ombudsman...)
- ❑ Data privacy:
 - ✓ Third party agents should access the minimum possible level of information on the client's situation. Transaction processes should aim at having the agent handling cash upon system request. To do this, he does not need to know about transaction details such as transaction purpose (is the cash-in transaction an insurance payment or a deposit transaction?), account features (balance of client's account...).
 - ✓ Agreements between MFS providers and telcos should prevent telcos and their staff from accessing, using or releasing the information going through their networks
 - ✓ MFS providers and their partners should justify that stored and transmitted data are protected from piracy

3.5. OTHER REGULATORY ISSUES

- ❑ Competition issues refer to policies governing competition among providers, which balance incentives for pioneers to get into the branchless banking business against the risk of establishing or reinforcing customer-unfriendly monopolies and which promote interoperability. These issues are mostly important when MNOs are the MFS provider.

- ✓ Interoperability raises the following questions :
 - ✓ Can agents be used by clients of competing e-wallet MFS providers?
 - ✓ Can a customer of one e-wallet MFS provider send money to a customer of a competing MFS provider?
 - ✓ Can accounts in a financial institution be accessed from competing e-wallets MFS providers or shall each financial institution partner with only one e-wallet MFS provider?
- ✓ Network effects require attention to competition issues from the inception of e-wallet because the rapid development of a dominant e-wallet MFS provider which is not interoperable could block the emergence of competing e-wallet MFS providers. On the other hand, if new payment systems are not interoperable with older systems, inefficiencies blocking customer outreach may result.
- Foreign exchange controls :
 - ✓ Given the amounts at stake, using MFS systems for foreign remittances is an obvious objective for any kind of MFS provider.
 - ✓ This raises specific issues and should be not be considered in the first years, until further lessons have been learnt about regulating MFS systems and transactions
- E-commerce and e-security :
 - ✓ Following the development of e-commerce and e-banking, most countries have adopted regulations on e-security, addressing issues such as electronic signature.
 - ✓ As described in this report, considering the targeted clientele, we consider that the security of MFS transactions should rely on well designed business processes rather than on security technologies (too costly, too dependent on wireless bearers and SMS card/handset capabilities). Therefore, it is important to adapt the regulation on electronic signature in order not to impose disproportionate e-security requirements to small amount MFS transactions.
- Telecom-related regulation : several aspects of the telecom regulation might have an impact on MFS:
 - ✓ Interoperability of mobile network: is there a regulation requesting MNOs to offer off-net services at decent prices, enabling effective interoperability of some value-added services?
 - ✓ Regulation of value-added services (from a telecommunications regulator point of view, MFS can be considered as value-added services supplied by MNOs):
 - ✓ Is there any restriction in the scope of value-added services that a MNO can supply, that could limit MNO's ability to engage in MFS?
 - ✓ Is there a regulation requesting MNOs to share shortcodes for value-added services?
 - ✓ KYC regulation for MNOs: is there any provision in the KYC rules for MNOs that would limit MNOs' ability to engage in MFS?

- ❑ Taxation: Taxation can strongly affect the price of services. As MFS consists in making financial transactions through mobile phones, and given tax rates on financial services might differ from those on telecommunication services, it is necessary to make sure that an equal tax regime applies to similar services, regardless of the provider. For instance, if e-wallets are provided by a MNO, they should be subject to taxes on financial services, not to taxes on telecommunications services.

4. CONTEXT IN SUDAN

4.1. FINANCIAL SERVICES IN SUDAN

4.1.1. OVERVIEW OF THE FINANCIAL SECTOR

The financial system in Sudan (with the exclusion of Southern Sudan) follows Islamic principles. The Central Bank of Sudan (CBOS) is responsible for supervising the whole financial system, determining and enforcing policy rules such as minimum profit levels, deposit reserves, ceilings for volume of credit and activities to which credit is provided. CBOS manages the clearing house of Sudanese banks.

CBOS oversees an institutionally diversified financial sector comprising 38 licensed banks, most of which are registered as commercial. Five additional banks are registered as 'specialized' including three important microfinance providers (MFPs): The Agricultural Bank of Sudan (ABS); the Savings and Social Development Bank (SSDB) and the Family Bank in Khartoum state.

In spite of the steady development of banks' branch networks (over 600 in 2009), banking penetration remains quite low, bearing in mind that most banking institutions are concentrated in larger cities and particularly in and around Khartoum. Access to bank credit remains limited, with only 15% of Sudanese companies having loans from formal financial institutions, according to a recent World Bank study. The ratio of Non-Performing Loans stood at 20.5% at the end of 2009, half of it concentrated in the state-owned Omdurman National Bank.

	2005	2006	2007	2008	2009
Nb banks	29	30	32	35	38
Branches & Offices	565	566	578	610	628
<i>Incl : branches</i>	517	522	532	564	585
Number ATMs	25	115	265	395	507
Number of Exchange Bureaus	15	18	18	22	20

Bank branches, ATMs and exchange bureaus⁵

⁵ Source : Central Bank of Sudan website

In addition, the financial sector includes at least 12 financial services companies; a leasing company; a government bond institution issuing *sukuk* and other Islamic financial papers; the Khartoum Stock Exchange listing around 40 companies; some 20 foreign exchange companies (the central bank supplies foreign exchange to bureaus and commercial banks to meet private demand); 15 insurance companies; and 4 national funds, including the Pensioners Fund, the National Social Insurance Fund, the Industrial Finance Fund and the Bank Deposit Security Fund.

In Billion USD	2005	2006	2007	2008	2009	Jun 2010
Total bank assets	6.6	11.5	12.8	14.0	16.4	17.2
Total deposits	4.2	6.1	7.0	7.7	9.5	10.5
Total bank advances	2.9	5.3	6.3	6.9	8.1	8.4

Banking activity⁶

Of the total lending, murabaha contracts had dropped to 47% in 2008, down from 58% the year before. The profit margin charged on commercial murabaha contracts varied from 8-18% in 2008 against the recommended 10%, which in 2010 has been reduced to a recommended 9%⁷.

4.1.2. FINANCIAL SERVICES FOR THE POOR

(1) Despite ambitious development plans, extensive work done on policy and a large amount of funds available, microfinance remains in its early stages in Sudan.

CBOS defines microfinance as financial services to poor people. Poor people are defined as people with an income not exceeding twice the minimum salary (currently SDG 500/month) and whose productive assets excluding land do not exceed a value of SDG 10,000. A former restriction excluding low-income wage-earners from the microfinance clientele was recently lifted. Micro-financing is restricted to a maximum of SDG 10,000/contract (USD 4,000).

Microfinance is in its early stages in Sudan. Its present outreach is still very low, as it is generally considered that it covers only 3% of the needs of potential target group. In 2006, based on an assignment performed by Unicons, a National Vision for the Development and Expansion of the Microfinance Sector in Sudan was adopted. To oversee implementation, the CBOS

⁶ Bank Audi, Sudan Economic Report, September 2010

⁷ UNDP, Darfur Microfinance Assessment Report, March 2010

established a dedicated Microfinance Unit (MFU) in March 2007, fully responsible for executing the strategy.

One of the key pillars of CBOS/MFU's strategy was its aim to attract many stakeholders into microfinance. As a result of CBOS pilot projects ("Sudan Pilot Microfinance Project" in 2008) and policies (article encouraging banks to allocate 12% of their portfolio to microfinance), a large amount of funds (from banks, from Zakat) are now available for microfinance.

Nevertheless, such large amounts of funding have not yet contributed to broadening the outreach of sustainable microfinance: with a few exceptions such as government-owned banks (SSBD, Family Bank), the Social Development fund in Khartoum, or PASED (NGO) in Port-Sudan, most of the Microfinance providers remain small, poorly organized and not sustainable, showing that obstacles beyond funding remain to be lifted before microfinance can significantly develop in Sudan.

(2) The sustainability of micro-project financing services remains questionable in Sudan. The two main reasons are the strong prevailing "charity" culture and the cap on profit margin applicable for banks.

Although we can only support the strong focus placed on microfinance as a tool for social development in Sudan, it seems to have led to confusion and lack of differentiation between financial services and social transfers among a broad range of actors, including targeted clients and public figures. As a consequence, most stakeholders in Sudan understate the importance of sustainability in the provision of microfinance.

The same can be said about profit margin caps. A maximum of 10% is fixed for profit margin on murabaha (the most widely used Islamic financing product); even though CBOS is progressively introducing some flexibility on this point for microfinance activities (in practice, a few MFIs do not comply with this rule and have not faced any sanction), given the higher cost of microfinance methodologies, such a cap on profit margin prevents microfinance providers from supplying project financing services to the microfinance clientele without facing heavy losses, and as a consequence, only financial organizations relying on subsidized funds from the government or international donors engage in microfinance. As always when subsidies are a condition for running activities, the sustainability of such a supply of services is an issue, and can affect clients' reimbursement behavior negatively.

We certainly consider that both of the factors mentioned here above explain why the very stakeholders who have contributed to developing microfinance best practices in other countries (banks, commercial microfinance networks, but also strong cooperative networks) are not active in microfinance in Sudan.

(3) Saving services are a real need for clients of microfinance, but remain underdeveloped. In the absence of profit-bearing savings schemes, accessibility should be the key argument to promote savings products savings.

Savings is a key aspect in promoting financial inclusion. International evidence shows that poor people do save in financial institutions, provided microfinance providers are considered trustworthy and the deposits remain easily accessible.

Generating profit from deposited funds is also important, especially in an inflationary environment, but it should not be considered as a must to serve the microfinance clientele: most MFI clients cannot comply with requirements (minimum balance and minimum duration) of the profit-bearing investment accounts supplied by banks (term deposits), whereas most stakeholders (except a few banks) do not have the technical capacity of supplying other types of profit-bearing liquid savings schemes.

As a consequence, and since there does not appear to be any particular issue about clients not trusting financial institutions in Sudan, we can assume that providing clients with better accessibility to the funds they deposit is likely to boost the demand for savings services. Branchless banking can contribute in achieving this.

(4) Remittances appear to be an important business line for financial institutions, but pricing and accessibility is not fit for the needs of the microfinance clientele.

All banks mention remittances as a key provider of revenues for financial institutions. However, the consultants could get more precise data regarding the volume of international and domestic transfers and about the amounts by transfer.

It appears that remittance pricing is mostly made of fixed fees. As a consequence, it may not be adapted to a poor clientele, as large remittances are quite cheap whereas small ones are rather expensive. In SSDB for instance, the cost of a domestic remittance is 5 SDG if the amount is between 50 and 1000 SDG, and 10 SDG if the amount is over 1000 SDG. This accounts for a 10% fee for a 50 SDG transfer, but a mere 0.5% for a 950 SDG transfer.

The accessibility of bank remittance services remains low. This is illustrated by the success of an expensive informal system of remittances developed by MNO retail agents (as described in paragraph 4.5.2.)

It is also to be noted that international remittances are very important in Sudan, with inbound remittances being equivalent to 5,3% of GDP (USD 3,1 billion; source: World Bank, 2008).

(5) The insurance business is quite developed in Sudan, and closely linked to the banking sector.

Insurance and banking businesses are very interrelated in Sudan for the following reasons:

- ❑ Microfinance providers' strategies to mitigate credit risk often rely heavily on requesting clients to take insurance⁸
- ❑ Many Microfinance providers get substantial revenues from their activities as insurance agents, which consist in selling and monitoring contracts (linked to project financing, but also housing insurance or car insurance).

4.1.3. MAIN STAKEHOLDERS IN PROVISION OF FINANCIAL SERVICES

- ❑ Commercial Banks:
 - ✓ CBOS/MFU encourages them to dedicate 12% of their portfolio to microfinance (directly or through wholesale lending), and to create dedicated MF units or specialized branches
 - ✓ In practice, few commercial banks comply with MFU requirements, as they see microfinance as non profitable, did not identify sustainable Microfinance providers to finance, and do not know how to address this type of clientele themselves.
 - ✓ As part of its efforts to promote the microfinance industry, CBOS launched in 2007 a pilot microfinance program. It selected eight banks, with which it formed partnerships and invested funds in their microfinance programs. These banks are: Agricultural Bank of Sudan (ABS), Savings and Social Development Bank (SSDB), Workers National Bank, Cooperative Development Bank, Farmers Commercial Bank, Industrial Development Bank (including SRDC), Real Estate Bank, and Animal Resources Bank⁹.
 - ✓ As manager of the Aman portfolio (funded from Zakat), Bank of Khartoum is probably the commercial bank which has the most ambitious plans to develop its microfinance activities. It has developed a microfinance unit, with technical assistance from international firms (BRAC and IBF Morocco)
- ❑ Specialized banks: 3 of them are among the most active microfinance providers¹⁰: the Agricultural bank of Sudan, the Social Savings Development Bank, and Family Bank.
 - ✓ Microfinance is part of their core strategy, and they are keen on developing specific methodologies and products to serve this clientele

⁸ L.M.P. Hansen, Consultancy on microfinance in Eastern Sudan, 2009

⁹ PACT, Turnaround Strategies for Sudan Rural Development Company (SRDC), June 2010

¹⁰ Although only Family Bank is registered as a specialized bank, Agricultural Bank and SSDB as commercial banks

- ❑ Licensed MFIs: the Social Development Facility (SDF) in Khartoum State, SDF in Kassala State, the National Fund for Pensioners and the Youth Microfinance Institution are registered as non-deposit-taking MFIs. The Port Sudan Association for Small Businesses Development has received a license to start working as an MFI.
- ❑ ROSCAs: the amounts they are able to lend (free of interest) to their members are not always enough to cover their investment needs, but the money saved through these groups can be used as a collateral to receive a loan from a bank.
- ❑ Projects/NGOs/CBOs: although some of them provide financial services directly to beneficiaries, many of them are mostly active in acting as facilitators or supporting their members or beneficiaries to receive bank loans, for instance by providing guarantees.
- ❑ Postal service: Privatized at the end of 2009, it is owned by the Investment Department of the Social Insurance Corporation (a public social security fund managing the national pensions fund) who plans to modernize the mail, savings, and cash remittance services of the new company, as well as to reopen and expand its network of branches and agents to ensure rural outreach.
- ❑ Forex bureau: they are allowed to proceed international transfers, but under strict restrictions due to CBOS policy to avoid depletion of the Sudanese Pound.
- ❑ MNOs (airtime)
 - ✓ MNO agents provide informal remittance service through airtime. CBOS is ruling against such practices.

4.2. TECHNICAL AND ICT ENVIRONMENT

4.2.1. GEOGRAPHICAL CONTEXT AND BASIC PHYSICAL INFRASTRUCTURE

Transport and Travel time

Sudan is the biggest country in Africa, but its transport network is sparse – with an existing road infrastructure having been deteriorated, particularly in war-affected areas.

The situation is improving quite rapidly: at the end of 2009, four main road construction contracts were under implementation by the Highway Authority, and construction on about 1,000 kilometers of roads was either under way or being planned¹¹ However, the lack of road and transportation infrastructure in rural areas is one adverse factor hindering the expansion

¹¹ Source : *Turning the Corner – 2009 Annual Report*, Sudan National Multi-Donor Trust Fund

of microfinance (and perhaps most importantly business opportunities for MSME, the main target clientele of microfinance).

Large distances compounded by lack of transportation infrastructure imply significant travel time and costs for both customers and bank agents – major challenges for financial outreach in rural areas, as it impacts transaction costs significantly.

The Consultancy couldn't find studies with information pertaining to time travels and costs incurred by microfinance customers in rural areas. Targeted surveys in the Pilot areas of a pro-poor branchless banking initiative will have to be conducted, as comparing transaction costs with and without the availability of a mobile financial solution will have to be taken into account in the pricing of mobile services.

Electricity

Although the situation is improving, only between 22% and 30% (depending on sources) of Sudanese currently have access to electricity, a utility that is often scarce in rural areas with supply limited to cities and biggest villages. This can be an obvious technical and economic constraint: use of PC, printers and other office equipments may prove to be too unreliable in areas suffering none or very limited public supply coverage and / or too costly if electricity has to be generated by alternative means (solar electrification or generators).

In remote areas, the lack of electricity can also be problematic for mobile phone usage (customers having to recharge their handsets to access mobile financial services).

4.2.2. CORE BANKING SYSTEMS USED BY FINANCIAL INSTITUTIONS

(1) The lack of reliable management information systems is a major blocking factor for the microfinance industry in Sudan.

This major deficiency means that financial institutions are not well equipped to manage and monitor their microfinance portfolio.

Banks are using, in the best cases, core banking systems that cannot tackle the specifics of microfinance trade (portfolio of each loan officers, flexible reimbursement features, capacity to record transactions "off-line", etc.). Besides, there is no familiarity with the basic reporting requirements and ratios used in microfinance.

However, banks having introduced ATMs can rely on systems that are ISO8315 compliant, meaning that their core systems could quite easily be interfaced with a mobile financial

solution (the interface requirements for cards systems and mobile financial solutions are quite similar).

No microfinance institution and no banks' microfinance window are working with a reliable information system. The following details are provided to illustrate this point.

❑ Family Bank:

- ✓ *"Most of the information on the socio economic profile of the clients is collected at the time of the loan application, yet most of these important data are not entered in the BAU digital information system"... "It is evident from the difficulty in obtaining some information from the bank that the MIS system needs to be changed for one that is specific for microfinance" ..."* The database of the new system does not contain the information on the loan officer "This is an area of weakness that should be addressed as a matter of urgency" ¹²
- ✓ Each branch has its own database, consolidation might be problematic. Out of 19 branches, 4 are still not connected to Head Office (interview with IT department).

❑ Social Development Fund (SDF)

- ✓ The information system of SDF is considered as one of the weakest point of the institution (interview with SDF managers).
- ✓ In 2008, SDF tried to use the ABA loan tracking system (Egypt) without success, and is now relying only on Excel spreadsheets and an Access database.
- ✓ SDF is currently evaluating a software from Craft Silicon (Kenya), the same software as the one currently in test at PASED

❑ SSDB:

- ✓ *"The bank's management information and reporting systems were not developed and adapted as per the standard microfinance systems"..."The bank needs to consider investing heavily in upgrading its computers and MIS system.* ¹³
- ✓ SSDB is relying on an Indian Software (Pentabank, from Pentasoft Technologies, with Oracle 10e as database management system). According to the IT department, both the system and the network is unstable. s not stable
- ✓ Note: SSDB has already implemented a SMS banking feature

❑ The Port Sudan Association for Small Businesses Development (PASED) is currently testing a new system.

¹² Evaluation Report Bank El Usra (Family Bank), North South Consultants Exchange, June 2010

¹³ Evaluation Report for Restructuring the Savings And Social Development Bank, Unicons, December 2009

(2) SMDF is currently evaluating MIS solutions, with the expectation that a new system could be implemented in MFIs in 2011.

Three solutions are currently being evaluated in SMDB almost finalized selection process (2 international vendors - Delta from Jordan and Craft Silicon from Kenya/India - and one local solution currently being developed).

(3) To successfully implement new MIS solutions, all MFIs will have to radically speed up their capacity building efforts regarding IT / MIS.

No loan tracking system or core banking system is perfect, the more so for Islamic microfinance which is still a nascent market for IT solutions providers. Therefore, whatever the solution(s) selected, quite heavy customizations and localization will be required (e.g; specified, tested and maintained). Most importantly, the success of an MIS implementation relies on the capacity of the MIS supplier to deliver implementation and support services (with previous experience in the microfinance market being a key factor of success) and on the willingness and capacity of the MFI to drive the implementation project, to reengineer its processes, train and motivate end-users for a reliable use of the new system, and of course to profile their IT department with enough skilled resources.

All MFIs visited by the Consultancy are clearly understaffed and under-experienced to ensure an efficient implementation.

One option considered by EBS (the IT arm of CBOS) is to build and manage a shared center hosting a common MIS solution for MFIs. This could indeed mitigate some operational risks (proper technical management of the system) and somehow alleviate the huge gap between the current IT capacities of MFIs and what would be required to launch, implement and support a new MIS. However, no shared facility can substitute for proper IT governance by each institution and for the heavy investments in change management required to ensure a correct appropriation of the system by its users. Besides, branches that are located in areas with substandard connectivity may require "stand-alone" databases: using centralized systems (application server and database located in one unique IT center) may be challenging.

(4) No significant branchless banking initiative can be launched in Sudan without ensuring that MFIs and MFI departments of banks are equipped with a stable and scalable MIS, managed by competent IT departments.

The current level of MIS systems put all MFIs at risk: lack of security, incapacity to adequately manage their customer portfolio, poor management reporting, etc. MFIs cannot work in such conditions while expanding towards more distant rural areas and increasing significantly the number of account holders and transactions. This would definitely wreck all efforts to improve

security, transparency and reliability of microfinance activities. Moreover, to interface any mobile financial solution with a core banking system requires obviously having a core banking system in place.

4.2.3. ALTERNATIVE DELIVERY CHANNELS

ATM

CBOS is strongly encouraging financial institutions to develop ATM networks. More generally, CBOS is fostering the use of payments systems, as reiterated in the CBOS Policies 2010. One objective is:

“Developing and perfecting the present payment systems through endorsement of settlement of Government services via electronic cards, perfection of the ATMs and Points of Sale services and spread of awareness regarding banking technology in the area of electronic cards and plastic money and electronic money, on which dealings will be regulated by the Central Bank of Sudan” (chapter 1, §3 Banking and Supervision Policies and Development of Payment and Technology Systems in Banking Business).

Banks rely either on private switches or are using a shared card system. In both cases, Sudanese cards can be used in all ATMs. It is to be noted that no international card network (Visa, Mastercard...) is available in Sudan (no international network would go against the Sudan Accountability and Divestment Act imposed by the USA since 2007).

Some banks with significant microfinance activities do develop a network of ATM. For instance, SSDB has currently 42 ATM and plan to increase this number to 72 in 2011.

The total number of ATMs is estimated at 650, and there are approximately 50 000 ATM transactions per day (quite a low average of 77 transactions per ATM per day, considering that there are 700 000 debit cards in circulation¹⁴). The number of debit cards is ATMs are only available in cities and most of them are in fact located at banks' branches. If the usage of ATM is a convenient service for urban bank account holders, it has no impact in outreach.

Up to our knowledge, no ATM accepting cash deposits are available in Sudan (and anyway such equipments may be problematic as they can accept only relatively new bank notes)

¹⁴ Source: interview with EBS, December 2010

EPOS

There were 1050 operating EPOS points in 2008 (source: *CBOS Annual Report, 2008*). The consultancy does not know how many EPOS were available in 2010, but this is estimated between 1500 and 2000, 80% of which are located in Khartoum state. There are 5 companies having received licenses from CBOS to provide POS to merchants. All EPOS are directly connected to the platform operated and hosted by EBS.

However, it is to be noted that microfinance assessment reports (Darfur, Eastern states...) mention the lack of EPOS in most areas.

Most service providers and consultancies interviewed during our mission mentioned EPOS as a promising tool to expand outreach of financial services in Sudan.

SMS banking

Almost all banks are already offering some kind of "SMS banking". In Sudan, one of the main supplier of SMS banking solutions in Sudan is Vision Valley with its "mBMW " middleware platform enabling mobile applications either via Java application (to be downloaded on the customer's handset, WAP(requiring a WAP compliant handset), or simple SMS (push and pull information services).

The real usage of such services seems to be limited to a fraction of banks' account holders.

