

Research Monthly

# Microfinance

## Mobile banking in microfinance

Private Banking

Over the last decade, mobile phone ownership has experienced a strong growth across the globe. The regions in Table 1 that are composed of countries reporting microfinance data to the MIX Market showed mobile phone penetration rates between 39.8% and 104.4% in 2010. South Asia, with a population of almost 1.6 billion people, has improved its penetration from 0.3% to 56.8% since 2000. The widespread adoption of mobile phones in developing countries offers many opportunities for the use of information and communication technology (ICT) in mobile banking.

**Table 1: Mobile phone penetration by region**

Region	2000	2005	2010
East Asia and the Pacific	5.5%	26.2%	66.0%
Eastern Europe and Central Asia	6.9%	55.2%	104.4%
Latin America and the Caribbean	10.2%	36.8%	80.8%
Middle East and North Africa	3.5%	18.1%	60.1%
South Asia	0.3%	7.2%	56.8%
Sub-Saharan Africa	1.2%	10.5%	39.8%
Worldwide	14.8%	31.4%	71.4%

Source: CGAP, the MIX, Credit Suisse

As a result, mobile telephony has attracted other industries to use mobile infrastructure and networks for their product and service offerings. There are about 2.5 billion adults worldwide without access to financial services, but the use of mobile phones offers a significant opportunity for telecommunication companies to step in and provide a much needed service<sup>1</sup>. In the convergence of banking and telecommunication companies, the operators have the required technical expertise as well as a wide network of agents.

### Mobile banking and microfinance

Mobile banking (m-banking) is a subset of branchless banking and involves access to a range of banking services through mobile telephony. One of its main advantages is that it addresses the cost of roll-out (outreach) and the cost of handling low-value transactions by using agents instead of banks. M-banking channels are primarily used for transfers and payments, even when they offer a broader range of

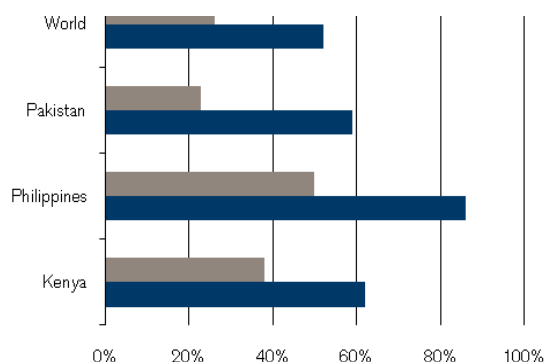
### Highlights

- Mobile phone penetration has increased substantially from 14.8% in 2000 to 71.4% in 2010 and offers an opportunity for the banking sector to use this infrastructure and the network to promote financial inclusion.
- The successful implementation of transformational mobile banking requires an enabling legal framework, adequate customer protection and risk management policies, high customer volumes and a wide agent base.
- Telecommunication companies are better prepared to offer m-banking services, but the microfinance sector can take advantage of it by distributing and collecting loan payments in a safe and timely manner.

services. The development of m-banking has so far been driven by mobile network operators (MNOs) and to a lesser extent by some large banks. Despite the significant potential of m-banking, it continues to play a minor role in the microfinance sector. An illustrative example is M-Pesa that started as a pilot in 2005 between Safaricom and the microfinance institution (MFI) Faulu Kenya to facilitate microfinance loan disbursement and repayments. Safaricom learned how customers used the service beyond loan repayments and, as a result of the pilot, launched M-Pesa, which is today's most successful m-payment service worldwide. Faulu Kenya in contrast experienced a decreasing need for group meetings, which represented a core element of its methodology. The MFI feared that a reduced group interaction could negatively impact the repayment discipline of its clients and stopped the project. When Faulu Kenya became

<sup>1</sup> Credit Suisse: Mobile Money (2012), p. 3

**Figure 1**  
Penetration rates



Source: World Bank, Credit Suisse

the first deposit-taking MFI in Kenya in 2009, the two services providers restarted collaboration on deposit mobilization<sup>2</sup>.