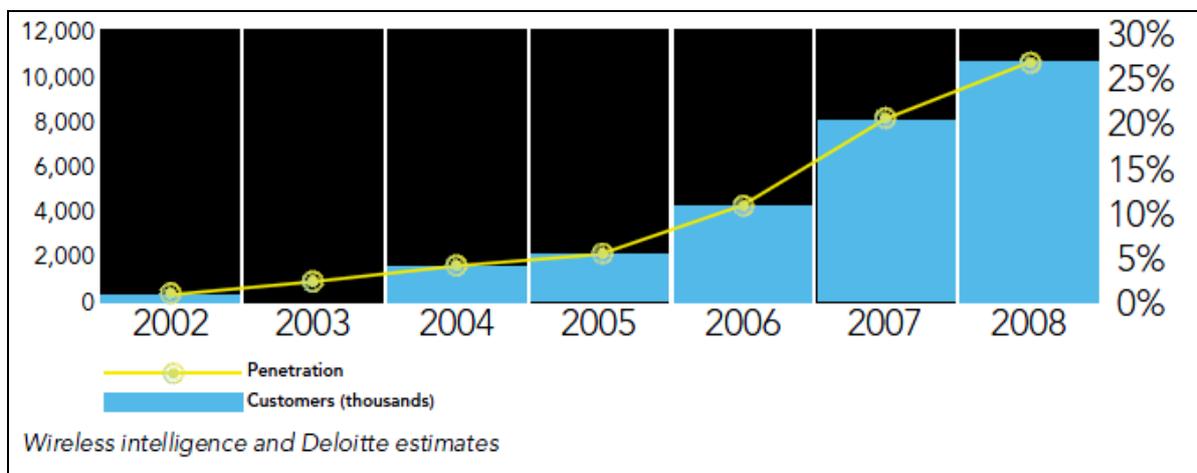
4.2.4. TELECOMMUNICATION MARKET

(1) Sudan is benefitting from a good telecommunication infrastructure and the penetration rate of mobile is growing very fast.

Sudan's telecommunications infrastructure includes 11,000 km long optic fiber national backbone. It is complemented by a digital microwave network and a domestic satellite system. Telecommunications services are available in roughly 80% of the country, covering all major urban and rural settlements.¹⁵

¹⁵ Secondary source: *Darfur Microfinance Final Assesment report, 2010*

The penetration rate of mobile phone increased very significantly in the past years, as illustrated by the following figure (extracted from Zain/Ericsson Economic impact of telecommunications in Sudan, June 2009).



The penetration rate end of 2009 exceeded 42% or 15 million customers up from 28% in 2008 (10 millions).

(2) There are three main MNOs operating in Sudan: Zain, Sudani and MTN.

All of them are using GSM based networks (Sudani dropped its 2G network based on CDMA technology). Their respective mobile market share is presented below:

	Number	%
MTN	4 042 000	23%
NoW	25 000	0,1%
Zain	8 785 000	51%
Sudani (Sudatel)	4 380 000	25%
Gemtel	51 500	0%
Total	17 283 500	100%

Market share of Mobile Network Operators, Q1 2010 (source : Blycroft)

Zain

In February 2006, Zain acquired Mobitel, the mobile spin-off of the incumbent fixed line operator Sudatel. All African subsidiaries of Kuwait-based Zain have been acquired by Indian based Bharti Airtel, except the Sudanese subsidiary.

According to Zain Sudan:

- ❑ Zain market share in October 2010 is around 60% (10 million customers).
- ❑ Zain is offering a national coverage of 80%.
- ❑ Its Internet coverage is also 80%, using 3G and EDGE technologies.
- ❑ Zain is offering bulk SMS services, distributed through its corporate sales department and 3rd party content providers. Its USSD gateway is not used by 3rd party value added services' providers.

MTN

MTN Sudan was launched in 2005 (Bashair Telecom, acquired at 85% in May 2006 by the South African operator MTN). Its market share was estimated at 24% (June 2010). Technologies used are GSM 900 and 3G 2100.

Sudani

Sudani is the mobile subsidiary of Sudatel Group (STG) of Companies in Sudan (Sudatel, the fixed incumbent, re-entered the mobile market with Sudani after having sold its Mobitel mobile services to Zain in 2006). The Sudanese government has a 26% shareholding in Sudani. Its market share is estimated to be 25%. Sudani is the first telecommunication company in Sudan to deploy 3.75G.

Canar (not an MNO)

Canar is a subsidiary of Etisalat. It has no mobile license yet but has applied for such a licence. Currently the core business of Canar is the corporate market, offering fixed wireless & wired integrated solutions. Both Zain and MTN rely on Canar for network back – hauling, national and international connectivity and internet bandwidth. Canar expects to cover all major cities and all states of Sudan by the end of 2011, using its access fibre network and newest NGN ("all-IP") and WLL (Wireless loop) technologies.

Canar would certainly be one of the key potential ITC suppliers of any mobile financial solutions in Sudan (especially for internet leased lines).

(3) Almost all individual mobile customers are using pre-paid services, with increased competition between MNOs leading to persistent reductions in the retail prices charged for mobile calls and SMS.

The following table presents an overview of MNOs fees for individual pre-paid customers (fees are excluding special offers; sources: MNOs websites, as at Dec 07, 2010).

Fee	SMS - Domestic	Call - Domestic
Zain	0.05 SDG (0.08 SDG for Zain eeZee packages)	0.12 – 0.14 SDG / min depending on prepaid packages
Sudani	0.05 SDG	0.15 SDG / min
MTN	0.04 SDG	0.14 SDG/ mn In the default prepaid plan All local calls are charged per 30 seconds, at 0.07 SDG; in an another prepaid plan, calls are charged per seconds with prices varying between on net (0.0023/s) and off net (0.0030)
Comments	Each message may contain up to 160 English characters or 70 characters in Arabic	

The lowest scratch card denomination is 5 SDG (Zain).

(4) Internet access has been dramatically improved, however it is estimated that only 46% of rural and urban localities have access to public Internet centers.

The Internet technology used in Sudan encompasses cable, optic fiber, mobile phones, ADSL, LDSL and GSPR. Most institutional subscribers use ASDL and optical services, whereas individual subscribers mainly use LDSL and dial-up services.

Where it exists, Internet service is highly efficient in terms of speed, absence of delays and rationing, but it is relatively expensive.

Therefore, connecting branches and head offices implies significant operating costs. For instance, 800 SDG per month and per branch for an 1 MB- HDSL connection; a 1 MB- Internet leased line would cost between 900 and 1200 SDG (source: various interviews, November 2010).

(5) Telecommunications within Sudan are regulated by the National Telecommunication Council (NTC).

The National Telecommunication Council was restructured as the National Telecommunication Corporation (NTC) under the Telecommunications Act of 2001. The regulator established a universal service fund (USF) in 2004, financed by the government and licensees to oversee the provision of telecoms services. In 2008 the NTC introduced universal access fees payable by telecoms operators consisting of 2% of gross revenues plus SDP2 per customer on an annual basis. The government also increased VAT in the telecoms sector from 5% to 20%.

4.2.5. IT SERVICES PROVIDERS

(1) The most important IT service provider for the Sudanese financial market is Electronic Banking Services (EBS), a company created by CBOS.

EBS is a private company owned by CBOS (49%), Sudatel (30%) and other stakeholders (source: www.ebs-sd.com)¹⁶. It started its operations in 2000 and is dedicated towards introducing of banking technologies and solutions, and most importantly payment systems. EBS is in charge of the four major systems hosted at or delegated by CBOS: the National switch (for ATM transactions and for all EPOS transactions), Electronic Link system, the Core banking system of CBOS, and the Electronic Reports system for CBOS and commercial banks. EBS employs approximately 120 people.

(2) FBS (Financial & Banking Systems Co. Ltd) is an IT company providing various services and solutions for the Sudanese banking industry.

FBS is owned by EBS (30%) and 10 Sudanese banks (70%). FBS has developed:

- ❑ A core banking system (PentaBank) which has been implemented in 12 Sudanese banks.
- ❑ "E-Bank", a web-based e-banking application.

¹⁶ The English version of this site seems obsolete, with some references to project to be implemented in 2005

- ❑ A mobile application, but if this solution has not been implemented yet (up to our knowledge):
 - ✓ FBS TopUp to make payments such as bill payments and transactions including money transfers, banking enquiries, (balances, detailed and mini statements) as well as the ability to both fund and withdraw funds from the [bank] account.
 - ✓ FBS eWallet "a complete 'standalone' banking solution with a fully functional and secure account which the customer can use to make convenient and secure payments, amongst other things, from their mobile phone" (source: FBS website.)
- ❑ A new Micro-Finance system, just recently developed and not yet implemented in a financial institution.

FBS is also providing specific hardware equipments (money counters, automats...).

(3) Other companies may play a very significant role in the ITC market for financial solutions, especially for mobile financial solutions.

Among the software companies based in Sudan with experiences in the financial sector, the Consultancy has identified:

- ❑ **Vision Valley:** this company has been established in Dubai, in 2003, and in Sudan since 2004. Services provided are: IT strategy plans, design and implementation of wireless networks, system selection, configuration, installation, and verification (OpenErp for instance), value added services (e-commerce) and in particular mBMW, a MFS platform.
- ❑ **MATS** (www.matscards.com)
 - ✓ SMS Messaging platform (MATS and ZAIN signed an agreement certifying MATS to be the authorized ZAIN bulk SMS reseller).
 - ✓ MATS is implementing the Electronic Fund Transfer project for CBOS and the commercial banks: installation of terminals (EPOS), development of EPOS, communication with the National Switch at CBOS (through Zain GPRS network).
 - ✓ MATS company has developed an application (M2E™) to manage services geared towards prepaid process like utilities (electricity, water, DSL...).
 - ✓ In particular, MATS is implementing a national electronic/mobile voucher project for the Sudanese Company for Electricity Distribution. It also offers customizable applications to petrol station companies using POS terminal and magnetic stripe or smart cards.
 - ✓ Automated Fingerprint Identification System (AFIS), for NSDPR project in East Sudan.
 - ✓ Kiosk applications (for Payment of commodities, utilities or services).
- ❑ **Hashab ITT** (www.hashab.com)

- ✓ Mobile technology services, networking, software development (e-commerce, e-banking solutions...consulting for banks and MNOs).

4.3. IDENTIFICATION OF POSSIBLE NETWORKS OF THIRD PARTY AGENTS

(1) Sudapost has an ambitious strategy based on modernizing its broad network of branches in rural areas, making it an ideal network to partner with. Nevertheless, it appears Sudapost's strategy is more geared towards competing with microfinance providers, making potential partnerships difficult to forge.

The Postal Service dates back to 1858¹⁷. Flourishing until the 1980s with several hundreds of offices throughout the country and thousands of staff, it was providing mail services as well as savings and remittances on a broad scale.

The introduction of Sharia law in 1983, abolishing interest on the savings accounts dealt a severe blow to the Post's savings activities. In the nineties, evolution of technology and continuous underinvestment led to a collapse of the Postal Service's volume of business, for both its postal and financial activities. Many offices closed and the activity of remaining outlets was all but non-existent in the last years¹⁸.

By the end of 2009, the Postal Service, renamed Sudapost was transformed into a company structure and sold to Social Security Investment Authority, the Investment Department of the Social Insurance Corporation (SIC). The SIC is a public social security fund, managing the national pension funds for public and (some) private sector employees.

Sudapost has an ambitious strategy of reopening dozens of offices throughout the country to offer the following products:

- ❑ Mail service (regular mail service, registered mail service using electronic tracking system, private post boxes, express mail service, parcel post service, pickup and delivery service).
- ❑ Postal Agent Service
- ❑ Advertising through mail (Direct Mail Service)

¹⁷ Source : Sudapost website

¹⁸ UNDP's Darfur Microfinance Assessment Report mentions the Nyala Post office conducting only 2 to 3 remittance transactions a month.

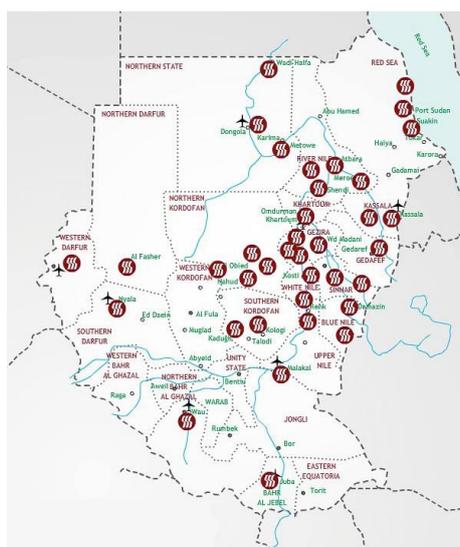
- ❑ Saving Account Service
- ❑ Postal Money Order Service (domestic transactions only)

Sudapost has many assets to provide a network of agents in a branchless banking scheme:

- ❑ To fulfill its mandate as a postal service, SudaPost plans to open offices throughout Sudan including rural areas where banks presence is scarce, if nonexistent.
- ❑ As a provider of financial services, SudaPost has a strong cash functions, and will provide more security for cash transactions than any kind of retail outlet.
- ❑ Given the nature of its activities, SudaPost is expected to have a good ICT infrastructure.
- ❑ As a private company performing some public service tasks, we believe it will achieve a good reputation as an efficient and service-oriented company. This reputation should contribute positively to its activities as an agent of branchless banking schemes.

Nevertheless, some points remain to be clarified, which might impact the relevance of choosing Sudapost as a network of agents for a MFS scheme :

- ❑ SudaPost's capacity to deliver : SudaPost's ambitious plans will need to be time tested : will it have the capacity to deliver:
 - ✓ Extension of network: the map below shows the actual extent of SudaPost's network. With less than 40 offices, it is comparable to that of large banks. How much time will be needed to open the expected 400 offices, which would considerably increase its outreach in rural areas, and thus its value as a network of agents in a branchless banking scheme?



Map of existing post offices (source: Sudapost website)

- ✓ IT infrastructure: updating the IT infrastructure requires time and money.
- ✓ Strategy: savings and remittances are key financial services for microfinance provider. If SudaPost provides these services while being an agent for microfinance providers, SudaPost will face a strong temptation to capture these clients from microfinance providers.

(2) The National Electricity Corporation has engaged in a strategy of creating a broad network of small agents to increase the accessibility of pre-paid electricity. The possibility of sharing this network with Microfinance providers is worth investigating.

Sudan's National Electricity Corporation has established a system of pre-payment of electricity, using adapted meters. One of the key success factors of such a pre-paid electricity scheme is the availability of points of sales, where pre-paid electricity can be purchased.

In order to achieve this, the National Electricity Corporation still considers different complementary strategies:

- ❑ Make agreements with existing retail businesses, including possibly banks, to use them as third party agents; If the NEC eventually sets up such a network, it could also be used in the future by a Mobile Financial Services provider (financial institution or MNO).
- ❑ Make an agreement with a MFS provider to enable Mobile Payment of electricity. This is the most promising solution on the long run. The NEC has already started discussions with MNOs on such a project, but short term perspectives are blurred by the fact that MNOs do not have the right to provide formal Mobile Financial Services at this stage.

(3) Leveraging MNO agents seem like an interesting option, but international evidence suggests this is easier said than done.

As it is the case in all countries, MNOs have established network of agents to sell airtime. To be more efficient, the set-up and management of these agents are subcontracted to "master agents". These networks have a broad outreach, and are used to handle cash, which apparently makes them a good makes them good potential third party agents for a MFS scheme. Nevertheless, the following constraints need to be taken into account:

- ❑ Not all MNO agents have sufficient cash capacity to be good agents for MFS transactions
- ❑ MNO agents are used to a level of commissioning on airtime (5 to 6%) that is not compatible with MFS transactions. This is one of the reasons explaining why many telco-led e-wallet schemes (with the exception of M-PESA and Zap), which of course rely on MNO agents, charge such high fees for transactions. This has been a major obstacle in establishing partnerships with microfinance providers so far.

(4) Government agencies have a broad outreach in rural areas, but their capacity to become agents in a branchless banking scheme remains questionable.

Even in a context where people trust the government, we would not recommend giving government agencies a role in the relation between financial institutions and their clients.

(5) At this stage, other existing retail networks that a branchless banking scheme could partner with remain to be identified. Microfinance providers could contribute in identifying potential agents among their clientele.

4.4. REGULATORY ENVIRONMENT

(1) Making suggestions to update the existing regulatory framework to enable branchless banking initiatives requires conducting a thorough diagnosis of the regulatory framework in Sudan, which could not be achieved by CBOS during this mission.

Right from the beginning of the assignment, the consultants insisted on the need to conduct a thorough assessment of the Sudanese regulatory framework based on CGAP's branchless banking diagnostic template (Cf. annex 4), before practical suggestions could be made to amend the existing framework to regulate branchless banking.

Despite the international consultants' and national consultant's strong insistence and readiness to assist in conducting this diagnostic, this assessment was not completed by CBOS.

(2) As a consequence, the only conclusion that can be made on the regulatory environment is that most of the key elements of regulation needed to implement branchless banking do not presently exist in Sudan.

- ❑ The conditions under which financial services can be supplied through alternative outlets (for instance agents) are not defined in the Sudanese regulation.
- ❑ Our understanding is that regulation allows no proportionality in AML/CFT.
- ❑ Electronic money is not defined in the Sudanese regulation. As a consequence, non-bank institutions' capacity to emit, or more realistically, to distribute e-money is not defined. Neither are the conditions linked to e-money accounts (e-wallets) defined.

4.5. ONGOING BRANCHLESS BANKING INITIATIVES IN SUDAN

4.5.1. ONGOING BRANCHLESS BANKING INITIATIVES BY FINANCIAL INSTITUTIONS

(1) Increasing the accessibility of MF services at low cost through branchless banking schemes is a must to increase the outreach of Sudanese microfinance providers, but its contribution to alleviating the constraints of the Sudanese microfinance sector should not be overestimated.

The main aim of branchless banking for microfinance providers is to increase the accessibility of the financial services they provide, at lower cost. Although accessibility is a key factor to develop microfinance services, in the Sudanese context it should not be overestimated: many other constraints than just the cost of geographical expansion hinder the development of microfinance in Sudan, especially by banks. If expansion costs were the major factor, one would expect banks to supply microfinance services in the vicinity of existing branches, which most do not. As a consequence, one should not expect branchless banking to alleviate all obstacles to the development of microfinance by banks: in the present context, it will take much more for banks to engage into microfinance, including the alleviation of profit margin caps, and the progressive drift away from the "microfinance is charity" culture.

Additionally, branchless banking can increase operational or credit risks in weak financial institutions. Before considering branchless banking, an institution should make sure it has the operational capacity to manage it without increasing its level of risk beyond acceptable levels.

(2) Microfinance providers in Sudan have not developed any branchless banking initiative. They have focused on more traditional, non technological ways of delivering services out of branches.

Considering the definition of branchless banking given in paragraph 1.3.1., it appears financial institutions have not engaged in any branchless banking initiative so far. Financial institutions have focused on more traditional solutions to deliver financial services out of branches (as described in annex 6).

4.5.2 MFS INITIATIVES BY MNOs

(1) As the regulation presently forbids e-wallet systems, there are no ongoing MFS projects by MNOs.

(2) Nevertheless, MNOs' airtime transfer systems are being used to perform informal money transfer.

Whereas MNOs themselves claim not to encourage this type of practice, MNO airtime resellers clearly benefit from it. This informal system, a MNO client purchases airtime and sends it to a beneficiary through his phone. The beneficiary can then cash out the remittance by selling the airtime back to an agent. The commission for such services (paid by the customer to the airtime reseller who purchases the airtime back) is usually around 10%.

(3) Although no MFS project by MNOs has been launched, two of the major MNOs active in Sudan Zain and MTN, operate e-wallet systems in other countries, and are willing to launch them in Sudan.

- MTN Money is presently active in many countries such as South Africa, Uganda, Cameroon, Côte d'Ivoire, Nigeria and Ghana. This e-wallet enables clients to conduct the following transactions¹⁹ :
 - ✓ Deposit cash on e-wallet through MTN MobileMoney agents
 - ✓ Withdraw cash from e-wallet (or following a cash transfer) through MTN MobileMoney agents or participating ATMs
 - ✓ Transfer cash to any beneficiary, whether he/she has an e-wallet or not
 - ✓ Purchase airtime
 - ✓ Check balance of e-wallet
 - ✓ NB : As described in annex 3, more features are available in South Africa

- Zain first introduced its e-wallet service, Zap, in February 2009. One year later, it had launched Zap in Bahrain, Kenya, Tanzania, Sierra Leone, Ghana, Niger, Uganda and Malawi. The specificity of Zain's strategy is that it tries to build partnerships with businesses and banks to keep the e-money in the system rather than focusing (as most e-wallet providers do) on person-to-person transfers in which the amount received is eventually withdrawn in cash. Zap thus values partners with businesses (B2B or C2B) to pay services,

¹⁹ Source : MTN website, December 2010

with merchants (petrol stations...) to pay goods without using cash, with banks to transfer money to bank accounts.

(4) The MNOs presented a possible solution to the joint task force (CBOS and NTC) working on mobile money transfer regulation on how to launch mobile money projects which could be acceptable to the regulatory authorities.

The proposed solution would be to let each MNO run its own e-wallet MFS platform, but to have all static data (customers, agents...) and all transactions of each platform being replicated (mirrored) in a database hosted at the National Switch (EBS). All mobile money transactions could in that case be monitored from a single place, with CBOS having access to this National Switch database. For MMTs involving off-net transactions (the sender and the beneficiary using different MNOs), the transfer would be made via the National Switch: the operator of the sender would debit the sender's virtual account and send the message to the National Switch who will then send the command to the mobile platform of the beneficiary's MNO to credit the beneficiary's virtual account (a process quite similar to an ATM withdrawal by a client from another bank). The technology on how all transactions would be mirrored in a common database hosted at EBS was not yet decided.

4.5.3. MFS INITIATIVES BY SERVICE PROVIDERS

PACT, a consultancy and service provider (through its sister company ITQAN), has plans to set-up a mobile platform, to be used to supply MFS services. Our understanding of this project is the following²⁰ :

- ❑ ITQAN supplies both a Mobile Platform and a Management Information System (MIS), to be used by partner MFIs/banks (ASP mode).
- ❑ Electronic wallets are stored on the Mobile Platform, and used for MMTs and M-Payments, whereas bank accounts are stored in the MIS; Interface between the MIS and the Mobile Platform enable shifting money between bank accounts and e-wallets, enabling Mobile Banking Services (not just MMTs and M-Payments).
- ❑ E-wallets can potentially be accessed through mobile telephones, internet, ATMs, POS, Voice (IVR or Call-Center), etc.
- ❑ Retail agents are used as cash-in/cash-out agents and to open accounts.
- ❑ Technology used is a Java applet (compatible with all recent handsets).

PACT's project was presented to CBOS at the end of 2008.

²⁰ Source : interview with Anwar Ammar, PACT, Nov 8th 2010

(2) Vision Valley is proposing its Mobile application Technology.

Vision Valley reckons that launching a mobile financial service including cash-in / cash-out transactions at bank branches and third-party agent) should be a project involving the banking sector and the MNOs (who are the only ones with big networks that could be used for deploying such services). Vision Valley is proposing its mBank platform, ready to enable 3 different technologies for mobile banking applications: Java application ("rich client" to be installed on the customer's mobile, and SMS for data communication), WAP, and SMS banking.

5. SCENARIOS FOR A BRANCHLESS BANKING INITIATIVE

5.1 PRESENTATION OF THE SCENARIOS

5.1.1. RATIONALE BEHIND THE CHOICE OF SCENARIOS

In chapter 2, we explained that:

- ❑ The choice of a business model for Mobile Financial Services should be based on the type of MFS that we aim to promote: MMTs, M-Payments, SMS banking and/or Mobile Banking.
- ❑ Making formal transfers and payments more accessible and more attractive by developing MMTs and M-Payments is definitely a first step in financial inclusion, because going formal on these transactions can be considered as the first step for unbanked people to access a broader range of financial products: project financing, insurance, savings. Nevertheless, a pro-poor branchless banking initiative must aim at driving poor clients towards full financial inclusion, enabling access to a broad range of Mobile Financial Services, not only MMTs and M-Payments), and this means Mobile Banking (as defined in chapter 2.1., Mobile Banking consists in connecting a mobile phone with a bank account, thus allowing customers to use their mobile phone as another channel for their banking services, such as deposits, withdrawals, account transfer, bill payment, and balance inquiry).
- ❑ There are several types of business models that enable to develop Mobile Banking services :
 - ✓ E-wallet MFS business models can provide Mobile Banking services provided links are established between e-wallets and current accounts in banks, thus giving easy access to microfinance services to clients of the e-wallet provider.
 - ✓ Bank-led MFS business model provide Mobile Banking as an additional distribution channel for their financial institutions' core financial services.

As a consequence, we propose the following scenarios for a pro-poor branchless banking initiative:

- ❑ Scenario 1: Allow MNOs to develop e-wallet MFS business models, but under certain conditions, to make sure that these e-wallet MFS providers will establish links between their e-wallet infrastructure and microfinance providers, so that Mobile Banking services can be supplied through the e-wallets supplied by MNOs.

- ❑ Scenario 2: Creation of a mutualized bank-led MFS business model to enable direct access to bank accounts through clients' mobile phones. This business model will be designed right from the onset to focus on the needs of pro-poor branchless banking.

5.1.2. SCENARIO 1: PARTNERSHIP WITH TELCO-LED E-WALLET MFS

5.1.2.1. Description of scenario 1

(1) In scenario 1, MNOs supply Mobile Financial Services, based on an e-wallet MFS business model. But a certain number of conditions are imposed on them, to make sure that these MFS serve the development of microfinance in Sudan.

The Central Bank of Sudan will encourage MNOs to enable links between e-wallet accounts they provide and bank accounts, with the aim of encouraging clients of MNOs to open bank account which they can access through their mobile phone, using e-wallet as a transit account. Having a bank account would enable clients to access a broad range of Mobile Financial Services provided by microfinance providers through their e-wallet, rather than only MMTs and mobile payments provided by most MNOs' "basic" e-wallets".

To make it short, scenario 1 consists in leapfrogging, in order to achieve the latest developments in Kenya (linkage of M-PESA and Orange Money e-wallet systems with accounts in a MFI, Equity Bank) without having a transitory period where MNOs implement e-wallet systems independently from microfinance providers, with a focus on MMTs and mobile payments only.

(2) From the client's point of view, scenario 1 will provide a two-tiered service: the e-wallet provided by the MNO will enable mainly MMT and M-Payments, whereas his bank account will allow him access to a broad range of financial services.

In scenario 1, both the MNO and the bank/MFI provide a service to the client:

- ❑ Services provided to all clients by the MNO (the microfinance provider plays no role in providing these services):
 - ✓ Mobile Money Transfer (from one e-wallet to another).
 - ✓ Mobile Payment of bills through e-wallet (mobile top-up, and partnerships between MNO and utilities, service companies, administrations, etc).
 - ✓ Small savings on e-wallet: no profit-generating, with a ceiling on the maximum balance allowed (capped).
 - ✓ Information on e-wallet account (balance, last transactions).

- ❑ Services provided by the microfinance provider to those clients who choose to open a bank account through scenario 1: Mobile Banking, as an additional distribution channel for core microfinance services. For all financial transactions involved in these services, the client has the choice between making the transaction in branches, or through his mobile phone. In the latter case, the MNO plays a role in providing these services since information is sent through his technical infrastructure, and in some cases, funds are channeled to/from the bank account through the client's e-wallet.
 - ✓ Current and saving accounts: not capped, possibility to get profit from the account if the financial institution is able to provide such accounts. Related mobile banking transactions:
 - ✓ Deposit and withdrawal at MNO's third party agents: the money is channeled through the e-wallet to the account in the bank/MFI.
 - ✓ Account to account transfer
 - ✓ Payment of bill
 - ✓ Information upon request: account balance...
 - ✓ Information sent automatically: transfer receipts, negative balance, monthly statement...
 - ✓ Project Financing: Related mobile banking transactions:
 - ✓ Disbursements and reimbursement (for those products where disbursement or reimbursement involves cash).
 - ✓ Information upon request or automatically: installment date...
 - ✓ Insurance: Related mobile banking transactions:
 - ✓ Payment of insurance through mobile phone.

On a few services such as remittances and payments, the client has two solutions available, through the bank account or through the e-wallet. Pricing and convenience should make the difference.

(3) From an organizational point of view, MNOs control most of the infrastructure and client interface in scenario 1, but must use it to serve their goals and that of partner microfinance providers, which is a real challenge.

- ❑ Each MNO has its own organization to provide MFS through the e-wallet accounts:
 - ✓ Provides and markets the e-wallet service.
 - ✓ Operates the IT platform managing the virtual accounts and transactions: Zain and MTN already have developed technical solutions in their subsidiaries in other countries, which they would use. It is to be noted that the two technical solutions don't rely on the same software:
 - ✓ Zain's Zap uses Oberthur software and STK technology.
 - ✓ MTN Mobile Money uses Fundamo software and STK technology (and card in South-Africa, with Gemalto as technical provider).

- ✓ Manages the network of agents used for cash-in / cash-out transactions on its e-wallet.
 - ✓ Has an agreement with one or several partner microfinance providers to link e-wallets with bank accounts provided by these microfinance providers: in order to avoid monopolistic situations, MNOs should be required to partner with all financial institutions who comply with the requirements defined between MNOs and CBOS.
 - ✓ Has an agreement with one or several banks as guarantors of the total float of e-money stored on the e-wallets of their clients.
- Partner microfinance providers:
- ✓ Provides financial services (project financing, insurance, savings and current accounts...).
 - ✓ Establishes partnership with one or several e-wallet systems, as additional distribution channels of these services. This requires:
 - ✓ Developing interfaces between the MNOs' mobile platforms and the accounts in the microfinance provider's MIS. Interfaces could be online for the most advanced financial institutions or, more reasonably, batch.
 - ✓ Designing a specific marketing policy for this distribution channel (necessarily involving MNOs' networks of third party agents who are the main points of contact with the clients).
- Agents:
- ✓ Have a contract with MNO to perform cash-in/cash-out transactions on e-wallet.
 - ✓ They need to be involved in marketing the services provided by the microfinance providers through mobile phone: when he opens his e-wallet account, the client must be informed about the possibility to open a bank account linked to this e-wallet.
- Banks (not necessarily the same as those who link their accounts with e-wallet):
- ✓ Have an agreement with MNO to issue the electronic money and guarantee the float of e-money issued.
- National switch
- ✓ Central Bank of Sudan will need to specify the requirements for a switch and delegate its management to an IT service company if CBOS wishes to enforce interoperability between competing e-wallet MFS providers. The switch would enable a client of MNO X to initiate a transfer order (using the mobile application he subscribed from X) to a beneficiary using the user interface of MNO Y (and thus receiving a message on his mobile phone set with the user interface of Y).

5.1.2.2. Key success factors of scenario 1

(1) Establishing good collaboration between MNOs and partner microfinance providers is a real challenge as they traditionally do not understand each other.

It is interesting to note that e-wallet MFS providers have long attempted to partner with MFIs. Nevertheless, most partnerships were based on using MFI branches as agents for the e-wallet MFS provider, which has seldom been successful, as the only reason MFIs could actually be interested in being an agent for an e-wallet MFS provider (despite all other arguments often mentioned by e-wallet MFS providers) is leveraging an underused network of branches. This motivation is not adapted for microfinance providers in Sudan.

In any case, these failed attempts to partner have shown that strong cultural differences make it difficult for e-wallet MFS providers and microfinance providers to understand the other's strategy, let alone agree on a shared business model. Only in recent years have telcos and financial institutions started to test more ambitious business models such as linking e-wallets to bank accounts. Zap was the first one to implement such a partnership as part of a strategy to have e-wallet be used as a current account (payment of goods to partner merchants, link to savings account) rather than only as a tool to transfer cash, as most e-wallet systems still are.

In any case, the MNOs will certainly resent being imposed to work with microfinance providers right from the start, whereas they would prefer to start by supplying basic MMTs and M-Payments through e-wallet accounts, independently from microfinance providers. Of course, they will also be reluctant to inter-operability between e-wallet MFS providers.

Bringing MNOs and microfinance providers to work together will start by achieving a better understanding of their respective motivations to engage in such partnerships:

- ❑ Microfinance providers: expand outreach by increasing the attractiveness and accessibility of the financial services it provides, without investing in its own network of agents and mobile platform.
- ❑ MNOs: their main motivation to engage in such partnership is to increase the attractiveness of their e-wallet, the volumes of transactions and thus the revenues they raise. Their motivation to develop e-wallet service is described in paragraph 2.2.4.2.: increase ARPU, reduce churn and make best use of their existing network of agents to reduce distribution cost for airtime. They also expect to use the partnering microfinance providers as cash-in/cash-out agents for their e-wallet services.

(2) The business model of such a partnership between MNOs and microfinance providers is complex, and must be based on a fair repartition of investments, costs and revenues.

- ❑ The investment and operational cost is mostly supported by the MNO who sets-up, manages the IT platform and the network of agents (although costs borne by microfinance providers to link to e-wallet should not be underestimated).
- ❑ The fees are paid to the agents by the MNO, although fees linked to specific transactions or bank account openings could be paid directly by microfinance providers.
- ❑ The cost/revenue sharing agreement should be based on banks and MFIs paying commissions to the MNO for each transaction transiting through e-wallets. At least part of this cost should be charged by the financial institutions to its clients.
- ❑ The main difficulty lies in both stakeholders agreeing on what is the right level of commissioning on each type of transactions, taking into account:
 - ✓ The maximum price clients are ready to pay for financial transactions (which is not the same for deposits than for payment of bill, for instance, because opportunity costs are different).
 - ✓ The real cost of providing the service, which is often perceived as too high by MFIs that may underestimate how much it costs them to ensure themselves the cash transactions.
 - ✓ Agents' expectations regarding commissioning.
 - ✓ The bargaining power between the MNO and the financial institution: in this respect, as microfinance providers will be heavily relying on MNOs for infrastructure (marketing, distribution network, technical infrastructure), they will not always have the strongest of bargaining positions.

An important point that the business model should help to solve is the potential competition between microfinance providers and MNOs on some services:

- ❑ Remittances: should they be channeled directly between sender and beneficiary's e-wallets or between their bank accounts?
- ❑ Payments/transfers: should they be done directly from client's e-wallet or from his bank account?
- ❑ Current accounts: on the long run, will e-wallets be used by customers as convenient "current accounts", leaving only savings accounts to banks and MFIs, or will the balance on each e-wallet remain close to zero, the account being used only for transit purposes?

(3) In scenario 1 will contribute to expanding the outreach of microfinance activities only if the conditions are met to effectively bring the e-wallet provider's customers to open an account with microfinance providers. This requires simple procedures to open accounts and good collaboration from MNOs and agents.

High outreach is to be expected if at least part of the agent network infrastructure of MNOs can be used to market the microfinance provider's services, especially open bank accounts. This requires:

- ❑ Incentives for agents to collaborate: as mentioned above, agents' collaboration is critical if they need to be involved in account opening. As the agent network is controlled by the e-wallet MFS provider, microfinance providers must make sure that agents and the MNO are convinced that dedicating time to opening bank accounts is in their interest.
- ❑ The relevant regulatory framework to allow a simple bank account opening procedure to be initiated in the agent's location.

(4) CBOS should also set high requirements on potential participating financial institutions, in order to make sure that only those with the real capacity to engage in MFS are included into a partnership with a MNO.

Branchless banking is a tool to expand outreach. It can only be efficient if the financial institution has the capacity to develop its activity in a sustainable way (management, resources, technology). Branchless banking should not be the first priority for financial institutions which have not managed to provide sustainable financial services in the areas covered by their branches.

5.1.2.3. Organization and action plan to implement scenario 1

(1) A dedicated Project will have to be launched to coordinate the actions facilitating the partnerships between financial institutions, and specifically microfinance providers, and the e-wallet MFS providers (MNOs). Project duration should be 3 to 4 years.

The MNOs will be the providers of e-wallet Mobile Financial Services. They do not need any external help to prepare and launch these services. But a dedicated project structure is necessary to coordinate all aspects related to the provision of MFS by microfinance providers through a partnership with MNOs. The project will conduct the following activities:

- ❑ Provide technical and financial assistance to Microfinance providers to:
 - ✓ Adapt / upgrade their MIS in order to support the creation of deposit accounts that can be effectively linked to the e-wallet MFS provider's system.

- ✓ Design products and operational processes that will allow them to reap the benefits of collaborating with e-wallet MFS providers (loan reimbursed via the e-wallet, transfers from the e-wallet to a saving account, etc.).
- ✓ Take into account all changes implied by their clients doing cash operations with the MNO's network of cash in/cash out agents and train staff and management in all aspects related to the partnership with MNOs (change management).
- ❑ Act as a facilitator by assisting both the Microfinance providers and the MNOs in concluding mutual profitable agreements and modes of collaboration.
- ❑ Provide ad-hoc advices and recommendations to regulatory authorities and microfinance stakeholders to promote financial inclusion via branchless banking.
- ❑ Participate in awareness / promotional campaign to encourage the adoption of Mobile Financial Services by the targeted clientele.
- ❑ Periodically assess the evolution of the MFS market and its effects on the microfinance sector and financial inclusion, with specific focus on rural areas and poor clients (external assessments to be conducted by an independent agency will also be conducted yearly).

Such a Project must be designed with a fixed duration, at least 3-4 years. It will phase out once partnerships between major Microfinance providers and e-wallet systems are well in place.

(2) A possible action plan for the project would require a 6 month preparation phase before the supporting project could be launched.

During the 6-month preparatory phase, the following actions are to be launched, under the supervision of an ad-hoc joint Committee composed of CBOS and NTC:

- ❑ Identify those financial institutions that are the more interested to participate in the proposed initiative and organize a consultative committee regrouping them.
- ❑ Draft the framework of supporting actions that the future Project will manage (macro-budget and planning).
- ❑ Simultaneously conduct:
 - ✓ Further investigations and market surveys on a key driver of the potential demand: domestic transfers, especially in rural areas.
 - ✓ Detailed survey of cash transactions (withdrawals / deposits) handled by a sample of bank branches (Khartoum and Red Sea States).
- ❑ Nominate a Steering Committee for the Project (initial composition).

- ❑ Identify possible financial and technical partners (international and domestic) and secure the overall budget.
- ❑ Draft the Request for Proposal to select the Project Operator and pilot the selection process to find and contract with a qualified operator.
- ❑ Design a regulatory framework for mobile financial services and issuance of electronic money and take the appropriate measures to adapt other related regulations, after due consultations of all concerned stakeholders.
- ✓ It is not absolutely necessary that all regulatory changes are already in place and enforced to allow a MNO to start its e-wallet project, provided that the outlines of the new policy are clearly defined and conveyed. One key principle to put in place is that no e-money project will be authorized without receiving a letter of non-objection from CBOS (and if deemed necessary also from NTC) and that such letter of non-objection will not be issued if the MNO's demand is not documented by sufficient evidence that, at least:
 - ✓ The e-wallet system business plan and technical specifications take into account that the system will accept and be capable of partnering with all financial institutions complying with a set of requirements to be defined jointly between the MNO and CBOS.
 - ✓ The issuance of e-money is reserved to financial institutions or to other establishment duly authorized by CBOS to engage in such an activity.

Once the Project operator is in place, the technical and financial assistance to facilitate the partnerships between microfinance providers and MNOs (as described in the project definition above) can start.

5.1.3. SCENARIO 2: DEVELOP A MUTUALIZED BANK-LED MFS SCHEME

5.1.3.1. Description of scenario 2

(1) Scenario 2 consists in creating a mutualized bank-led MFS business model, in which the technical platform and network of agents are shared between financial institutions.

In this scenario, a mobile platform is shared between financial institutions and enabling direct access to bank accounts and mobile cash transfers through mobile phones, independently from any e-wallet systems that MNOs could possibly supply or not. For cash transactions, this would require setting-up and managing a network of third party agents, shared between all participating financial institutions.

Management of the shared technical infrastructure and network of third-party agents would require the creation of an *ad hoc* commercial structure, by an existing service provider (such

as EBS) or a group of companies. Such a shared infrastructure (mobile platform and network of agents) should be open to all financial institutions that comply with the requirements agreed with the stakeholders of this pro-poor branchless banking initiative (CBOS in particular).

(2) In scenario 2, the mobile phone is used as an additional channel for clients to access the services provided by a microfinance provider: current account services (including account transfers and payments, savings, project finance, insurance, and cash to cash transfers (even for unbanked clients)).

In this scenario, the clients and the agents of the MFS scheme are necessarily clients of microfinance providers. The only exception is small (low-value) cash-to-cash transfers that are open even to unbanked clients. A dense network of agents and the ease to transact with bank accounts will boost financial inclusion.

Services provided by the microfinance provider to its client are quite similar to the services it provided in scenario 1, except that the financial transactions related to these services are conducted directly on the clients' bank account, without transiting through e-wallets.

- ✓ Current and saving accounts: not capped, possibility to get profit from the account if the financial institution is able to provide such accounts. Related mobile banking transactions:
 - ✓ Deposit and withdrawal using third party agents.
 - ✓ Account to account transfer
 - ✓ Payment of bill
 - ✓ Information upon request: account balance...
 - ✓ Information sent automatically: transfer receipts, negative balance, monthly statement...
- ✓ Project Financing: Related mobile banking transactions:
 - ✓ Disbursements and reimbursement (for those products where disbursement or reimbursement involves cash).
 - ✓ Information upon request or automatically: installment date...
- ✓ Insurance: Related mobile banking transactions:
 - ✓ Payment of insurance through mobile phone.
- ✓ Cash to cash transfer, a service offered also to unbanked people

(3) Scenario 3 requires setting up a complex organization, with an ad hoc company managing the shared platform and network of agents, microfinance providers providing the financial services to their clients, MNOs as technical providers. A project structure will be necessary to implement this organization.

Scenario 2 requires creating a specific structure (called "MFS Operator"), who would perform the following activities:

- ❑ Create and manage the network of third party agents performing cash transactions with microfinance clients.
- ❑ Develop interfaces with MNOs (all MNOs if possible, to reach as many clients as possible) and financial institutions (those participating in the project).
- ❑ Implement an IT platform to connect messages sent/received to/from agents and clients to the MIS of partner financial institutions.

The responsibilities of financial institutions under scenario 2 will be the following:

- ❑ Create and market the financial products which will be accessible to their clients through mobile financial solutions: each financial institution will market its own products.
- ❑ Develop interfaces with the MFSO, to implement these services. Interfaces should be online whenever possible, or at least enable daily exchange of information.
- ❑ Contribute to identifying possible third party agents among its clients (they will act as guarantors and sponsors of the agents they helped to enroll).

The MNOs would still be involved, but only as providers of mobile phone network used to send/receive data.

A dedicated Project will be put in place to drive the whole initiative: launching the MFS platform and providing adequate support to facilitate its adoption by financial institutions (MIS, interfaces, operational processes) and the public (promotion, education):

- ❑ The Project will be operated by an Executive Body, managed by a contracted technical assistance operator.
- ❑ The Steering Committee will include the public and private partners involved in the funding, the supervision and the management of the Project's components. The members of the Steering Committee will be representative of the regulatory authorities, of the public sector, professional associations (microfinance, and bank associations) and of funding sponsors.

5.1.3.2. Key success factors of scenario 2

(1) Scenario 2 should first include only those microfinance providers who have a strong management and IT capacity, and be open to additional participating microfinance providers once these have reached the requirements of such an ambitious project.

Scenario 2 is an ambitious project: conducting MFS transactions directly on bank accounts requires meeting MIS standards which most Sudanese MFIs presently do not meet, not mentioning project management capacity.

As a consequence, only those microfinance providers with sufficient capacity should join the mutualized initiative in the first place. Weaker financial institutions which have not managed to provide sustainable financial services in the areas covered by their branches should concentrate on achieving this, but must be provided the possibility to join the initiative once they have the required capacities (this needs to be anticipated in the governance of the initiative).

(2) As in all mutualized projects, the success of scenario 2 will depend on the capacity of participating microfinance providers to work together. This needs to be backed by a set of supporting actions.

Such a shared scheme requires a good level of cooperation between financial institutions, as the following costs will be mutualized between participating microfinance providers (through the MFS Operator):

- ❑ Set-up and management of an IT infrastructure to manage the flow of information linked to MFS transaction processes (mobile platform).
- ❑ Set-up and daily management of a network of third party agents.
- ❑ Marketing costs of the service.

The in-depth level of collaboration to agree on the governance of the MFS Operator and implement it may be difficult to achieve, although the Sudanese microfinance sector, through initiatives coordinated by CBOS/MFU and SMDF, has some experience of shared initiatives. Implementing a dedicated project to support this initiative through a set of activities (detailed in paragraph 5.1.3.3.) will be necessary.

(3) Convincing MNOs to collaborate will require demonstrating that they get a fair share in the repartition of the added value.

Scenario 2 limits the role of MNOs to technical providers of a mobile phone network. As such, they will raise revenues from the flow of data transiting through their networks, with the expectations that later on, a part of their customer bases will be attracted to more sophisticated value added services launched by MNOs themselves.

Nevertheless, there is a risk that MNOs might not wish to cooperate with such a scheme, especially if they develop e-wallet systems, independently from the mutualized bank-led MFS business models (provided the regulation would allow them to do so).

Bringing MNOs to collaborate in scenario 2 will require communication (at this stage, MNOs' understanding of such a scenario is low), and a lot of negotiation to agree on the technical and financial features of MNOs' participation.

The content of agreement with MNOs depends on the technology used in MFS transactions: even with the simplest technology, SMS, an agreement with one or several MNOs is absolutely necessary to handle high volumes of client requests properly, and guarantee short response times for the service. Furthermore, reaching an agreement with MNOs will enable to negotiate lower prices for SMS sent out and received, and will open the possibility to explore, in cooperation with the MNOs, the use of a menu-based mobile phone application for the clients.

Negotiating with the MNOs can be tricky, and is often in the critical path of any bank-led MFS project: notwithstanding the fact that the MNO might be reluctant to cooperate, the technical interface between the MFSO's platform and the MNO can be complex to set up, and the telecommunications regulation on "Value Added Services" is not always clear on each party's obligations.

(4) The choice of the technology and platform to implement should be based on the objective of providing a "universal access": it should not exclude clients for technological reasons based on the phone handset they own, the MNO they use, or the MIS software used by their microfinance provider.

In this scenario, MFS will be provided to all customers of participating financial institutions, regardless of their handsets and MNO. Unbanked people (not holding an account) will also benefit from cash transfer services.

Such an objective of providing "universal access" to mobile finance requires choosing the most simple and commonly available wireless bearer: SMS, at least in a first stage. This option is

the one that requires the simplest linkage with each MNO. In a second stage, the user experience may be greatly enhanced by developing other users' interface with a closer cooperation with each interested MNO.

All mobile financial services platforms proposed by software vendors are capable of supporting services based on SMS exchanges. The selection of a suitable platform will be based on the following top requirements:

- ❑ Obviously, the system shall be able to handle a "multi-telco, multi-bank, multi-channel (bearer)" solution which is independent from any given core banking system.
- ❑ Flexible workflow management: the messages sent to/from customers should be as straightforward as possible considering the targeted clientele. On the other hand, the security of all transactions will have to rely on well-designed business processes and not on security technologies (too costly, too dependent on wireless bearers and SMS card/handset capabilities). Therefore, the capacity to setup adapted workflows to drive each business process is a crucial requirement. In particular, what is needed are easily adjustable scenarios and rapidly changeable user messages, fees and security schemes.
- ❑ Agent management: the mobile platform shall include a comprehensive agent management module, enabling to setup different agent profiles and flexible commissioning rules, to monitor in real-time all transactions and enforce security rules on liquidity levels tailored to each agent's profile.
- ❑ "Open architecture" with a middleware facilitating the interfacing with MNOs (via web-services, IP-sockets or other APIs depending on the MNOs), with the National Switch (inter-operability, settlements...), the financial institutions' core systems...
- ❑ Scalability, as the volume of operations is expected to grow rapidly.
- ❑ Logging of all transactions and events (for obvious security and traceability reasons).
- ❑ Reporting and business intelligence (analysis), to enable the MFSD to evaluate performances, analyze market trends, alert on possible misuses (detection of abnormal transactions...) and to provide all reports required by the regulators.

Selection of the platform will also depend on:

- ❑ Pricing: adapted to a pro-poor branchless initiative (as an example: a pricing including an annual fee per active mobile account of USD1 would not be acceptable).
- ❑ Independence from any particular MNO (this excludes some proprietary platform such as the one used by Safaricom in Kenya).
- ❑ Capacity to deliver and support in emerging markets.

(5) As already mentioned for scenario 1 and in the chapter on regulation, the potential outreach of scenario 2 depends on the possibility of having simple procedures to initiate bank account opening with a third party agent.

5.1.3.3. Organization and action plan to implement scenario 2

(1) A dedicated Project will have to be launched to implement the mutualized bank-led Mobile Financial Services scheme proposed in scenario 2, and ensure that it meets the objectives expected from such a pro-poor branchless banking initiative. Its duration should be 4 to 5 years.

The missions of the Project will be to:

- Create a Mobile Financial Services Operator who will:
 - ✓ Source and acquire the technical mobile platform from a software vendor.
 - ✓ Implement and manage the services in line with the requirements expressed by the financial institutions to best serve the microfinance market (and their regulatory and supervisory authorities), in close cooperation with the technical provider (setup of services and agent management features, development of required interfaces).
 - ✓ Negotiate with each MNO all technical and financial aspects related to their involvement in the scheme (service level agreements, pricing of MO/MT SMS, etc.).
 - ✓ Set up and monitor a network of agents (shared agent network).
 - ✓ Draft and sign contracts with each interested financial institutions (offering them a set of "standard" and specific services).

- Implement a framework of supporting measures, in close cooperation with existing programs and facilities. This framework will have 3 components:
 - ✓ Technical and (if required) financial assistance to upgrade financial institutions' MIS (especially for MFIs), so that they can wholly benefit from the services supplied by the MFSO (reliable MIS, centralized database easier to interface with the MFSO system, etc.).
 - ✓ Communication, promotion and education campaign to explain how to use the system. This component is specifically geared towards the targeted clientele of the pro-poor branchless banking initiative, especially in rural areas. It is a required investment to ensure that poor people, yet unfamiliar with SMS and electronic payments, will learn how to use the system and be confident about the services offered.
 - ✓ Technical assistance to financial institutions in change management and process re-engineering. MFI will need to adjust their processes, as using external agents will significantly modify their interactions with clients.

The Project must be designed with a fixed duration, at least 4-5 years. It will phase out once the mobile financial services have reached a maturity phase. The Mobile Financial Services Operator shall be a permanent structure, a private company that should reach its financial autonomy after the deployment phase.

(2) A possible action plan for the project would require a 12 month preparation phase before a company can be selected to run the MFS Operator and supporting activities can be launched.

The following actions are to be implemented during a 12 month preparation phase (under the control of an ad-hoc Committee to be designated by CBOS):

- ❑ Nominate a Steering Committee for the Project (initial composition).
- ❑ Conduct:
 - ✓ Further investigations and market surveys on a key driver of the potential demand: domestic transfers, especially in rural areas.
 - ✓ Detailed survey of cash transactions (withdrawals / deposits) handled by a sample of bank branches (Khartoum and Red Sea States).
 - ✓ Identification of financial institutions that are the more interested to participate in the proposed initiative and organize a consultative committee regrouping them.
- ❑ Simultaneously: draft financial projections for the MFS scheme, highlighting the impacts of different cost and revenue-sharing hypothesis and using 2 business scenarios (cautious uptake of the services vs. fast growth of the MFOs activities). The outline of the framework of supporting actions will also be drafted (macro-budget and planning).
- ❑ Identify possible financial and technical partners (international and domestic) and secure the overall budget.
- ❑ Draft the Request for Proposal to select the Executive Unit of the Project and manage the selection process until a contract is signed with the selected firm (or consortium) that will be in charge of managing the Project.
- ❑ Ensure that the regulatory pre-requisites to enable the MFS scheme are met and if not, detail and pilot a specific action plan to achieve this (no donor and trustworthy potential MFS Operator would accept to commit funds without the regulation risks assessed and mitigated).

Following the preparatory phase, the Executive Unit of the Project will launch and pilot the following actions:

- ❑ Draft the Call for Proposals to select the company (or consortium) who will be the Mobile Financial Services Operator.

- ❑ In parallel, the Executive Unit will plan, specify and launch the support programs (starting with assistance to MIS capacity-building of the financial institutions participating in the Project). The action plan for supporting initiatives will be designed for the whole duration of the project (estimated to last 4 to 5 years) and periodically revised.

Once the MFSO is selected and in place, this MFSO will implement the MFS platform and services:

- ❑ Source / acquire the MFS IT platform (and its hardware and software pre-requisites).
- ❑ Contract with MNOs and MFIs.
- ❑ Setup the system and interfaces with the first financial partners (MF provider) and - in parallel - build the network of agents.
- ❑ Test the system and launch a Pilot (soft launch).

The Mobile Financial Services will then be rolled out, with an MFSO managing and supporting all operations. The Executive Unit of the Project will concentrate its efforts on support actions (and monitoring how the MFSO is meeting the performances defined in the M&E plan).

A comprehensive evaluation of the project will be scheduled after 3 years.

A project plan for scenario 2 can be found in annex 1

5.2. COMPARISON BETWEEN SCENARIO 1 AND SCENARIO 2

Potential benefits for poor clients

Scenario 1 Partnership with e-wallet system	<p>For all clients : easy access to an electronic account, enabling to perform Mobile Money Transfer, Mobile Payments (phone credit, utility, goods) and possibly store small amounts.</p> <p>Additional benefits for clients choosing to open a bank account with a microfinance provider through scenario 1: starts a relationship with microfinance provider, enabling the client to benefit from the full range of financial services : current account services (account transfer, account payment), savings, project finance, insurance</p>
Scenario 2 "mutualized bank-led"	<p>Client starts a relationship with microfinance provider, enabling him to benefit from the full range of financial services: cash transfers, current account services (account transfer, account payment), savings, project finance, insurance.</p> <p>But:</p> <ul style="list-style-type: none"> - the transactions cost will be most probably even cheaper, as scenario 2 is implementing a system taking into consideration the specific needs of poor client (focusing on basic low-cost services adapted to poor clients) - However, the widespread availability of the services will be somehow differed, as scenario 2 will require more time to be rolled-out - Some clients may be more willing to transact (and especially to save money) with a system (scenario 2) that is especially aimed at poor people and led by fully-sharia compliant institutions rather than to rely on private companies (telcos in scenario 2), whose core business has little to do with Islamic microfinance.

User experience

Scenario 1 Partnership with e-wallet system	<p>MNOs will most certainly provide a more user-friendly interface than plain SMS (and a very easy process to buy airtime via the e-wallet).</p> <p>If two MNOs launch e-wallet systems at the same time, customers may be confused (2 different agent networks, 2 campaigns explaining how to use mobile services...)</p> <p>Customers might be confused of having to manage 2 different types of accounts with different providers (e-wallet with MNO + bank account with Microfinance provider)</p>
Scenario 2 "mutualized bank-led"	<p>Easy to understand : the client has only one contract with a financial institution</p> <p>Customer can use the system whatever his handset and his MNO (no need to change his mobile subscription to another MNO, no need to ask for a SIM card switch: the system is immediately accessible to all).</p> <p>Nevertheless, the technology used (SMS in the first stages) is definitely not the most user-friendly.</p>

Benefits for the microfinance sector

Scenario 1 Partnership with e-wallet system	<p>The microfinance providers will benefit from the outsourcing of cash transactions to network(s) of agents managed by MNOs.</p> <p>As customers of the e-wallet system will be encouraged to open a bank account linked to their e-wallet, microfinance providers will benefit from a very swift increase in the number of bank accounts (this is what is presently happening in Kenya).</p> <p>The accompanying capacity-building provided by the Project will benefit the whole microfinance sector (upgrading MIS and processes)</p> <p>Nevertheless, heavy reliance on MNOs' e-wallet systems means MNOs may impose pricing and technical constraints that, in some cases, might limit the capacity of financial institutions to provide attractive services to their clients.</p> <p>E-wallets systems and microfinance providers compete on a few services such as remittances, bill payments and small savings. As clients need to use their e-wallet to access their bank account</p>
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	through mobile phone, they will most certainly choose to use the e-wallet to perform these transactions, thus strongly reducing microfinance providers' potential market on these services
Scenario 2 "mutualized bank-led"	<p>Microfinance providers have a direct commercial relationship with their clients for MFS. They can design financial products to be provided through mobile phone, based on their own constraints rather than those of e-wallet providers like in scenario 1</p> <p>Unlike scenario 1, microfinance providers will have to recruit clients through marketing and communication activities that they will conduct by themselves (or in the framework of the Project). The increase in number of clients is thus likely to be slower.</p> <p>In scenario 2, if telcos still manage to launch e-wallets, they will compete with microfinance providers on remittances, payments and small savings, but the competition will be fair, unlike in scenario 1.</p>

Network of agents

Scenario 1 Partnership with e-wallet system	<p>The MNO already has a network of agents for airtime purchase.</p> <p>Among the existing agents, he must choose those who are most fit to perform clients' e-wallet transactions (probably a small minority), knowing that the economy of e-wallet transactions requires lower commissions than payment of phone credit.</p> <p>Microfinance providers can help the MNO to find new agents among its clients, and possibly help in managing/monitoring them.</p> <p>The full responsibility of the network of agents remains with the MNO.</p>
Scenario 2 "mutualized bank-led"	<p>A dedicated network of agents must set-up from scratch:</p> <p>Agreement should be sought with existing networks (Sudapost, NEC, petrol stations, network of branded retail stores), but these are seldom found in Sudan.</p> <p>Participating banks/ MFIs should play an active role in identifying and selecting agents in the areas where they are active (possibly among their clients)</p>

Regulation

Scenario 1 Partnership with e-wallet system	<ul style="list-style-type: none"> - CBOS will have to regulate e-money (issuance, ceilings, protection of funds, etc.) - Inter-operability between e-wallet schemes will have to be imposed right from the start - KYC regulation has to be adapted (proportionality principle) - Need to regulate activity of agents in financial transactions
Scenario 2 "mutualized bank-led"	<ul style="list-style-type: none"> - No electronic money in scenario 2 - KYC regulation has to be adapted (proportionality principle) as in scenario 1 - Need to regulate activity of agents in financial transactions (as in scenario 1)

Project implementation

Scenario 1 Partnership with e-wallet system	<ul style="list-style-type: none"> - MNOs set-up e-wallet systems - Need for a dedicated Project structure (3-4 years) to assist microfinance providers in linking with MNOs' e-wallet systems, support the adaptation of the regulatory framework, conduct awareness and education campaigns, and evaluate the effectiveness of the scheme. The structure will phase out once partnerships between major microfinance providers and e-wallet systems are well in place.
Scenario 2 "mutualized bank-led"	<p>MFS scheme has to be set-up from scratch, by a Mobile Financial Services Operator to be created.</p> <p>This requires setting up a project structure (at least 4-5 years) in charge of creating the MFS Operator and implementing a framework of supporting measures such as reinforcing microfinance providers' MIS, communication and promotion campaigns, technical assistance in change management within the microfinance providers. The project will phase out once the mobile financial services have reached a maturity phase.</p> <p>The MFS Operator will be in charge of implementing and managing the services in line with requirements of Microfinance providers, negotiate with MNOs, set-up and manage a network</p>

	of agents, sign contracts with Microfinance providers. The MFS Operator shall be a permanent structure, a private company that should reach its financial autonomy after the deployment phase.
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Investment considerations

Scenario 1 Partnership with e-wallet system	<p>The MNOs will bear most of the investment costs: IT costs (MNOs have the responsibility of the mobile platform), marketing costs (MNOs will invest heavily on promoting their e-wallets, branding their network of agents...)</p> <p>Investments of microfinance providers to join the scheme should not be underestimated, especially if upgrading of MIS is necessary.</p> <p>Microfinance providers will have to share marketing costs to promote the joint service (MNOs will be interested in marketing their e-wallet more than the services linked to bank accounts)</p> <p>As most investments will be borne by MNOs, they will charge transaction fees to microfinance providers.</p>
Scenario 2 "mutualized bank-led"	All investments are borne by microfinance providers, either directly or indirectly through the Project and the MFS operator : set-up of the technical infrastructure, link with telcos, set-up of the network of agents, marketing and awareness, etc.

5.3. SWOT ANALYSIS

SWOT analyses focus on difference between the two scenarios rather than on strengths/weaknesses/opportunities/threats which are common to all MFS business models.

5.3.1. SWOT ANALYSIS OF SCENARIO 1

Strengths	Weaknesses
<p><u>- For clients:</u></p> <ul style="list-style-type: none"> - 2 tiered services according to needs: MMT/M-Payment/store small amount + possibly Mobile Banking. - Time to market is shorter (telco marketing and technical capacities, existing network of agents). <p><u>- For microfinance providers:</u></p> <ul style="list-style-type: none"> - Easy recruitment of new clients from clients of e-wallet provider (MNO). - Working with MNOs pushes microfinance providers to increase quality of service. <p><u>- For MNOs:</u></p> <ul style="list-style-type: none"> - Full control over the e-wallet system and most revenues. - Integration with other services (airtime top-up). - Link with microfinance providers is an opportunity for MNOs to increase the revenues generated by their e-wallets. 	<p><u>- For clients:</u></p> <ul style="list-style-type: none"> - Possibly confusing as both MNO and microfinance providers supply services. <p><u>- For microfinance providers:</u></p> <ul style="list-style-type: none"> - Likely to lose MMT/M-Payment market to the e-wallet MFS provider (MNO). - Dependant on the MNOs for features and pricing of MFS supplied by microfinance providers <p><u>- For MNOs:</u></p> <ul style="list-style-type: none"> - Interoperability and interfaces with microfinance providers which are imposed on MNOs in scenario 1 are complex and will slow down Project implementation.
Opportunities	Threats
<ul style="list-style-type: none"> - As MNOs lead this scenario, we can expect them to put an end to informal transfers through airtime. 	<ul style="list-style-type: none"> - How can we be sure that MNOs will implement CBOS recommendations (interoperability, link with microfinance providers) - CBOS might be reluctant to allow MNOs to develop MFS. - Microfinance providers may be too weak to comply with technical and project management requirements

5.3.2. SWOT ANALYSIS OF SCENARIO 2

Strengths	Weaknesses
<ul style="list-style-type: none"> - <u>For clients:</u> <ul style="list-style-type: none"> - Direct contact with microfinance providers, no interference from non-financial stakeholders (telcos and their agents). - <u>For microfinance providers:</u> <ul style="list-style-type: none"> - Not dependant on MNOs in delivering the MFS (especially pricing). - Keep control of MMT and M-Payment markets (no competition from e-wallets supplied by telcos). - <u>For MNOs:</u> <ul style="list-style-type: none"> - Additional revenues from use of their networks for MFS transactions. 	<ul style="list-style-type: none"> - <u>For clients:</u> <ul style="list-style-type: none"> - Longer time to market (need cooperation between microfinance providers, set-up MFS Operator, etc.) - Slower growth of the services due to weaker marketing capacity than MNOs - <u>For microfinance providers:</u> <ul style="list-style-type: none"> - Bear full investment costs and project management responsibility. - <u>For MNOs:</u> <ul style="list-style-type: none"> - Lose MMT and M-Payment markets to microfinance providers.
Opportunities	Threats
<ul style="list-style-type: none"> - Structuring effect of this scenario on microfinance providers. - Low cost supply of financial services should reduce informal financial transaction conducted by non-regulated structures. 	<ul style="list-style-type: none"> - How can we be sure that MNOs will cooperate in this scenario? - Microfinance providers may be too weak to comply with technical and project management requirements. - Lack of external funding to support the Project activities required by this scenario.

6. ANNEXES

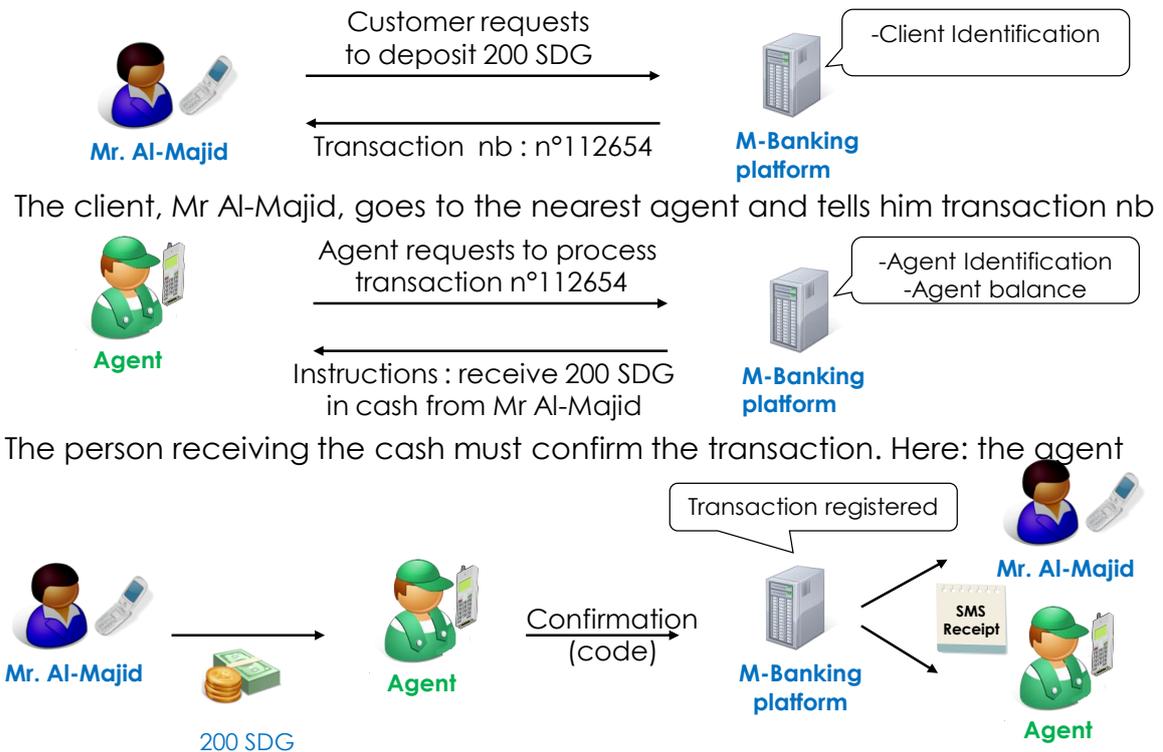
6.1. ANNEX 1: PROJECT PLAN FOR SCENARIO 2

The project plan for scenario 2 is detailed in a separate document.

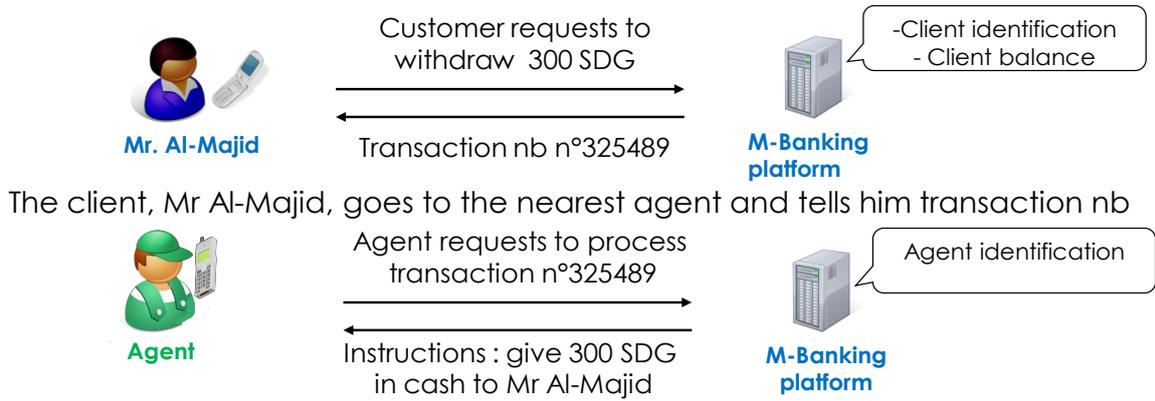
6.2 ANNEX 2: MOBILE FINANCIAL SERVICES

6.2.1. USE CASES: MOBILE FINANCIAL SERVICES

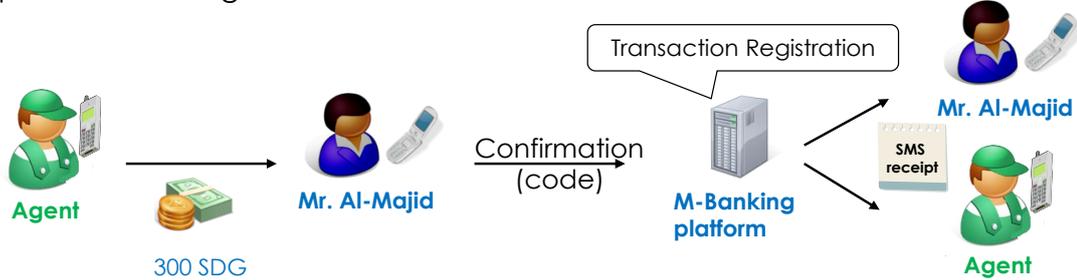
Use case: Deposit transaction



Use case: withdrawal transaction

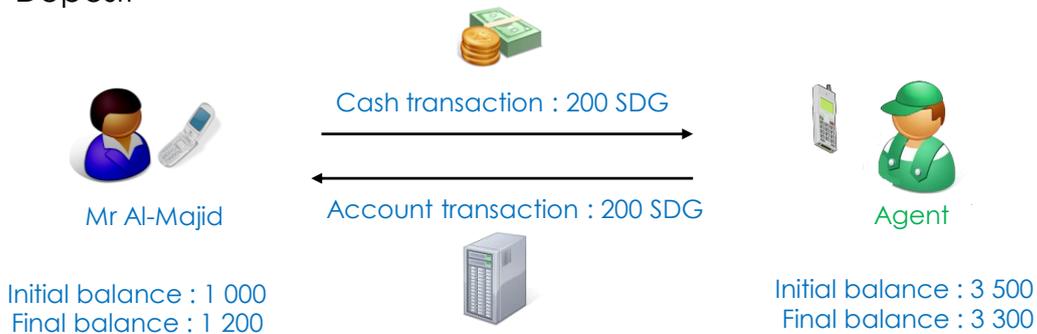


The person receiving the cash must confirm the transaction. Here: the client

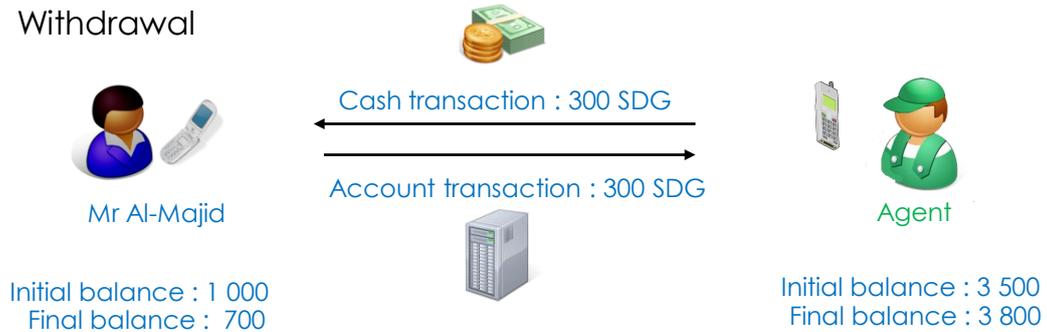


Effect of deposit/withdrawal transactions on account

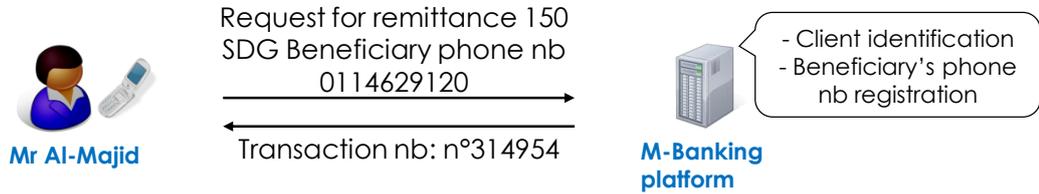
Deposit



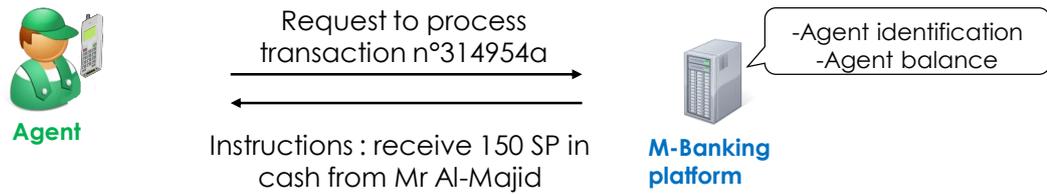
Withdrawal



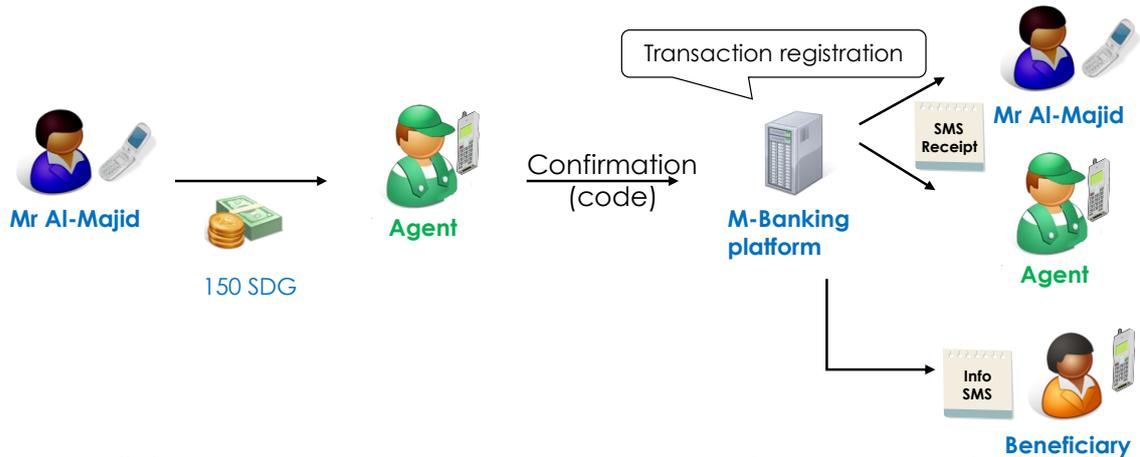
Use case: cash remittance



The client, Mr Al-Majid, goes to the nearest agent and tells him transaction nb



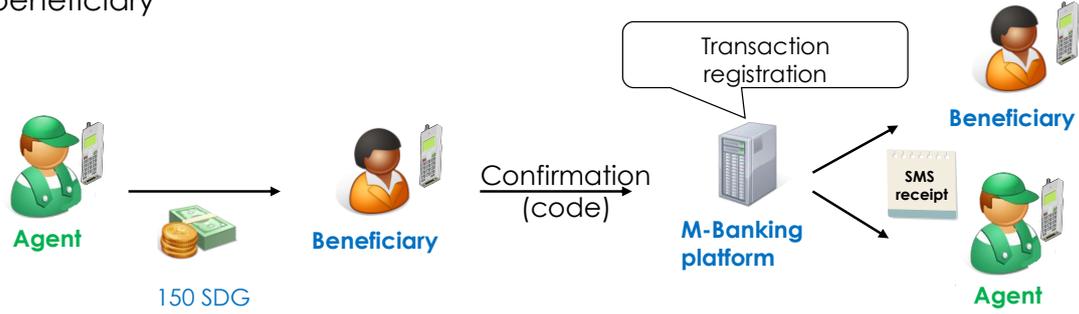
The person receiving the cash must confirm the transaction. Here: the agent



The beneficiary goes to the nearest agent and tells him the transaction nb

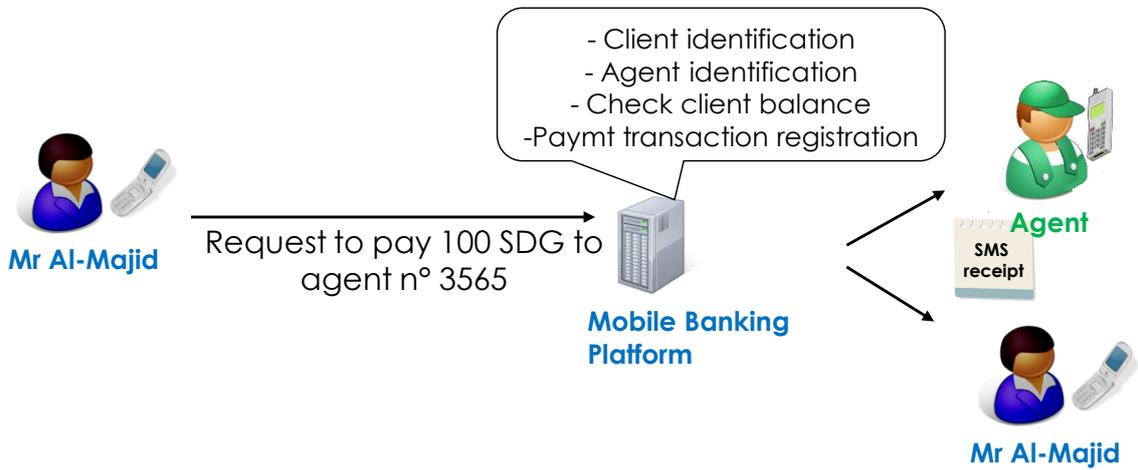


The person receiving the cash must confirm the transaction. Here: the beneficiary



Use case: cashless payment of goods at a merchant

The client Mr Al Majid purchases items from « merchant n° 3565 »



6.2.2. COMPARISON OF MFS BUSINESS MODELS ACCORDING TO RELEVANT CRITERIA

This table shows how each type of MFS business model qualifies according to criteria mentioned in paragraph 2.2.3.

	Name of scheme	MFS provider Who has contract with client?	Who manages the account used for MFS?	E-money involved?	Who manages IT platform and network of agents	Link between account used for MFS and other accounts	Examples
E-Wallet MFS Business Models	Telco-led E-wallet	MNO	MNO	Yes	MNO	No (most cases) Possible if partnership with financial institution	Ex : M-Pesa, MTN Money, Orange Money, Zap... Partnership with financial institutions : Zap, M-Kesho, Orange Money Kenya
	Service-led e-wallet	Service provider	Service provider	Yes	Service provider	No (most cases) Possible if partnership with financial institution	Ex : Wing (Cambodia)
Bank-led MFS Business Models	Single bank-led	Financial institution	Financial institution	No	Financial institution	Yes	Ex : Xac Bank
	Mutualized bank-led	Financial institution	Financial institution	No	Service Provider	Yes	Ex : Project by the Government of Sénégal
	Mutualized bank-led with e- money	Financial institution	Service provider	Yes	Service Provider	Yes	Ex : E-Zwitch

6.3. ANNEX 3: OVERVIEW OF INTERNATIONAL EXPERIENCES ON MOBILE FINANCIAL SERVICES

CGAP, with the support of the Bill and Melinda Gates Foundation, launched a technology program in 2006. Its objective is to fund, support and monitor innovation in branchless banking. Until now, they are supporting 14 projects in 11 countries, based on various business models.

Technology Program's Investment Portfolio

In order to see branchless banking pick-up, there needs to be:

- more success stories
- capital to invest in riskier approaches
- Exchange of experiences, best practices

14 Projects | 11 countries



- Innovative, experimental approaches:
 - 2 Telco in e-money
 - 3 Banks low cost savings accounts
 - 3 IT companies doing mobile wallets
 - 1 Bank branchless banking
 - 1 Bank-Telco JV
 - 1 Shared mobile platform
 - 2 Other (shared backend, automatic transactions in SHG)
 - 1 Bank trying credit

This annex aims at giving details on a few major initiatives, and a short description of several more, knowing that, as described in the report, the GSM Mobile Money Deployment Tracker counts 94 live mobile money deployments and 94 planned projects (and the list is not exhaustive).

6.3.1 M-PESA / M-KESHO IN KENYA

Context

M-PESA is a Mobile Financial Services project introduced on the Kenyan market in March 2007 by Safaricom, a Kenyan MNO, subsidiary of Vodafone.

It was funded by Department for International Development (DFID). One of the reasons for this funding was that originally, Safaricom wanted to combine its connectivity, brand, and distribution network of airtime resellers with an MFI's (Faulu) low-income customer base to enable customers to receive loan disbursements and make loan repayments using mobile phones. The two organizations ran a pilot for six months in 2005 during which time Faulu customers used the service to repay loans. The pilot was rather unsuccessful in supporting Faulu clients' loan repayments, but gave ideas to Safaricom, who revamped the whole scheme, developing as key marketing message "Send Money Home," and went on to launch the most successful m-payments service in the world, M-PESA.

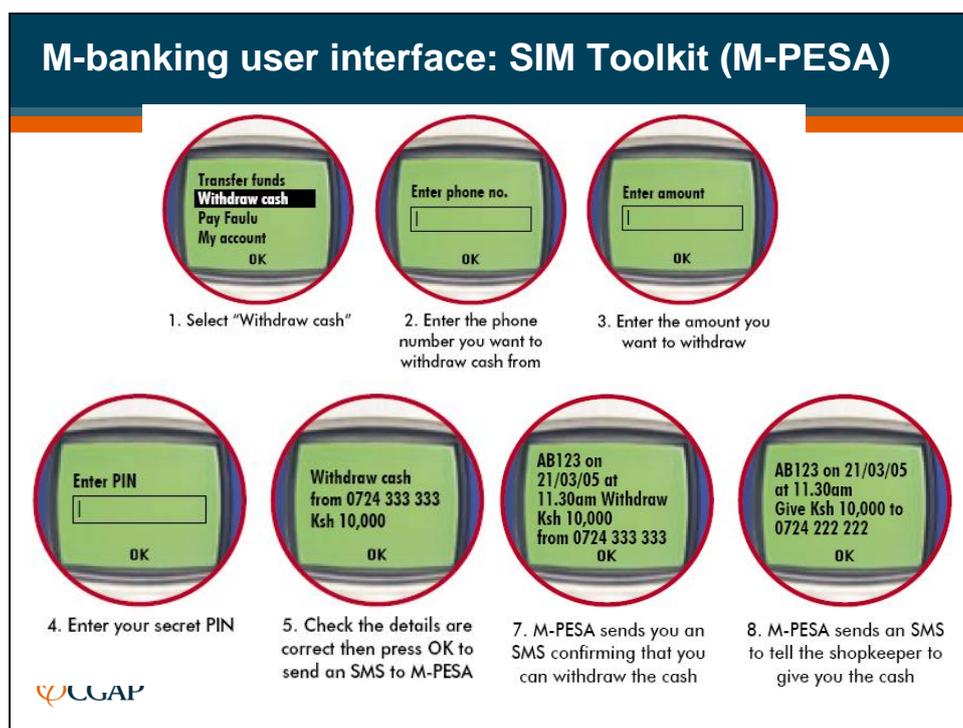
Services

M-PESA supplies an e-wallet account that clients can access through their mobile phone, using M-PESA's large network of retail agents and partner ATMs. Cash in is free, but clients must pay to cash out and make transactions. The transactions available are the following:

- ❑ Person-to person transfer (the most popular): e-money can be transferred to another M-PESA account holder or to a non-registered beneficiary (more expensive)
- ❑ Purchase of airtime.
- ❑ Person-to-Business payments: this type of transaction is in fact used not only to pay bills (the most popular being electricity bills), but also to make donations to partner charities, or even to repay MFI loans.
- ❑ Business to person payments, such as paying salaries of staff on their M-PESA e-wallet.
- ❑ Information: balance inquiry.

Technology

M-PESA uses STK technology in Kenya, but the Tanzanian subsidiary of Vodafone, Vodacom, has launched M-PESA in Tanzania in April 2008 using USSD technology.



Organization of network of agents

First, Safaricom created a two-tier structure with individual stores (sub-agents) depending from master agents (referred to as agent Head Offices [HO]). Agent HOs maintain all contact with Safaricom, and perform two key functions: liquidity management and distributing agent commissions. In addition, Safaricom engaged a local firm, Top Image, to conduct the evaluation and training of new stores, as well as visiting stores monthly and scoring them against a range of criteria.

Thus, we see that Safaricom delegated the more routine, desk-bound, non-customer-facing store support activities to a larger pool of agent HOs. At the same time, Safaricom retained direct, centralized control (through its contract with Top Image) over the key elements of the customer experience, including vetting and training new agents and ensuring that stores met guidelines and offered reasonable service. Thus, it created some degree of competition among agent HOs, but not on aspects that were crucial to maintaining quality and consistency of the customer experience.

As the M-PESA store base grew, this structure became too heavy and expensive for Safaricom. As a consequence, Safaricom has created a new class of players called agent aggregators, with the aim that each will manage several thousand agents. Safaricom has selected the aggregators on two key criteria: (i) liquidity, as aggregators are required to have a minimum deposit in their M-PESA account with Safaricom; and (ii) performance, based on the number of customers they are serving and the volume of transactions they are performing per day.

Outreach and impact

	April 2007	December 2007	July 2008	July 2009	July 2010
Nb M-PESA customers	52,453	1,337,103	3,367,192	7,387,980	11,895,515
Nb M-PESA Agents Outlets in Kenya	355	1,582	3,378	11,623	19,502
Monthly value of person-to-person transfers (BN KShs)	0.098	1.73	6.89	20.22	33.32
Cumulative value of P2P transfers since launch		7.40	35.92	210.27	525.84

Evolution of M-PESA activity (source: Safaricom)

It is interesting to see that reach to the unbanked is limited, as 72 percent of M-PESA clients lived in households with at least one account with a formal financial institution, indicating significant overlap between the user base of M-PESA and banks/MFIs¹.

Links with financial institutions: M-Kesho

As mentioned above, it is possible to reimburse a loan to a financial institution by using the "person-to-business" transaction in M-PESA. Historically, it performing such reimbursement transactions was one of the main objectives why M-PESA was developed. Nevertheless, such transactions have not proved to be very convenient (one of the reasons being that clients had to enter a biller code each time they wanted to do a transaction) nor successful.

In April 2010, the Central Bank of Kenya issued new agent banking regulations which for the first time allowed banks to engage a wide range of retail outlets for handling cash transactions and product promotion (receiving account applications, though applications must be approved by a bank staff). This paved the way for banks to begin using the M-PESA platform and associated network of M-PESA outlets as a new distribution channel for their banking services.

This has led the way for the launch of M-KESHO in April 2010. The following description of M-Kesho was taken from Ignacio Mas²

¹ Jack, William, and Tavneet Suri. 2009. "Mobile Money: The Economics of MPESA." Unpublished manuscript.

² <http://mmublog.org/uncategorized/m-kesho-in-kenya/>

"M-KESHO is a full savings account issued by Equity Bank but marketed as an "M-PESA Equity account." Like M-PESA accounts, M-KESHO accounts have no account opening fees, minimum balances or monthly charges. But unlike M-PESA accounts, M-KESHO accounts pay interest, do not have a limit on account balances, and are linked to limited emergency credit and insurance facilities. And unlike its regular Equity account holders who can only transact at the bank's 140 branches, Equity's M-KESHO customers can transact at any of the thousands retail outlets that accept M-PESA.

M-KESHO customers must have an M-PESA account (and hence be a Safaricom customer). In addition, they may have a normal Equity Bank account and this can be linked to their M-KESHO bank account, but that is not required.

M-KESHO is fully integrated into the M-PESA user interface on customers' mobile phone, and is also accessible through Equity Bank's own mobile banking service (available on JAVA or USSD). Customers can deposit and withdraw money from their M-KESHO account by transferring value to/from their M-PESA account, which they can in turn cash into or cash out from at any M-PESA outlet. Deposits into M-KESHO are free to the customer, whereas withdrawals incur a KSH 30 (40¢) payable to Equity Bank plus the normal KSH 25 (33¢) cash out fee payable to Safaricom.

Account opening: Under the new agent banking regulations in Kenya, account opening cannot be delegated to agents. So account opening will take place either at branches or at a subset of some 5000 M-PESA agents at which Equity Bank will place a bank representative. Customers must bring the original plus a photocopy of their ID and two photographs (at agent locations their picture will be taken on the spot with a digital camera). Customers complete a relatively short and simple application form (see attachment), but accounts won't be active until 48 hours later.

Account management: M-KESHO accounts are held in a server owned, hosted and operated by Equity Bank. Equity Bank has the right to up-sell M-KESHO customers to full Equity Bank accounts when their account balance reaches KSH 10,000 = USD 133.

Deposit/withdrawal options: M-KESHO only takes electronic transactions, offering no direct cash in/out possibilities. Money can flow into and out of the M-KESHO account either from a customer's M-PESA account or (optionally) from a normal Equity Bank account. M-KESHO customers can't do cash transactions at an Equity Bank branch teller, but of course Equity branches are M-PESA agents so they can first cash into either their M-PESA or Equity Bank account and then transfer the amount into M-KESHO. M-PESA's minimum transaction size of KSH 100 = USD 1.30 and maximum transaction size of KSH 35,000 = USD 467 also apply to M-KESHO.

Accessing M-KESHO through Safaricom's M-PESA phone menu. M-KESHO customers will have one more item on their M-PESA menu that says 'M-KESHO' (their M-PESA menu will get

refreshed automatically over the air upon registration). A submenu then allows customers to fully manage their M-KESHO account: transfer money to/from their M-PESA account, request a balance inquiry or mini-statement (last five transactions only), and apply for the loan or insurance facilities.

Accessing M-KESHO through Equity's Easy 24×7 phone menu. Equity has its own mobile phone user interface for its customers, available through a number of channels: JAVA, WAP and USSD. Customers will have the option of managing their M-KESHO account (including transferring money in either direction between their M-PESA and M-KESHO accounts) from either their M-PESA phone menu or through the Easy 24×7 service.

Transaction confirmations. A transfer of value between a customer's M-PESA and M-KESHO accounts will entail two SMS confirmations: one from Safaricom confirming that the M-PESA has been credited (debited) and one from Equity confirming that the M-KESHO account has been debited (credited). While the M-PESA confirmation typically comes within seconds of the transaction request, the M-KESHO confirmation may take 1-5 minutes. (Equity claims this is a Safaricom issue.)

Customer transactional fees. Deposits into M-KESHO (i.e. transfers from a customer's M-PESA account to his M-KESHO account) are free for the customer, while withdrawals (i.e. transfers from the customer's M-KESHO to his M-PESA account) cost KSH 30 = USD 0.40 (i.e. they are tariffed as a normal P2P). This is in addition to the M-PESA cash out fee, which for amounts less than \$30 is an additional KSH 25 = USD 0.33. Thus, a 'full' deposit (cash to M-PESA to M-KESHO) is free to the customer, while a 'full' withdrawal costs the customer a fairly steep USD 0.73. M-KESHO (but not M-PESA) fees are deducted directly by Equity Bank from customers' M-KESHO account. Equity also a KSH 5 = USD 0.07) charge for each balance inquiry and mini-statement.

Credit facility features. Loans must be requested from the mobile phone, and are for amounts between KSH 100-5000 = USD 1.30-67. Equity intends to use a credit scoring system based on the balance and transactional history of the customer on their M-PESA, M-KESHO and normal Equity accounts (if any) for the previous six months. There is an application fee that depends on the amount, ranging from KSH 20-500 = USD 0.27-6.67. Overdue interest is charged at 3% of outstanding balance.

Insurance facility features. This is limited to personal accident insurance for the first year, then it is upgradeable to full life insurance cover. It is optional, and customers apply through their mobile phone. Annual premium is KSH 530 = USD 7 if paid annually in advance (the premiums are higher if customers choose to pay on a monthly or weekly basis reflecting the time value of money).

What is Safaricom's interest in M-KESHO:

- ❑ Safaricom' strength in the relationship comes from two main elements it controls:

- ✓ *Agent network.* Safaricom controls a channel of outlets that is 120 times more extensive than Equity Bank's branch network (17,000 M-PESA stores vs. 140 Equity branches). Kenyans are clearly keen on the convenience that M-PESA delivers, whereas Equity Bank is in danger of losing customer goodwill as its branches get more and more congested.
- ✓ *User interface.* Through its ownership of customers' SIM cards, Safaricom can present a very convenient user interface which is an extension of the phone's menu and a secure communications channel. Equity must use either an inferior user interface (e.g. USSD) or one that is operationally more cumbersome to deliver (e.g. JAVA).
- *Through their M-KESHO collaboration, Equity can enhance M-PESA's value capture by:*
 - ✓ *Driving more transactions.* Through M-KESHO, Equity adds value to the M-PESA proposition (interest payable on saved balances, loan and insurance facilities available) and can therefore be expected to increase take-up and usage of the underlying M-PESA service as a transactional channel.
 - ✓ *Extracting more value from float.* M-KESHO should drive higher account balances than are currently stored in M-PESA because: (i) it will now be possible to market savings services which Safaricom wasn't able to do on its own for regulatory reasons, and (ii) it pays interest, albeit a low one. More importantly, the interest on float held on M-KESHO accounts can be appropriated by Equity Bank, which Safaricom could not do under its trust structure. Thus, simply transferring existing savings balances from M-PESA accounts to the new M-KESHO accounts increases the value accruing to the partners."

6.3.2. G-CASH IN PHILIPPINES

Context

G-Cash is a Mobile Financial Service project by a MNO, Globe Telecom, launched in the Philippines in 2004.

Globe Telecom formed a subsidiary, G-Xchange Inc. (GXl), to manage G-Cash operations. GXl delivers G-Cash services with partners that include banks, utility companies, retailers, governmental bodies, and non-profit organizations³. Globe also has G-Cash outlets at their retail units.

³ Williams Howard and Torma, Maili. 2007 'Trust and Fidelity: from 'under the mattress' to the mobile phone'. Published in the Transformational Potential of M-Transactions. Moving the Debate Forward: The Policy Paper Series No.6, July 2007: 10-19. Vodafone Group Plc

G-Cash first launched without a network of agents. It was only developed a few years after with the help of CGAP and USAID.

A USAID assisted program called "Rural Bankers Association of the Philippines – Microenterprise Access to Banking Services" (MABS) organized a group of 60 rural banks, which used their ties with more than a thousand small business customers to serve as resellers for GCash⁴). It helped G-Cash expand in rural communities where it was not present.

Services offered and technologies used

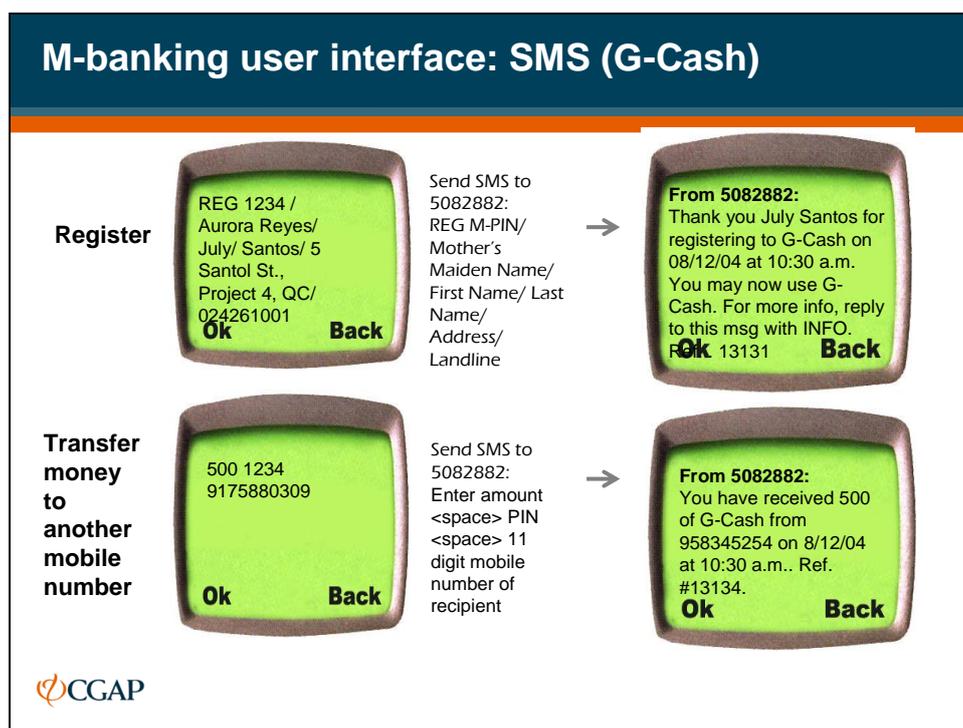
- **Services available**

Globe Telecom promotes G-Cash as a mobile wallet service enabling cashless and cardless financial micro-transactions. The service consists of an e-money account tied to a mobile phone SIM card.

G-Cash supports a wide range of services, such as:

- ❑ Person to person transfer: Send and receive money
- ❑ Purchase of air time
- ❑ Person-to-Business payments: Purchase of goods and services, Tax and bill payments, donations to partner charities, payment of tuition fees
- ❑ MFI Loan repayments (text-A-Payment)
- ❑ Deposits (Text-A-Deposit or TAD)
- ❑ Domestic and international remittances
- ❑ Disbursing and receiving salaries (Text-A-Sweldo or TAS)
- ❑ SMS to remind of upcoming loan payment

⁴ Kumar, K., McKay and Rotman, July 2010, « Microfinance and Mobile banking, the Story so far », CGAP Focus Note n°62



- **Technology used**

G-Cash uses SMS messaging technology. The mobile platform relies on software from Utiba (a leading vendor of mobile solutions).

Organization

- **Registration to the service for clients**

Registration for G-Cash services is a one-off procedure which involves the exchange of SMS messages between the Globe Telecom and its subsidiary Touch Mobile subscribers. To register, a subscriber must send an SMS to 5082882, along with: a self-nominated 4-digit PIN, their mother's maiden name, their first and last name, and their address and telephone number (Williams and Torma, 2007). These details are verified against the customer's ID when withdrawing cash. All transactions and remittances with G-Cash are SMS text driven. The customer does not need a special SIM card to use the service. Globe's reach has rapidly expanded through its wide network of partners.

- **Network of agents**

In the early years G-Cash focused on the mobile wallet to drive usage among “early adaptors”. Later they offered OTC “cash pick-up” for the “laggards” and they are now heavily marketing the domestic remittance service – GCASH Remit. With the recent approval of a network based license, allowing e-money issuers to be fully responsible for ensuring customer protection and compliance with the regulations, GCASH has scaled their agent network to 18,000 CICOs (cash-in and cash-out points) where OTC transactions can be carried out. GCASH Remit is available to the whole population including their competitors' customers and those that don't have a phone at all (source: CGAP Technology blog, Chris Bold)

Since 2008, they have developed a network of agents with the help of USAID and CGAP. A network of G-Cash resellers (similar to check cashing businesses) was built up in rural communities thanks to the support provided by the rural banks. On its own, each rural bank was too small to be attractive to GXI. But as a collective association of 60 banks with over 2,000 branches and millions of potential customers, the small banks provided a significant business proposition for GXI.

Impact

- **Outreach**

In the Philippines, the greater portion of the population lives at or below poverty line. 3 out of 4 Filipinos are unbanked (Demirgüç-Kunt). In spite of this, there are over 60 million mobile phone subscribers (75% of the population) and around 98% are on prepaid services.

Overseas workers sent home approximately USD 18 billion in remittances in 2008 (11% of the country's GDP) (CGAP). The average inbound remittance to the Philippines is USD 300 and typically costs the sender USD 7 to USD 33, or between 2.5% and 10% of the value.⁵

Key findings of the CGAP-GSMA-McKinsey survey (2008) revealed that:

- ❑ 50% of active mobile money users are unbanked (1.6 million)
- ❑ 26% are poor, living on less than US\$5 a day (poverty line in the Philippines)
- ❑ 10% unbanked users save an average of US\$31 in a mobile wallet (25% of their family savings), more than their peers
- ❑ Remittances routed via GCash or Smart Money cost less than 1% of the value vs 2.5% to 10% for traditional remittances channels

⁵ Remittance Prices Worldwide, The World Bank Group:

<http://remittanceprices.worldbank.org/RemittanceCosts/?from=197&to=153>

- **Figures**

	End 2006	End 2007	End 2009	End 2010
Nb G-Cash customers (millions)	0.5	1.3	1.9	2
Nb G-Cash partners/agents	0	3,500	6,000	18,000
Daily value of person-to-person transfers (USD millions)		100		
Transaction volume (USD billion)			1.3	

Evolution of G-Cash activity (source : CGAP)

Links with microfinance organizations

G-Cash has formed a partnership with rural banks to expand. It enabled G-Cash to “leverage the close existing ties that the banks had established with tens of thousands of micro and small business and low income households in their communities”.

The microfinance organizations (60 rural banks) act as agents for the MNO.

- **Reduced costs for both banks and clients**

MABS has used m-banking as a way to decrease costs for rural banks in the Philippines. As a result of switching to mobile phone repayments for loans, Green Bank (one of the partner rural banks) is estimated to be saving \$16 per client with an average loan size of \$400. Green Bank agreed to reduce interest rates from a flat monthly rate of 2.50 percent to 2.00 percent, as well as reduce its service charges from 3 percent to 2.5 percent. Taking into account the cost of the GCash fee and SMS costs, this converts into a total savings to the customer of \$5.30, based on an average loan size of \$400

For customers, there are savings as well: when the cost of traveling to the bank (which ranges from \$0.20 to \$2.40) exceeds the cost of converting cash to GCash (\$0.20 or 1 percent, whichever is higher) bank customers are willing to pay the GCash conversion fee instead of the cost of traveling to the rural bank branches (Kumar, McKay and Rotman).

- **Improved repayment rate and enhanced savings**

When a text message is sent before or on the payment date, repayment rates improved significantly with late payments dropping by almost 30 percent. Using SMS to remind customers to meet contractual savings goals has also proven effective (Kumar, McKay and Rotman).

6.3.3. XACBANK IN MONGOLIA

Context

XacBank is the leading microfinance bank in Mongolia. It is a full-fledged commercial but with a social mission to bank with a social mission: to extend financial services to poor and underserved people, including nomadic groups, in both remote and urban areas in Mongolia, With Mongolia having the lowest population density in the world, extending the outreach of financial services cannot be done via conventional branch network expansion. In 2007, XacBank initiated a "mobile banking" project, with the intention to offer mobile banking and payment services via a combination of cellphones and cash-handling agents. The project received a grant from the CGAP Technology Project ⁶.

While searching a suitable m-banking solution, XacBank was looking for a solution technically and economically adapted to microfinance and that could work whatever the handset and the MNO of the client. Moreover, XacBank was looking for a provider with previous experience in the microfinance sector and committed to participate in an iterative process of product definitions (adaptations to market demand) and technical adaptations (the core banking system of the bank was to be changed during the project). The offers received from top-league vendors of mobile platform didn't meet the expectations of the bank who decided at end 2007 to launch a joint-venture with an international IT and consulting company specialized in microfinance (Horus Development Finance) and to develop a solution specifically geared towards mobile microfinance services that could be marketed to other big MFIs.

Development of the mobile microfinance solution, called "Noomadic", started in April 2008 and the in February 2009, XacBank began piloting a first batch of mobile services. The full commercial launch was in July 2009 and by the end of September the Bank had reached 11,200 clients served via 1000 agents.

Services

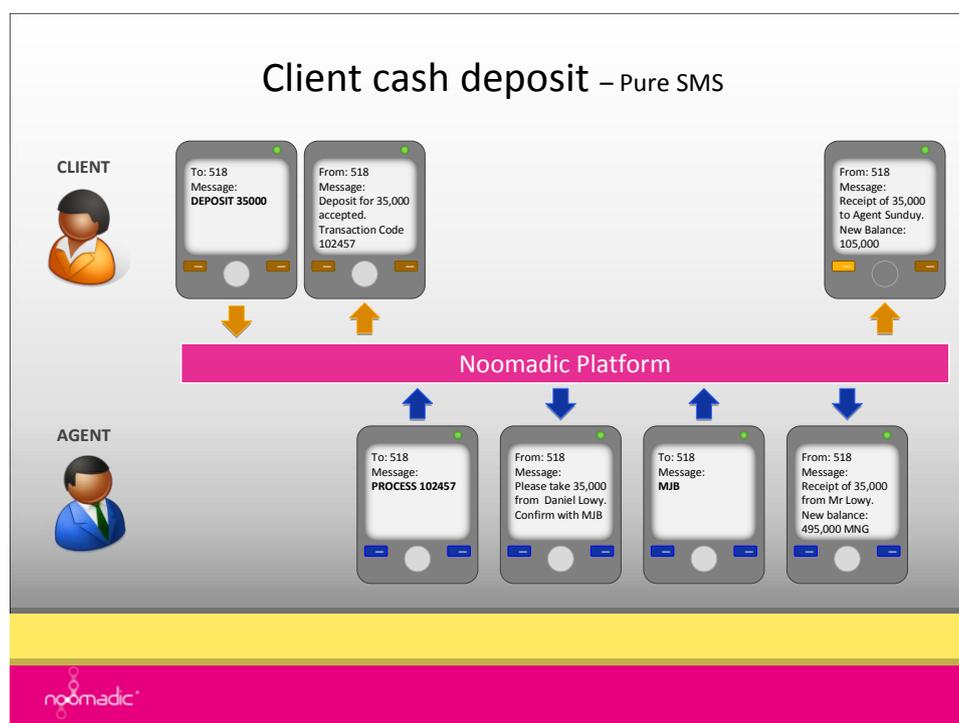
The first services provided by "AMAR" ("EASY" in Mongolian) are:

- ❑ Cash withdrawals (directly from the bank account)

⁶ Technology Initiative Trust Fund, a fund created with the Bill & Melinda Gates Foundation

- ❑ Cash deposits (to the bank account)
- ❑ Account to Account transfer (between XaxBank account holders))
- ❑ Mobile payment (pay bills at merchants)
- ❑ Account balance enquiry and mini-statement (last transactions on the bank account)

A second phase is in place and will be piloted soon (Q1, 2011): users will be able to use AMAR to manage a second XacBank account, including a loan account to facilitate loan repayments. Phase 3 will enable utility bill payments and other services.



Technology

AMAE uses SMS technology and is piloting a Java application in order to make AMAR services even more user-friendly and less time consuming. Starting with SMS was indispensable to make sure that all clients could use the services, whatever their mobile operators. There are 4 MNOs in Mongolia (two GSM and two CDMA networks), and at the beginning of the project the dominant MNO was quite reluctant to cooperate, as it had its own mobile payment project (never launched).

The Noomadic mobile platform is owned and managed by XacBank own IT team. The platform is interfaced with the bank's core banking system (now a recent centralized system, but the mobile financial services were launched while XacBank was still relying to a distributed system, with Noomadic having to connect real-time – via a middleware – to 35 branch

databases). The platform connects to the SMSC gateway of each MNO, via IP sockets and /or web services (depending on each MNO specifications).

Organization of network of agents

XacBank is relying on two different types of agents and merchants:

- ❑ Agents affiliated to an existing network of point of services. XacBank is partnering with Petrovis, the major network of gas stations. A partnership with MongolPost has also been agreed upon. The Noomadic m-platform enables to manage agents' positions and limits both at the agent level and at the network level.
- ❑ Individual agents and merchants: these are enrolled and trained by XacBank – each branch is responsible to enroll and train agents (with the support of a dedicated team from the E-Banking Department of the bank). Most agents and merchants are retailers screened among XacBank small business clientele.

Outreach and impact

As of April 2010, there are over 35,000 AMAR customers transacting at 2,500 agent locations. Out of these, 25,000 customers and 1,620 agents are in rural locations. The number of transactions is increasing every month (statistic not disclosed, estimated at 30 000 per month at end 2009).

When XacBank launched AMAR, it was expected that remittance would be the most widely-used service – in rural areas, people have sometimes to travel 100 km if they want to send or receive money. But two other services proved to become also quite popular: account-to-account transfers and mobile payment.

Now XacBank is reinforcing its sales force to promote more intensively its services. The target is to reach up to 300 000 customers, including nomadic groups.

6.3.4. SHORT DESCRIPTION OF OTHER EXPERIENCES

A large number of other MFS initiatives have flourished in the last 5 years throughout the world. These include:

- ❑ In Kenya:
 - ✓ M-PESA-M-KESHO (detailed above)
 - ✓ Zap (from Zain – Bharti Airtel)
 - ✓ Yu (from Essar Telecom)

- ✓ Following Safaricom's M-PESA/M-KESHO initiatives, Orange and Equity Bank have partnered to launch Iko-Pesa in November 2010 (link between Accounts in Equity Bank and Orange Money (Orange's e-wallet system). Features are quite similar to those of M-KESHO.
- In Philippines:
 - ✓ G-CASH (detailed above)
 - ✓ Smart money was launched in 2000 by Smart Communications (a mobile network operator), in partnership with Banco de Oro: it is a re-loadable payment account that may either be accessed through a SMART mobile phone or a MasterCard powered card, similar to a debit/cash card. It allows subscribers to purchase goods and services, receive domestic payments as well as remittances (called Smart Padala), by loading or transferring money from a bank account into their Smart Money account. The cash can be withdrawn from the Smart Money account at either an ATM or one of the many SMART encashment centers (mostly retail stores). In January 2010, there were 8 million Smart Money registered users, though only 2.5 million were active. 2 billion worth of Smart Money transactions were registered in 2009.
- In South Africa:
 - ✓ WIZZIT was launched in 2004 as a division of the South African Bank of Athens. It offers a transaction banking account accessible via mobile phone and debit card. Customers can use their mobile phone to make person-to-person payments, transfer money, purchase prepaid electricity, and buy airtime for a prepaid mobile phone subscription. WIZZIT also gives customers a Maestro branded debit card with which they can make purchases, get cash back at retail outlets and withdraw money at any South African ATM. Customers can also make cash deposits in partner banks' branches (Absa Bank and Postbank). Wizzit is used by more than 250,000 clients.
 - ✓ First National Bank (FNB) created CellPhone Banking in 2005, enabling its clients to use their mobile phone to check information on their accounts (balance, statement), pay goods and services (including phone airtime, prepaid electricity), and transfer money to other accounts. It has over 2 million subscribers in 2010.
 - ✓ MTN, a mobile phone operator, launched MTN MobileMoney in 2005, as a joint venture with Standard bank. Whereas the early versions enabled clients to send money, buy airtime, and make basic utility payments from their mobile phone using an electronic account, new services have now been added, enabling the client to pay goods, commercial services, utility bills, administrations, make transfers to/from bank accounts. MTN MobileMoney also issues a branded Mastercard. MTN MobileMoney was first introduced in South Africa but is now offered by MTN in many African countries, in partnership with local banks, although with less features. MTN South Africa also provides "MTN Mobile Banking", a gateway to access bank accounts (balance check, transfers, payments). Partner banks include Standard Bank, Nedbank and FNB.

- ❑ In Pakistan: in October 2009, Tameer Bank, a microfinance bank, and its parent company, Telenor (a MNO), launched Easypaisa. Easypaisa allows both Telenor and non Telenor clients to pay bills and transfer money through Tameer agents. In February 2010, Tameer launched Easypaisa mobile wallet, allowing Tameer Bank to offer savings, insurance and loan services to Telenor customers. Easypaisa is also accessible to Tameer customers through the internet.
- ❑ In Mongolia: XacBank (detailed above).
- ❑ In India, since 2006, banks are allowed to use Banking Correspondents (BC) for a variety of services including collection and preliminary processing of loan applications, financial education, disbursal and recovery of small-value credit, collection of small value deposits, remittance, etc. Banks have mainly been using BCs (many of which have been established by technology companies) to open no-frills accounts and to process National Rural Employment Guarantee (NREGA) payments. EKO is one of these technology companies: it has developed a banking platform called "SimpliBank" which provides a low cost financial infrastructure that leverages the efficiency of the existing pre-paid airtime distribution network. Eko's third party platform is intended to operate as a hosted mobile phone banking platform for various banks, MFIs or other types of financial services providers.

6.4. ANNEX 4: BRANCHLESS BANKING REGULATORY DIAGNOSTIC QUESTIONNAIRE

The questionnaire has been designed using the following documents:

- ❑ DFID/CGAP/GSMA: *Analytical Framework for M-Remittances Project, 2007*, DFID and CGAP
- ❑ CGAP Technology Program: *Branchless Banking Diagnostic Template* ((the numbers in the first column of the diagnostic questionnaire refer to questions' in the Diagnostic Template)
- ❑ Horus Development Finance own documents

The aim of this document is to provide a diagnostic of branchless banking regulation (by *regulation* we mean binding rules, whether they are adopted by a legislative body or an executive body).

The questions generally seek references to specific laws, regulations and/or other guidance: a diagnostic has to be supported by detailed references:

- ❑ By *citation*, we mean a reference to the specifically relevant part or parts (i.e. section/s, articles/s, paragraph/s) in a relevant law, regulation or other piece of guidance. (E.g., "Banking Companies Law of 1996, Sections 5 - 10, 98 - 100.") If the document is available online, please provide a web link; if not, please attach an electronic file with the return of the Diagnostic Template.
- ❑ By *summarize*, we mean to give a succinct overview of the relevant sections. This is especially important if the law is not in English. If it is in English, it may be appropriate to paste in the relevant section.

This assessment was not completed by CBOS, despite the international consultants' and national consultant's strong insistence and readiness to assist in conducting this diagnostic (and to focus on the most important questions),

I Outsourcing and use of agents

Agencies at which cash can be accessed or transferred: notwithstanding the rise of electronic payment instruments, most societies will remain dependent on cash for personal transactions for a long time to come. It is therefore necessary to have accessible and affordable means of accessing cash from a store of money (whether bank account or account with an e-money issuer). Bank branches and ATMs may be too expensive to deploy and maintain for them to become sufficiently pervasive. Therefore, it is often necessary to allow other existing entities which already handle cash, such as retailers, to act as agents for financial institutions or non-bank e-money issuer in accepting cash or paying it out.

- 1 Are there laws, regulations and/or other guidance which govern the **outsourcing** of financial services and functions **by banks**?
 - 1.1 If yes, what does the regulation generally require?
If no, answer by "N/A"
 - 1.2 Who is responsible for policy making and enforcement?
- 1bis Are there laws, regulations and/or other guidance which govern the **outsourcing** of financial services and functions **by non-banks**?
 - 1bis.1 If yes, what does the regulation generally require?
If no, answer by "N/A"
 - 1bis.2 Who is responsible for policy making and enforcement?
- 2 How is the regulation different, if at all, from the Bank of International Settlements (BIS) outsourcing guidelines? ("Outsourcing in Financial Services" (2005) available at <http://www.bis.org/publ/joint12.htm>.)
- 3 What type of institutions may appoint/use agents?
- 4 Who may act as an agent (retailers, financial institutions, post office, individuals, etc.)? What are the requirements (such as lack of criminal record, etc.)? Is any entity or type of entity expressly prohibited from acting as a financial services agent?
- 5 Which services and functions are allowed to be outsourced, and on which terms? What services can agents provide? Can they:
 - 5.1 - Accept or disburse cash?

- 5.2 - Transfer funds electronically?
- 5.3 - Make payments to utilities or third parties?
- 5.4 - Conduct KYC/CDD procedures? (KYC: Know Your Customer ; CDD: Customer Due Diligence)
- 5.5 Is there any financial service they are expressly prohibited from providing?

If so:

Provide citation/s

Do laws, regulations and/or other guidance, or practice prohibit, limit or guide the appointment of non-bank agents such as retail outlets for accepting or disbursing cash on behalf of a bank or other deposit entity?

If so:

Provide citation/s

Who may act as agents for this purpose? (who can accept or disburse cash on behalf of a bank or other deposit entity)

Provide citation/s

On what conditions may they act as agents?

- 6 - Does the agency/outsourcing relationship require the prior authorization from any regulatory body?
- 6.1 If so, is such authorization required in all cases or only specific cases?
- 6.2 What is the authorization process?

- 6.3 Is this process different for nonbanks appointing agents?
- 7 What operational requirements (such as equipment specifications, transactional limits, security measures) does the regulation require of agents to perform any given service?
- 7.1 Does the regulation require transactions by agents to be settled within a specified timeframe?
- Any rules regarding agent training?
- 7.2 What other limitations/conditions (such as accounting, auditing, security standards) are imposed on agents?
- Provide citation/s
- 8 What other limitations/conditions are imposed on banks and nonbanks in the appointment of agents?
- 9 Does any regulatory body have the right to inspect agents? If so, what body and what is the inspection process?
- 10 What is the legal liability of the bank/nonbank to the customer who uses agents? What if the agent acts outside the scope of the agreement with the bank/nonbank? (See Part IV "Consumer Protection" below for questions 12 to 17)
- 11 What is the legal liability of agents to the customer?
- 12 Is data privacy and bank secrecy regulation applicable to agents?
- 13 Is price transparency regulation applicable to agents?
- 14 Are agents required to disclose their agent status to bank customers? If so, how?
- 15 Are agents required to post or otherwise disclose information (such as fee structure, banking ombudsperson telephone number or the bank's customer service telephone number)?

IF THERE ARE ALREADY NON-BANK AGENTS PROVIDING FINANCIAL SERVICES OF BEHALF OF BANKS AND/OR OTHER DEPOSIT ENTITIES

- 17 How widespread is the use of agents by banks and nonbanks for the delivery of financial services in your country? Provide indications on the number of:
- 17.1 - Transactions (per month?) - And in comparison with bank branches?
- 17.2 - Customers relying on agents (e.g. number of active customers)?
- 17.3 - Accounts opened through agents
- 21 What types of retail establishments typically serve as agents?
- 27 Are there entities desiring to appoint/use agents for financial services who are not permitted to do so? What is the policy intent regarding this matter?
- 34.1 What services are provided by agents?
- 34.2 What is the most common type of transaction carried out by agents?
- 20 [What functions (such as conducting KYC/CDD procedures, etc.) do agents typically perform on behalf of banks and nonbanks engaging in financial services?]
- 34.4 How many agents?
Is it possible for an agent to operate for more than one service provider
- 35 Where do agents operate (which regions...)
- 22 What are the main risks and problems involved in the use of agents?
- 24/25 Is current regulation considered adequate? What in the current regulation (or supervisory process) should be changed in order to increase access to financial services through agents?
- 28 Are there are other government agencies, such as the Dept. of Labor, whose jurisdiction extends to bank agency matters? If yes, how does this impact the use of agents?

34.7 What kind of ICT (of technologies) is used to send/receive information about transaction conducted by your agents?

IF THERE ARE NO AGENTS PROVIDING FINANCIAL SERVICES OF BEHALF OF BANKS AND/OR OTHER DEPOSIT ENTITIES :

37 Are you aware of jurisdictions in which non-bank agents are explicitly allowed to take deposits or provide cash for withdrawals on behalf of banks (such as Brazil, India) or nonbanks (such as the Philippines or KENYA)? If so, how do you view such examples?

Do you think that the use of agents could be interesting? For which kind of services? What would be the opportunities? The risks? What should be done by the regulators?

II AML/CFT

Anti Money Laundering/Combating the Financing of Terrorism (AML/CFT) standards generally require that institutions implement customer due diligence (CDD) procedures when opening a new bank account or when initiating or receiving a single payment from or for a client. These CDD requirements may make it too onerous or risky to open basic bank accounts or process remittances for low-value customers. This section aims to understand the limitations which these requirements may place on new models and products.

2	Is the country a member of the Financial Action Task Force (FATF) or a regional FATF-style body?	YES
2.1	If so, which?	Middle East and North Africa Financial Action Task Force (MENAFATF)
1	Are there laws, regulations and/or other guidance which defines and criminalizes money laundering and/or the financing of terrorism? Note that anti-money laundering (AML) and combating the financing of terrorism (CFT) may be covered by separate laws, regulations and/or other guidance, and some countries may cover AML but not CFT.	
1.1	If so: Provide links or copies	

To which entities do the laws, regulations and/or other guidance named above apply?
(Please state categories of entity, e.g. banks, law firms, money changers, etc.)

Provide citation/s

- 1.1 Are there laws, regulations and/or other guidance which defines and criminalizes money laundering and/or the **financing of terrorism**? Note that anti-money laundering (AML) and **combating the financing of terrorism (CFT)** may be covered by separate laws, regulations and/or other guidance, and some countries may cover AML but not CFT.

If so:

- 1.1 Provide links or copies

- 1.2 Provide citation/s

- 2 Has the country been the subject of a recent Financial Sector Assessment Program (FSAP) report or policy paper (or other assessment on compliance with AML/CFT standards)? If so, what was the conclusion?

Give names and contacts of key agencies responsible for:

<i>Name of Organization</i>	<i>Name and title of main person in charge</i>
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- Overall AML/CFT policy.
- monitoring reports of financial transactions for suspicious activity?
- promulgating AML/CFT regulations covering bank accounts & remittances.
- enforcing these regulations with respect to financial institutions.

- 4 Is there a national identification system available for bank and nonbank financial services providers to use in order to verify customer identification information for account opening and one-time transactions? Do other entities, such as credit bureaus and mobile network operators, have access to the system?

- 4 Summarize and provide citations for the Customer Due Diligence (CDD) or Know Your Customer (KYC) procedures required respectively for:

- 4,1 - Opening a new bank account in a bank branch.

- 4,2 - Opening a new bank account remotely (i.e. outside of a bank premises and/or by person who is not a bank employee and/or by electronic means, such as internet).
- 4,3 - Receiving/sending a single payment/remittance.
- Buying a prepaid card or other prepaid instruments not linked to a bank account (such as electronic stored value accounts in mobile phones) or subscribing to a prepaid account/service with nonbank
- Subscribing to a mobile telephone service
- 4,4 Is there any distinction made in II) 4.3 above between CDD for domestic & foreign remittances?
- 4.4.1 If so, summarize the differences
- 5 Has there been any guidance issued by any body on how to apply CDD or KYC to bank account opening or remittances?
- If so:
- 5,1 Summarize how the guidance amplifies the requirements in A4 above.
- 5,2 Provide citation/s
What information or documentation regarding clients and transactions must be stored by banks and for how long? Are such requirements equally applicable to nonbank financial services providers? If not, what is different?
- 6 Is there regulation which reduces CDD/KYC requirements on low-value accounts or transactions performed by banks and nonbanks? If so, describe these reduced requirements
- If so:
- 6,1 Summarize what is exempt, and what the exemption thresholds are
- 6.2. Provide citation/s
Regarding telecommunication services specifically, what are mobile network operators required to monitor and report in respect to suspicious transactions conducted on their networks? What information or documentation must be stored by mobile network

operators and for how long?

III Electronic money (e-money)

Definitions of electronic money vary by jurisdiction, but a common definition is: monetary value stored on an electronic device which is issued on receipt of funds and accepted as a means of payment by parties other than the issuer. Most banks store money in this way (on their computers), and they are regulated in every country as e-money issuers. A key question is whether non-bank organizations are permitted to issue e-money as well, and if so, under what conditions. For example, when pre-paid airtime balances are used to purchase a good or service not provided directly by the mobile operator or on the mobile phone, in a number of countries this would be considered the creation of e-money by a non-bank. A similar example would be the issuance of multi-use or open system pre-paid cards by non-banks.

Is e-money defined by law, regulation and/or other guidance?

If so, summarize the definition

Provide citation/s

Is provision made for issuance of e-money by non-banks?

If so, what conditions are set and which agency is responsible for enforcement?

Provide citation/s

3

Who can issue e-money?

3.1

- Can nonbanks issue e-money?

3.2

- If so, under what conditions?

What is the prudential supervision of e-money?

Is the issuance of pre-paid cards for multiple usage by non-banks prohibited or limited by law?

If yes, summarize

Provide citation/s

Has there been any ruling or guidance issued on whether pre-paid airtime balances can be used to purchase services other than those provided on the phone or by the network operator?

- 5 Is there specific regulation on prepaid cards or other prepaid schemes that are not subject to regulation as a banking activity? If so,
- 5.1. How are such schemes defined?
 - 5.2. Are there balance limits or other limitations on this type of service?
 - 5.3. Who may sponsor such prepaid schemes and under what conditions?
 - 5.4. Are there other requirements such as reporting or registering or prudential requirements (e.g. minimum capital, liquidity)?

If so, summarize the ruling or guidance

Provide citation/s

Is there any other obstacle for e-money issuers besides regulation (such as inadequate telecommunications infrastructure or lack of interoperability in POS networks)?

IV Consumer protection

Electronic means of payment may bring new risks to consumers, arising for example from loss of payment instrument, fraudulent transactions taking place on an account, identity theft, etc. This section aims to understand whether--and if so, how--these new models are covered by consumer protection laws, regulations and/or other guidance.

- 1 Are there any consumer protection laws, regulations and/or other guidance (including industry codes of practice/conduct) which affect the opening and operation of bank accounts, or the sending or receiving of remittances?

If so:

1.1 Provide citation/s

1.2 Give names and contacts of the agency/ies responsible:

<i>Name of Organization</i>	<i>Name and title of main person in charge</i>
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- 3 Are there specific consumer protection rules applicable to the use of agents by banks and nonbanks? If so, describe.

17 Do you have any specific concerns with respect to the use of retailers as agents in providing financial services?

- 4 Are there laws, regulations and/or other guidance which specifically govern consumer protection in electronic financial transactions?

If so, summarize these laws, regulations and/or other guidance in terms of:

- 4.1 Customer's liability for unauthorized transactions
- 4.2 Dispute resolution between provider and customer

- 4.3 Provision of statements in paper or electronic format
- 5 What information must be disclosed to the consumer at the time of opening an account or making a one-off payment / remittance?
Provide citation/s
- 14 Which abuses (specifically in connection with account opening and electronic transactions):
- are reported most frequently
- are you most concerned about?
- 23 What recourse mechanisms are offered to clients with complaints or disputes to resolve?
Are these mechanisms different for clients using agents or holding e-money accounts?
- 24 How can you monitor agent compliance with consumer protection regulation when using agents? How can you resolve agent noncompliance?
- 10 In your opinion: How adequate is consumer protection regulation for basic banking services and electronic payments with and without the use of retail agents?
- 6 Are there specific consumer protection rules applicable to mobile phone services? If so, describe. Who is responsible for enforcement of these rules?

V Payments system

Payment systems consist of specific sets of instruments, banking procedures and inter-bank fund transfer (clearing and settlement) systems that ensure the circulation of money.

High value payments are likely to be settled through a wholesale system.

Retail payment infrastructures are mechanisms for transaction, clearing and settlement of relatively low-value payments initiated through payment instruments such as checks, credit transfers and direct debits (also by mobile or internet) and payment cards.

This is a very dynamic market, where cooperation on the one side and competition on the other side have to find the right balance.

A special role is played in this context by interoperability of payment systems.

- 12 Is there a real time gross settlement system in operation for banks?
- 13 Are there electronic retail payment systems in operation?
- 13bis What are the main retail payment switches (ATM/ EFT /POS/other)?

- 15 How many ATMs are there in the country? How many ATM networks?
- 16 How many POS devices are there in the country? How many networks?
- 2 +3 Is there a national policy statement with respect to the development of the national payment system?
Provide citation/s
 Are there laws, regulations and/or other guidance which govern the operation of the payments system/s in the country?
Provide citation/s

Give names and contacts of the agency responsible for regulation of the payments system/s.

*Name of
Organization*

*Name and title of
main person in
charge*

Summarize how institutional access to/membership in existing retail electronic payments system/s is controlled or regulated. (e.g. not at all, by government regulation, and/or by private agreement).
Provide citation/s

- 6 Does the regulator have the power to intervene in retail payments systems to require open access or interoperability?
Provide citation/s
 Have they ever done so?
 Is there a lack of interoperability in retail payment systems (specifically, ATM and POS networks)? If so, why
- 26 Can non-banks join/participate in a domestic retail payment system? If so, under what conditions (such as bank sponsorship / partnership with a bank)?

VI Competition

A lack of competition would stifle the development of branchless banking through higher pricing or lower rates of innovation. Competitive dynamics should be considered early even though concerns about market dominance and unfair competition may appear premature when numbers of customers remain low. Of particular interest in the domain of competition is the interoperability of payment systems (see Section V above: Payment Systems).

- 1 Does the country have laws, regulations and/or other guidance or policies addressing the promotion of competition and/or the prohibition of anti-competitive measures which are relevant to payments and/or retail banking?
If so:
- 1bis Does the country have laws, regulations and/or other guidance or policies addressing the promotion of competition and/or the prohibition of anti-competitive measures which are relevant to the telecommunication sector?
If so:
- 1,1 Provide citation/s
- 1,2 Give names and contacts of the agency responsible for:
- | | <i>Name of
Organization</i> | <i>Name and title of
main person in
charge</i> |
|-------|--|--|
| 1.2.1 | Competition policy and enforcement | |
| 7 | With respect to financial services, has the jurisdiction of competition regulators vis-à-vis financial regulators been clearly defined? If not, does this situation affect the ability of competition authorities to adequately oversee and take measures against anti-competitive behavior in the financial sector? Are any legal changes needed to address this issue? | |
| 8 | Questions for Competition Authority/Regulator AND/OR the Central Bank:
Do you have any concerns about anti-competitive practices among e-money issuers and mobile network operators? If so, how will you address these concerns? | |
| 2 | With respect to financial services: | |
| 2,1 | Have any practices in the retail financial services sector ever been found by an official body to be anti-competitive? | |
| 2.1.1 | If so, which? | |
| 2,2 | Are any practices of the financial sector currently under official, publicly-disclosed investigation by competition authorities? | |
| 2.2.1 | If so, which? | |
| 3 | With respect to mobile telecommunications: | |
| 3,1 | Have any practices in the mobile communications sector ever been found by an official body to be anti-competitive? | |
| 3.1.1 | If so, which? | |
| 3,2 | Are any practices of the mobile telecommunications sector currently under official, publicly-disclosed investigation? | |
| 3.2.1 | If so, which? | |

VII Prudential regulation: deposits, payments & e-money

Deposit taking and/or payment making often defines the business of a bank. Consequently, nonbank actors seeking to provide such financial services¹⁷ to low-income customers (a central component of branchless banking) may be subject to a wide array of potentially prohibitive banking regulations: licensing, ownership restrictions, deposit pooling limitations, reporting and prudential requirements such as capital adequacy. This section is intended to illuminate some of the various prudential regulation obstacles to the provision of banking services through branchless banking arrangements.

Deposit

- | | | | |
|-------|--|-----------------------------|--|
| 1,1 | How do the law, regulation and/or other guidance define a (bank) deposit? | | |
| 1.1.1 | Provide citation/s | | |
| 1,2 | How do laws, regulations and/or other guidance define the business of deposit-taking? What types of entities may engage in deposit taking? Can nonbanks take deposits from the general public? | | |
| 1.2.1 | | | |
| 1,3 | Give names and contacts of key agencies responsible for: | <i>Name of Organization</i> | <i>Name and title of main person in charge</i> |
| 1.3.1 | Supervision of banks. | | |
| 1.3.2 | Supervision of non-bank deposit-taking entities, if any. | | |

2 Payments

- | | | | |
|-------|---|-----------------------------|--|
| 2,1 | How do laws, regulations and/or other guidance define a 'payment', if at all? | | |
| 2.1.1 | <u>Provide citation/s</u> | | |
| 2,2 | How do laws, regulations and/or other guidance define the business of providing payment services? | | |
| 2.2.1 | <u>Provide citation/s</u> | | |
| 2,3 | Is payment service business specifically regulated as such? | | |
| | If so: | <i>Name of Organization</i> | <i>Name and title of main person in charge</i> |
| 2.3.1 | Give names and contacts of the agency responsible for regulation | | |
| 2.3.2 | What are the minimum requirements (e.g. min. capital) to register as a payment service provider? | | |

- 2.3.2.1 Provide citation/s
- 2.3.3 What is the maximum time allowed before a payment must be available to a recipient?
- 2.3.3.1 Provide citation/s
- 25 What requirements (licensing or other) are imposed on money transferors?
- 2.3.4 Are payment service providers required to register or license each branch office separately?
- 7.1 Are money transferors such as Western Union and MoneyGram considered payment service providers? Why or why not?
- 8m What body is responsible for regulation/supervision of Sudanese agents of money transferors such as Western Union or Moneygram

3 *Ownership of banks*

- Do laws, regulations and/or other guidance prohibit a mobile network operator or any other non-bank holding company:
- 3,1 From owning or controlling a bank?
- 3,2 From entering into a joint venture with a bank?
- 3,3 If there are conditions under which B3.1 and 3.2 are allowed, summarize these
- 3.4. Provide citation/s
- 11 Is there an intention to introduce new (or change existing) regulation in the area of payments? How would such regulation affect nonbanks providing payment services?

4 *Trust accounts for multiple parties*

- 4,1 Other than securities brokerage accounts, do laws, regulations and/or other guidance prohibit, limit or guide the process whereby a non-bank party such as a mobile network operator pools funds in one account at a bank for the benefit of multiple clients?
- 4.1.1 If there are applicable provisions, summarize
- 4.1.2 Provide citation/s

VIII Data privacy

- 1 Does the country have laws, regulations and/or other guidance defining and governing rights to the sharing, use and storage of financial information regarding consumers by commercial organizations? (If banks and/or mobile network operators are subject to different provisions than commercial organizations generally on the sharing, use and storage of customers' financial information, please answer the following questions, as relevant, with respect to banks, mobile network operators and other commercial organizations generally.)
If so:

- | | | | |
|-------|---|---------------------------------|--|
| 1,1 | <u>Provide citation/s</u> | | |
| 1,2 | Give names and contacts of the agency/ies responsible for: | <i>Name of
Organization</i> | <i>Name and title of
main person in
charge</i> |
| 1.2.1 | Policy making in this area | | |
| 1.2.2 | Regulation/enforcement
How does data privacy regulation affect the ability of financial providers or mobile telephone operators to transfer information relating to their clients to
- Domestic third parties?
- Foreign third parties?
How does data privacy regulation address the use of credit information by credit bureaus? | | |

IX Foreign Exchange regime

Foreign remittances may account for a significant portion of branchless banking usage, particularly in countries such as the Philippines which relies heavily on funds sent home (often via mobile phones) from Filipinos abroad. Foreign exchange controls can consequently encourage or impede the growth of branchless banking for this type of service.

- | | | | |
|-------|--|---------------------------------|--|
| 6 | Do foreign exchange controls apply to either incoming or outgoing international remittances by individuals or financial institutions (including non-bank remitters)? | | |
| 6.1 | If so, what restrictions are imposed on the amount that can be sent or received by natural persons? | | |
| 6.1.1 | <u>Provide citation/s</u> | | |
| 1.2 | Give names and contacts of the agency responsible for: | <i>Name of
Organization</i> | <i>Name and title of
main person in
charge</i> |
| | Foreign exchange control
What approvals, if any, are required--and from whom--for sending or receiving of small amounts (<\$1000) by natural persons? | | |
| 1.3.1 | <u>Provide citation/s</u>

Do foreign exchange controls require the foreign exchange rate to be set upon receipt or do fix-on-send rules apply? | | |

X E-commerce

Branchless banking often requires the use of electronic means to make deposits and payments and send remittances (such as in the context of mobile phone banking or e-money issuance). Such electronically authorized financial transactions will not be made however, unless financial service providers and customers know they can be made securely. Branchless banking requires not only developed electronic commerce regulation but just as importantly, effective enforcement. In addition, a robust set of procedures and rules to safeguard digital data – including client's personal information – must be in place.

Does the country have laws, regulations and/or other guidance which govern electronic commerce?

If so:

Provide citation/s

Are there laws, regulations and/or other guidance outlining conditions under which electronic signatures can have binding legal effect in lieu of physical signatures?

If so:

What are requirements for an electronic signature to have binding legal effect, and what limitations are there, if any, on the circumstances under which qualifying electronic signatures may be used in lieu of physical signatures?

Provide citation/s

Give names and contacts of the agency responsible for e-commerce policy and regulation:

*Name of
Organization*

*Name and title of
main person in
charge*

XI Telco/Mobile network operator (MNO) regulation

At the core of many branchless banking models is the convergence of telecommunication and banking services. Mobile network operators may act as simply communication service providers (an electronic channel between the bank and the customer) or as financial service providers, if banking and telecom regulation permit. The diagnostic team should have a complete picture of the current state of the mobile phone sector (regulation, supervision, players, competition, penetration, prices, growth potential, etc.) and the level of interest from MNOs in providing financial services, both through partnerships with banks and in a nonbank-based scheme. Attention should be paid to the likelihood of conflicts between MNOs and banks if MNOs enter the banking business.

- 1 Do telecommunications laws, regulations and/or other guidance or policy limit the ability of mobile network operators to:
 - 1,1 offer value-added services such as m-commerce services?
 - 1.1.1 If so, what restrictions or conditions are imposed?
 - 1.1.2 Provide citation/s
 - 1,2 enter joint ventures with any financial service provider?
 - 1.2.1 If so, what restrictions or conditions are imposed?
 - 1.2.2 Provide citation/s

- 4 Are MNOs permitted to offer prepaid airtime transfers from one individual to another (peer-to-peer prepaid airtime transfer)? If so, can transferred airtime balances be converted to e-money?
- 16 Is cell phone number portability (from one MNO to another) currently required or has the intention to introduce mobile number portability been announced by the government?
- If intended, from which date?
- Do laws, regulations and/or guidance or practice require that mobile network operators collect and/or verify the identification and/or address of their pre-paid clients at time of enrollment or subsequently?
- If so, summarize the requirements
- Provide citation/s

1 Give names and contacts of the agency responsible for:

<i>Name of Organization</i>	<i>Name and title of main person in charge</i>
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1.1 Telecommunications policy

1.2 Regulation of telecommunications providers (if there is no telecom regulator or regulation, indicate 'not applicable')

XII Taxation of financial transactions

Taxation can potentially impact the provision of financial services to low-income customers by banks and nonbanks. For example, if an MNO provides financial services and is taxed on funds placed into a prepaid account, VAT may to apply. In some countries, this taxation would make it cost prohibitive for MNOs to enter the financial services business. The diagnostic team should be able to draw conclusions on the political will to create an equal tax regime for similar services, regardless of the provider. Given the complexity and often uncertain interpretation of tax codes, it may be advisable to consult a tax accountant or lawyer with respect to the questions in this section. Banks and other service providers are also likely to be familiar with the practical application of the tax code, rendering meetings with tax authorities often unnecessary

- 1 Are financial transactions taxed differently when provided by a bank than by a mobile network operator?
- 1,1 If yes:
- 1.1.1 Describe the key differences
- 1.1.2 Provide citation/s
- 1,2 If unclear:
- 1.2.1 Is there taxation (e.g. VAT, sales tax, excise duty or other levy) on financial transactions such as deposits, withdrawals or payments?

6.5. ANNEX 5: USE OF ICT IN BRANCHLESS BANKING

6.5.1. TECHNOLOGIES IN BRANCHLESS BANKING, BY TYPE OF FINANCIAL SERVICES

The following table lists by microfinance services and main processes the constraints faced by MFIs when performing their activities outside branches and examples of technologies and tools that can be used to alleviate these constraints.

Services	Main processes	Constraints of performing these activities outside branches	Technologies & Tools	Comments
Loans / Project Financing	Application	Giving information requires training Documents collected need to be channeled back to bank staff for appraisal	PDA, or notebook to record applications and relevant customer's information	The most important are facilities to record and transfer required information
	Appraisal	Is necessarily done out of branches. Loan officers need to be closely supervised & coached from branch to avoid fraud/weaknesses	Credit Scoring Participation in a Credit Bureau	Credit scoring is useful only if enough relevant data and credit history are available
	Decision	Microfinance provider should aim at keeping decisions in branches		
	Disbursements	In-kind disbursement cannot be done outside of branches (or field-offices) Cash disbursement requires a close monitoring of tellers / field agents	At branch or field office with a teller application In some cases: use of (prepaid) cards Cash-points of partners (branches of financial partners such as banks or postoffices)	
	Reimbursement	In-kind reimbursement cannot be done outside of branches (or field offices) Cash reimbursement requires a close monitoring of tellers / field agents	At branch or field office with a teller application Cash-points of partners (branches of financial partners such as banks or post offices)	
	Monitoring	Is necessarily done outside branches. Need for a strong supervision and coaching from branches	PDA, or notebook to record relevant customer's / project information Smart phones with GPS features may improve monitoring	The most important are facilities to record and transfer required information

Savings	Account opening	Giving information requires training Documents collected need to be channeled back to bank staff for checking		The most important here is to simplify the requirements for opening "basic" microfinance deposit accounts
	Deposit	Cash management, registration, security	EPOS Mobile Financial Solution	
	Withdrawal	Cash management, registration, security	EPOS ATM Mobile Financial Solution	
	Transfer	Registration and security	Mobile Financial Solution	
Money transfers	Cash to cash	Cash management, registration, security	Mobile Financial Solution, e-wallet system	
Cashless payments		Registration and security	EPOS/debit or "prepaid" card Mobile Financial Solution	
Bills / Social benefits		Cash management, registration, security	EPOS/smartcards	
Micro-insurance		Giving information requires training Documents collected need to be channeled back to bank staff for checking	Link to 3rd party (insurance company) system	
Financial education		Not part of Financial Institution core processes, can be outsourced to CBOs/NGOs	N/A	
Business training		Not part of Financial Institution core processes, can be outsourced to CBOs/NGOs	N/A	

6.5.2. TECHNOLOGIES AND TOOLS BY DELIVERY CHANNEL

The following table lists possible ITC tools by delivery channel and highlights the impacts if the IT architecture of the financial institution does not provide a "real-time" online interface with the core MIS.

Delivery channel	Possible IT components	Impact if no "real-time" integration with core MIS	Comments
Branch (Cash and account transactions, enquiries, etc).	"Branch Automation", "Teller module" of CBS	Almost impossible to work without instant updates of customer's and internal accounts	Most usually integrated in the core system (except in some very big banks using best-of breed branch automation solutions)

Sub-Branches, field offices and kiosk	<ul style="list-style-type: none"> - connectivity to the branch or central MIS system - Dedicated simplified application (Excel, Access, simple microfinance software...) 	Limitation of available services	As sub-branches are bound to evolve and to provide more and more the same services as the branch, the sub-branch will require the same level of IT than a full-fledged branch.
Roaming Agent	<ul style="list-style-type: none"> - manual (with collection sheets/ disbursement lists generated by the MIS) - PDA - POS (for cash transactions) - Mobile Financial Solution (only for cash transactions) 	If agents (and customers...) do not have access to the MIS): lack of transparency, errors due to lack of validations by the system, etc.	- Most often transactions are "recorded" manually and input in the MIS once the agent comes back to his/her branch
Outsourcing core financial processes to non-bank organization	<ul style="list-style-type: none"> - consolidation / aggregation of relevant data imported from the 3rd party MIS system (to avoid manual re-recording of customers' data and loan transactions) 	- If taking into account the financial events outsourced by the 3 rd party are too delayed, the MFI reporting and internal control processes lose their accuracy.	<p>If only aggregated information from outsourced operations is recorded in the MIS system, the MFI will face difficulties in:</p> <ul style="list-style-type: none"> - monitoring the portfolio quality of the outsourced operations - analyzing the socio-economic impacts of its activities
ATM	ATM management system, card management system	Periodic synchronizations between the "card account" and the linked customer's account(s) are mandatory	Compliance with ISO8385 standard is a must
Cooperation with an e-wallet system	<ul style="list-style-type: none"> - Interface with the (external) e-wallet system 	<ul style="list-style-type: none"> - Reconciliation / Settlement by batch only implies limitation of available services (no cash withdrawal from customer's bank account, no straight through processes for bill payments, substandard quality of services for customers' enquiring their 	
Bank-led MFS solution	"Mobile Financial Services" solution including Mobile Money transfer and agent / merchant management	<ul style="list-style-type: none"> - Limitation of available services (no cash withdrawal from customer's bank account - Security risk if agent position can be checked only periodically 	
SMS Banking	Electronic / Mobile banking system	<p>Severe impacts on quality of services (example: "account balance as of...yesterday")</p> <p>Low security (especially if customers are allowed to overdrafts)</p>	<p>If for "push" information only (alerts, installment reminders...) :</p> <p>, simple additional reporting to extract relevant information from the MIS database in a format transferable to a bulk SMS system I</p>
Banking correspondents	banking correspondent networks have usually been set up based on card and POS technology	If the banking correspondent cannot connect directly to the MIS of the financial institution, the level of services will be lower.	

6.6. ANNEX 6: OTHER SOLUTIONS TO PERFORM TRANSACTIONS OUT OF BANK BRANCHES

6.6.1. SUB-BRANCHES, FIELD OFFICES AND KIOSKS

(1) Financial institutions commonly operate a variety of smaller points of sales, as a cheaper way of supplying a variable part of the services supplied by full-fledged branches, closer to target clients.

- Setting up **small-sized field offices**, with lighter infrastructure (smaller premises, less furniture, possibility to use portable equipment (PDAS, POS), etc.), and providing a variable range of services: cashier services, applications for financing, account opening, registration of transactions, etc. Loan officers might be assigned to a specific point of service or cover several ones. In case the field office manages cash transactions, investment costs remain relatively high, since a minimum level of equipment remains necessary to secure cash. The level of cash to be maintained to avoid cash shortage also remains high, as well as all transaction costs related to promotion, loan assessment and monitoring in relation to the low concentration of clients. Transaction costs for clients are however reduced as long as points of services are located close to their home or, in some places they frequently go to for other purpose. **Overall, the impact of such solutions on reducing transaction costs depends of the geographic concentration of the clients in the point of service's area.**
- Having such field **offices open only one or two days per week** (preferably in relation to the local economic activity: opening on the market day, etc.), allows a better allocation of staff resources (both cashiers and LOs), who can cover several areas. From the client's point of view, accessibility is smaller than a permanent field office, as every day access to the services is not offered (time, opportunity). This solution is presently implemented by the Agricultural Bank of Sudan.
- **Mobile points of services**, using vehicles such as busses: investment costs are significantly reduced compared to the first two solutions, while a similar service is offered to the clients as in the previously mentioned solutions. However, security (of cash and of staff) might create an issue.

In the three models presented above, portable equipment can be used, such as PDAs or POSs, to secure transactions at reasonable investment costs. However, access to telecommunication network, to ensure real-time or daily transfer of information might be an issue in remote rural areas.

6.6.2. ROAMING AGENT

(1) Roaming officers, performing any kind of transactions on the field, are able to increase outreach in rural areas, at significantly reduced costs. Security and risk issues are however to be addressed, possibly with the help of ICT.

One of the most widespread solutions to reach rural areas consists in having roaming officers going to the field. Whereas some MFIs do not have their staff perform any cash transactions on the field¹, other MFI allow it: credit agents are performing transactions outside branch infrastructure (cash transactions as well as account opening, application registrations, loan appraisal and monitoring, etc.). The cost-effectiveness of such organization depends on the number of clients roaming officers are able to reach (hence depending on population density and transportation infrastructures).

Such organization mainly reduces transactions costs of clients in the case of credit services, but also, to a lesser extent, for deposit services: such organization is usually dedicated either to credit (possibly associated to compulsory savings linked to credit) or to on-the-field savings collection². However, in the case of savings collection frequency highly impacts transaction costs or limits outreach, so that it might not be cost-effective in remote rural areas. Withdrawals as well as transfer and payment services are difficult to make profitable in such a way, since larger cash amounts would have to be transported by roaming agents, and since they require real-time information access with the CBS.

Main issues to be addressed are how to secure cash and transactions, and to ensure staff safety:

- ❑ When transactions are done manually (using vouchers), the level of risk is very high, though it can be reduced by appointing team of two people, for example, one being responsible for transactions registration, the other responsible of the cash.
- ❑ Transactions can be secured when agents are equipped with PDAs, POS or mobile phone connected to the CBS (see below), which however are strongly dependent on access to telecommunication networks.

¹ As it was the case for SMEP in Kenya before they started to implement M PESA: clients had to transport the cash to and from the next bank branch. However, group lending technology helped reducing transaction costs for clients since only one person was appointed by the group to transport the cash.

² SafeSave in Bangladesh used mobile officers equipped with PDAs to collect cash on the field, both for credit repayment and savings: CO called clients on a regular basis, offering them to come and collect cash if needed.

6.6.3. OUTSOURCING CORE FINANCIAL PROCESSES TO NON-BANK ORGANIZATIONS

One of the key success factors of microfinance is the proximity with clients, because it helps understanding their needs, opportunities and constraints. When non-bank organizations exist with strong links to the target population of microfinance services, they can certainly be useful in the process of supplying financial services.

Banks and MFIs should nevertheless choose the right partner and the right scope for the partnership, according to their strategy.

(1) Banks and MFIs can supply additional non-financial services (financial education, business development services) to clients through partnerships with NGOs and CBOs, who already have skills in these fields. But as these services are not part of core MFI processes, calling such partnerships branchless banking seems abusive.

(2) Partnerships with such organizations can also include NGOs and CBOs participating in informing clients, screening and supporting applications for financing, securing collateral monitoring. In such partnerships, as the Microfinance provider bears all the credit risk, it should keep full responsibility in the project appraisal and decision to finance the project.

Partnerships with NGOs, CBOs or even ROSCAs can also include the following aspects:

- ❑ Informing clients about the Microfinance provider's products: opportunities, risks, features...
- ❑ Screening clients, collecting the necessary documents to apply for financing or open an account, possibly assisting the clients in preparing their application (for instance support them in drafting the project feasibility study).
- ❑ Partner participation in the collateral scheme: for instance Family Bank presently has agreements with ROSCAs in which deposits in the ROSCA can be used as collateral when a member of the ROSCA receives financing from Family Bank.
- ❑ Monitoring and supporting clients after they receive financing.

Such partnerships help to extend the outreach of the Microfinance provider, improve the quality of service provided to clients, and enable Microfinance providers to increase productivity by focusing on their core processes, appraising and deciding on project financing.

Nevertheless, they bear some risks that require to be properly mitigated:

- ❑ The business model between the Microfinance provider and its partner must be carefully set so that the partner is incited to serve the Microfinance provider's goal, and not to push for risky clients to receive financing.
- ❑ The Microfinance provider should keep full responsibility of taking decisions to finance a project, based on assessments conducted by its own staff. This is a must, as it is the Microfinance provider, not its partner, who bears the credit risk.

(3) When partner organizations have the institutional capacity and the technical skills to provide financing in a sustainable way, they can be financed by Microfinance providers through wholesale loans, thus outsourcing the whole project financing process. This may not always be as simple as it looks, as illustrated by Xac Bank's experience.

By granting wholesale loans to grassroots organizations, financial institutions basically outsource the whole project financing process to a partner organization. Although this may seem a simple way to gain outreach, choosing and supporting the partner organization may prove more difficult.

In order to limit risks, wholesale loans should only be granted to organizations who have the capacity to deliver financial services in a sustainable way. Given the lack of capacity of many grassroots organizations, this often requires that the financial institution granting the wholesale loan supports its partner organizations, which broadens the scope of the partnership.

In Mongolia, XacBank provides a good example of how broad a wholesale loan partnership with grassroots organizations can get. Since 2005, XacBank has developed "franchise" partnerships with over 100 Savings and Credit Cooperatives (SCC). The content of such partnership is the following:

- ❑ SCCs, whether existing or created at XacBank's initiative, are locally owned and locally managed.
- ❑ XacBank provides SCC with the following package :
 - ✓ Financial resources (wholesale loan)
 - ✓ Range of standardized financial products, policies and methodologies
 - ✓ A basic MIS system
 - ✓ Training, monitoring and evaluation from XacBank's headquarters and nearest branch
- ❑ SCCs are responsible for loan appraisal and loan decision, independently from XacBank

XacBank experience with the franchise model has demonstrated two key difficulties:

- ❑ Start up cost is high due to intensive capacity building, including promotion, training and technical assistance in establishing and strengthening the local SCC. The franchise model does not break-even in the short run, so there is a need for a subsidy to cover the capacity building costs.
- ❑ Commitment and buy-in from the local community members and key stakeholders is crucial. In some cases, SCC staff and community members lack the commitment or capacity to reach a sustainable level of activity.

It should also be noted that, whereas wholesale loans can be very useful in early stages of development of SCCs, such grassroots financial institutions will only become sustainable if they develop their own resources on the long run. Thus, at one point, the content of the partnership between large financial institutions and grassroots organizations will have to evolve away from wholesale loans.

6.6.4. BANKING CORRESPONDENTS

Banking correspondents are non-bank third party agents performing non-cash transaction such as:

- ❑ Account opening & consultation,
- ❑ Receiving, reviewing and forwarding applications for financing, for credit card
- ❑ Preliminary credit analysis

These transactions must be seen as a complement to cash-in transactions that the banking correspondent would perform on behalf of a financial institution, although they significantly modify the relation between agents (banking correspondents) and financial institutions: when they conduct cash transactions, third party agents are not supposed to interfere in the client's relationship with the Microfinance provider, but the non-cash transactions performed by banking correspondents actually turn them into intermediaries between a financial institution and its clients, which brings in new opportunities and new risks.

Brazil presently has more than 150,000 registered banking correspondents throughout the country, delivering financial services on behalf of financial institutions licensed and supervised by the central Bank, including credit cooperatives. Most agents are commercial establishments, such as grocery stores, post offices, notaries, and lottery outlets, but a financial institution may also act as an agent. Agents conducted 2.3 billion transactions in 2008.

Not all agents specialize in bank account transactions: bill payments, account for approximately 75 percent of all agent transactions (47 percent of which are utility bill payments), withdrawals and deposits account for 12.6 percent and are nearly equally divided into savings and current accounts. Only 0.16 percent of the transactions are account

opening; 7.3 percent are government transfers. A few banks are experimenting with microcredit through agents. The results of the main provider (Banco Popular) so far have been poor, particularly in terms of default rates.

The agent networks can be managed directly by the bank or outsourced to a third party, which is then considered an agent by Central Bank (and referred to as a network manager). Network managers provide a wide range of services, including selection of agents, training related to Anti-Money Laundering/Combating Financing of Terrorism (AML/CFT), maintenance of POS, software development, cash handling, and marketing. The network managers often respond to the bank for the actions of the agents in their network.

6.6.5. ONGOING INITIATIVES BY FINANCIAL INSTITUTIONS IN SUDAN TO PERFORM TRANSACTIONS OUTSIDE OF BRANCHES

- Sub-branches, field offices and kiosks:
 - ✓ In the framework of a huge agricultural finance project in Gezira (200M SDG), the Agricultural Bank of Sudan has established 15 field offices since 2008. To reduce costs, caravans were used as premises for most of these field offices, although they are not meant to be mobile. Not all of these offices are opened every day. They are staffed with one cashier and one loan officer (also responsible for crop monitoring). They handle cash transactions (mostly related to savings), paperwork, and enable closer monitoring on clients in the neighboring areas (2 to 5 km). Given the high population density in this rural part of Gezira, ABS considers these offices to be cost-effective, although they require a computer.
 - ✓ In the framework of its project in Family bank plans to open field offices in 2011 to complete existing branch network. Such offices are defined as small points of service, with a limited range of services available (no savings, focus on installment collection services), where loan officers could be based.
 - ✓ SSDB has started implementing sub-branches, in fact 5 small offices in rented premises (whereas SSDB owns all its branches), open only 2 days a week (market days). Staffed with 4 officers (2 loan officers, 1 cashier and one head of sub-branch), they handle both savings and project financing transactions. Their accounting is cleared at the nearest branch on a daily basis. SSDB intends to create 5 additional sub-branches in 2011.
- Roaming agents :
 - ✓ Bank of Khartoum mentioned the possibility of introducing roaming agents equipped with PDAs or POS, but they do not seem to have taken any practical steps at this stage;
- Outsourcing core financial processes to non-bank organizations :
 - ✓ Outsourcing of non-financial processes: Family Bank and SDF have numerous partnerships with civil society organizations and social mediators to provide clients with training on financial literacy, business development, etc.

- ✓ Partnerships with savings groups :
 - ✓ Family Bank partners with savings groups to identify possible clients for financing. Amounts saved within the group can be used as a collateral for financing provided to one of the members by Family Bank
 - ✓ SDF cannot take deposits itself, but encourages its own clients to join saving groups/ Amounts saved can be used as collaterals or as emergency loans.
- ✓ Outsourcing of core financial processes:
 - ✓ Family Bank's partner in Kassala state, Kassala Social Development organization (KSD), in charge of screening and appraising potential clients to finance in this area. Family Bank retains the financing decision, although it does not conduct its own detailed appraisal, and channels the corresponding amounts to KSD, who is in charge of executing the financing decision.
 - ✓ SSDB establishes partnerships with local and international NGOs, who are in charge of identifying clients, training and organizing them, and preparing first steps of appraisal. Once SSDB approves financing for these clients, the partner organization is in charge of executing the financing and follow-up on repayments.
- ✓ Wholesale finance :
 - ✓ SSDB gives out wholesale loans to NGOs (for instance the Sudanese Initiative for Development) that are active in remote areas that SSDB cannot reach. SSDB supervises the policy and methodology used by partner organization to make sure they have the capacity to finance clients with a satisfactory level of risk.

6.7. ANNEX 7: DOCUMENTATION

6.7.1. USEFUL DOCUMENTS ON BRANCHLESS BANKING AND RELATED ISSUES

CGAP Focus Notes:

- N° 29 on Regulation of AML/CFT for financial intermediaries serving low income clientele
- N° 38 on Use of agents in branchless banking for the poor : rewards, risks, and regulation
- N° 43 on Regulating transformational branchless banking
- N° 47 on Banking through network of retail agents
- N° 48 on Banking on Mobiles, Why, How, for Whom? (a version in Arabic is available)
- N° 50 on Challenges in branchless banking
- N° 56 on AML/CFT : strengthening financial inclusion and integrity
- N° 62 on Microfinance and Mobile Banking: The Story So Far
- N° 63 on Nonbank E-Money Issuers: Regulatory Approaches to Protecting Customer Funds
-

Claire Alexandre, Ignacio Mas and Dan Radcliffe (Bill and Melinda Gates Foundation) : *Regulating New Banking Models that can bring Financial Services to All*, August 2010

Michael Tarazi (CGAP), Course on mobile banking, Boulder 2009

Ignacio Mas : *The Economics of Branchless Banking in Innovations* , vol 4, issue 2, Spring 2009, MIT Press

Ignacio Mas and Olga Morawczynsk: *Designing Mobile Transfer Services in Innovations* , vol 4, issue 2, Spring 2009, MIT Press

ADB Working Paper on *Effects of cell Phones on AML/CFT Wire Remittance Operations*, John Forbes, March 2007. It includes an interesting description of smart Money and G-Cash in Philippines.

CGAP, Branchless Banking diagnostic template

MicroSave Briefing Note # 66 on POS vs. Mobile Phone as a Channel for M-Banking

MicroSave Briefing Note # 68 on The Role of Partnerships and Strategic Alliances to Promote Mobile Phone Banking at the Bottom of the Pyramid

DFID "The enabling environment for mobile banking in Africa", David Porteous (Bankable Frontiers Associates)

ACCION: *Accelerating Financial Inclusion through Innovative Channels* in *Insight*, December 2009

GSMA / Greenwich Consulting: How to make your MM project profitable? MMS Rio, May 26th, 2010

USAID :F S Series #11 *Innovations in Financial Services Delivery - Branchless Banking: Primer; Diagnostic checklist and model scopes of work*, April 2010

Gavin Troy Krugel: *Mobile Banking Technology Options*, Finmark Trust, August 2007

Claudia McKay, Mark Pickens (CGAP): *Branchless Banking Pricing Analysis*, May 2010

Bank of Ghana, *Guidelines for Branchless Banking*, notice N° BG/GOV/SEC/2008/21

State bank of Pakistan, *Branchless Banking Guidelines*, March 31st 2008

CGAP, *Update on regulation of branchless banking in Pakistan*, February 2010

Central Bank of Philippines, *Circular n°649 on electronic money*, 2009

CGAP, *Notes on regulation of branchless banking in the Philippines*, January 2010

6.7.2. DOCUMENTS RECEIVED DURING THE MISSION

CBOS Policies for the year 2010, CBOS

CBOS Annual Report, 2008

Sudan Microfinance Regulatory Framework 2008, CBOS

Sudan Economic Report, Bank Audi, September 2010

Doing Business 2011 – Sudan, IFC, 2010

Country Report – Sudan – October 2010, The Economist Intelligence Unit

Turning the corner 2009 annual report, Sudan National Multi-Donor Trust Fund

Vision for the development & expansion of the Microfinance sector in Sudan, Unicons, 2006

National Consultative Forum on Microfinance Khartoum, 12-14 November 2007- Forum Report, CBOS – UNDP – IFAD – DED –Zain

Evaluation of Implementation of the Strategy for Expansion & Development of the Micro Finance Sector in Sudan, Unicons, November 2008

Microfinance Consultancy to Eastern Sudan - August – October 2009, Lene M.P. Hansen (CBOS-UNDP- UNHCR), November 2009

Microfinance Assessment Consultancy to Darfur, Abdelmajid Khojali and Lene M.P. Hansen, June 2010

Evaluation Report for Restructuring the Savings and Social Development Bank, UNICONS, December 2009

Turnaround Strategies for Sudan Rural Development Company (SRDC), PACT, June 2010

Bank El Usra (Family Bank) Evaluation, North South Consultants Exchange, June 2010

Economic Impact of Mobile Communications in Sudan, Zain – Ericson

The Nile Connection: Effects and Meaning of the MobilePhone in a (post) War Economy in Karima, Khartoum and Juba, Sudan, Zain

Sudan, PriMetrica, August 2009 (telecommunication sector)

6.8. ANNEX 8: ON-SITE MISSIONS

6.8.1. LIST OF INTERVIEWS CONDUCTED

Most interviews were facilitated by Miss Hiba A. A. Mohammed (Admin/Program Assistant, Private Sector Development Project, UNDP) and Mutasim M. Abdalla (National Consultant – during the second mission).

Name	Organisation
Hiba Farid	CBOS / MFU
Waleed SHAIBOON	CBOS /MFU
Gaffar Khalid	CBOS / WB
Mohamed Ismat Yahia	CBOS / Payment Systems Directorate
Ibrahim Hassan Ali Elimam	CBOS /Payment Systems Directorate
Asma A. Elrahman Khairi	CBOS / Prudential Supervision
Abdulrahman Al Mahdi	CBOS / Prudential Supervision
Dr Izzeddin Kamil Amin	NTC
International Organizations	
Auke Lootsma	UNDP
Fatima Elshiekh	UNDP
Lauren Elizabeth Clark	UNDP
Maja Bott	UNDP
Hiba Asim A Mohamed	UNDP
Sabir DEDAN	UNDP
Mohammed Elsayed Ali	UNDP
Apex	
Ahmed Monem	SMDF
Mansur Khan	SMDF
Jafar Mohamed Farah	SMDF
Financial institutions	
Abdulrahman Dirar	Family Bank
Hisham Yahia Ahmed Ezzeldin	Family Bank
Mohammed Al-Mustafa Ibrahim Ahmed	Family Bank
Nadir Eisa	Farmers Bank
Abdul Mahmoud Suliman	Social Savings Development Bank
Nawal Magzob	Social Savings Development Bank
Ahmed Bahar	Social Savings Development Bank
Rakibul Islam Azim	Bank of Khartoum
Abdelhakam Moahmed Ahmed Omer	Bank of Khartoum

Name	Organisation
Hassan Ezeldein Hassan Abdel Mageed	Bank of Khartoum
Fouad Harti	Bank of Khartoum
Salah Eldin AbdalWahab	Agricultural Bank of Sudan
Mohamed Khidir ElBeely	Social Development Foundation (SDF)
Abdul Samir	Social development Foundation
Yousef A Elfinay	United Capital Bank
Telecommunications companies	
Mohamed Kamal Mustafa	Zain
Mohamed Ahmed Abdelmagid	Zain
Ahmed Abuzaid Ahmed	Zain
Maher Eid	MTN
Emmanuel HAMEZ	Sudani
Muzammil Eltayeb Ibrahim Ahmed	Sudani
Lana Abd Almoniem Mohammed	Sudani
Eltayeb Eisa Ahmed eisa	Canar
Imadeldin Abdelhalim Hassan Elnadi	Canar
Bakri Saleh Hassan	Canar
Elfatih Abdallah Mohammed Saeed	Canar
Mohamed Abdelazim	Canar
IT Service providers	
Marwa Fouad Hassan	Electronic Banking Services (EBS)
Nada Omer M. Saeed	EBS
Hasim M. Elhaj	EBS
Mustafa A. Mustafa	EBS
Abdel Mageed Nimir	Financial & Banking systems (FBS)
Maouawia Al-Tayeb	FBS
Samar A Yacoub	FBS
Omer Hussein Elmuffi	Vision Valley
Yassir Satti	Vision Valley
Ayman Eltayeb	HASHAB ITT
Omer Omarabi	HASHAB ITT
Potential Agent Networks	
Abdel Azim	National Electricity Corporation (NEC)
Adil Hamada	Kazamiza
Consulting firms	
Anwar Ammar	PACT
Anwar Ammar	PACT
Abda Yahia El-Mahdi	UNICONS
Anwar Ammar	PACT
National Consultant for the mission	
Mutasim M. Abdallah	

6.8.2. LIST OF PARTICIPANTS IN WORKSHOP (1ST MISSION)

The Workshop was conducted at CBOS Headquarters, on November 10th, 2010.

Name	Institution	Position
Hiba M. S. Farid	CBoS/ MFU	Head of Central Bank 's Microfinance Unit
Waleed A. Shaiboon	CBoS/ MFU	Deputy Manager
Ameer Hassan Abu Baker	CBoS/ MFU	Training and Capacity Building Manager
Mohamed Abu Agla	CBoS/ MFU	Banking Supervision Department – Staff Member
Mohamed Salih Ali	CboS/ MFU	Manager of Banking Policies Department
Awadia Fadl Elmola	Sudanese Agricultural Bank	Manager of Microfinance Department
Salma Mohamed Ali	CBoS	Department of the Development of the Banking System – Staff member
Faroug Mohamed Elnour	CBoS	Department of the Development of the Banking System – Staff member
Ahmed A. Moniem	S MDF	Senior Microfinance Specialist
Gaffar Abd Allah Khalid	CBoS/ MFU	Senior Microfinance Consultant hired by the World Bank at CBOS/ MFU
Rakibul Islam Azim	Bank of Khartoum	Consultant Microfinance Unit
Mohamed Ahmed Bushra	CBoS	Manager of the Banking Supervision Department
Mohamed Kamal Mustafa	Zain Telecom.	Business Solution Specialist
El Waleed Mohamed	Social Development Foundation	MIS officer
Osama Mohamed Berair	Social Development Foundation	Head of MIS Department
El Muez Ahmed Sabir	CBoS	CBoS Payment Systems Directorate
Abda Yahia El Mahdi	Unicons	CEO (consulting firm)
Asma A/Rahman	CBoS	Manager of Prudential Supervision
Hassan Izz Eldeen	Bank of Khartoum	Product Development officer

6.8.3. LIST OF PARTICIPANTS IN WORKSHOP (2ND MISSION)

The Workshop was conducted at the Sudanese Banks Association, on December 19th, 2010.

Name	Institution	Position
Marwa Fouad Hassan	EBS	Marketing & Sales
Hamid A. Abdulmagid	University of Khartoum	Computer Unit Manager
Abdel Mageed Nimir	FBS	General Manage
Abubalar Hassan Bashir	Canar	Enterprise Marketing Specialist
Nassir Yassir	FBS	Project Manager
Mohamed Kamal	Zain	Marketing
Noaman Youssef	GEF	Projects Dep. Director
Abdefatah Abderahman	Family Bank	Programmer
Mohamed Mirghani		Programmer
Walaa Elsir	UNICONS	Temp Assistant
Mohamed El Mustafa	Bank of Sudan	Economist
Osama Mohammed Elamin	Tenderbid	Operation Team
Ammar M. Elamin	Tenderbid	Project Manager
Mohamed Ah. Elhassan	Ministry of Social Development	Program Director
Nawal Magzob	Savings Bank	Microfinance Dep
Youssef A. El Tinay	United Capital Bank	Chief Commercial Officer , Deputy Manager
Ammar Abbas	Central Bank of Sudan (CBOS)	Head of Studies Unit Banking Supervisor
Omer Omarabi	General Manager	Hashab
Hassan Izzeldin	Bank of Khartoum	Product Development Officer
Dr Islah Hassan	Garden City College	
Dr Abubakr I. M. Hussein	S MDF	BOD Director
Ahmed Abuzaid Ahmed	Zain	VAS Broad Band Manager
Dr Mohammed Yousif	PACT	General Manager
Kwanu lokwo	ITQAN/ PACT	
Ishraga Khattab	Sudan Academy for Banking & Financial Science	Assistant Professor
Yassir Jamie	Consultant	Consultant
Nadir Eisa	Farmers Bank	Manager of MF Unit
Mohammed Abbas	Canar Telecommunication	
Maher Eid	MTN	Consultant MTN Money Project
Mohamed Ali Bouhelal	Canar Telecom	Chief Corporate Affairs Officer
Khalid Ginawi Hussein	Sudatel	