Figure 1 illustrates the wide scope of m-banking expansion by comparing financial and mobile penetration. In 2010, the global mobile penetration was 52% compared to 25% financial penetration in the form of deposit accounts. The situation looks very similar in a country-wise comparison. Kenya, the Philippines and Pakistan feature a large percentage of people with no access to financial services, but their mobile penetration rates are indeed fairly high. All three countries are home to successful m-banking services like M-Pesa (Kenya), Easypaisa (Pakistan) and G-Cash (the Philippines) to reach the financially excluded population.

#### Different approaches of mobile banking in microfinance

There are different ways to approach the untapped market of around 2.5 billion adults without access to financial services, among which at least one billion people own mobile phones. ICT-enabled banking solutions are truly transformative in this field and its success is fully built on trust. In other words, this requires an adequate technology guaranteeing data and money safety as well as trusted networks that customers will accept. According to the Consultative Group to Assist the Poor (CGAP), there are two models of m-banking. They both use retail agents to deliver financial services outside traditional bank branches (branchless banking). In the bank-based model, every customer has a direct contractual relationship with the formal financial institution, while in the nonbank-based model, the customer exchanges cash at a retail agent in return for an electronic record of value<sup>3</sup>. Below we will present different approaches to m-banking:

#### Bank-based models

**Pakistan:** MNO investing in MFI.

As shown in Figure 1, the mobile subscription penetration in Pakistan was nearly double that of deposit accounts in 2010,

which paved the way for a fertile m-banking platform. Furthermore, Pakistan has an enabling legal framework, with the State Bank of Pakistan (SBP) having formulated a separate set of laws for accommodating branchless banking. According to this regulation, only the bank-led models are permitted to undertake m-banking. The regulation is applicable to commercial banks, Islamic banks and microfinance banks. The activities include funds transfer, deposit to and withdrawal of funds and loan disbursements via MNOs or other authorized agents. In order to provide m-banking services, Telenor Pakistan took over 51% shares in Tameer Microfinance Bank in 2008 and launched its m-banking service called Easypaisa in October 2009. The Easypaisa mobile bank accounts are only available to Telenor subscribers and are mainly used to facilitate remittances and bill payment services. But Easypaisa is expected to provide a full universe of banking services in the near future<sup>4</sup>.

#### **Mongolia:** M-banking services by an MFI

Mongolia has the lowest density of population worldwide, with only two people per square kilometer according to the World Bank. Hence, m-banking can assist the Mongolians to undertake financial services without incurring high travel expenses. XacBank, the Ulaanbaatar-based community development bank and microfinance institution, launched its own m-banking service AMAR in 2009. The service is available through mobile phones and cash handling agents and offers full financial services in a convenient, reliable and cost-effective way in remote and urban areas. XacBank considers m-banking as a new way to reach unbanked people and to reduce the bank's operational costs. Currently their service includes cash deposits and withdrawals, person-to-person transfers, payments, balance inquiries and mini statements<sup>5</sup>. Unlike other m-banking projects, AMAR was not developed by an MNO but was initiated by XacBank, which partnered with the software company Horus Nomadic Solutions to create an m-banking platform for mobile handsets. In order to widen its existing agent network, XacBank partnered with Petrovis, Mongolia's petrol company, to employ the company's gas stations as agents. AMAR's advantage is that it is compatible with different mobile service providers and, therefore, clients are not required to change their operator to deploy AMAR.

#### Nonbank-based models

**The Philippines:** MFIs or rural banks partnering with MNOs.

The Philippines was one of the earliest proponents of m-banking worldwide with Smart Money and G-Cash. Both the major MNOs in the Philippines, SMART and Globe, have developed m-banking offerings. Starting in 2000, Smart has developed a range of m-banking products in close association with a large bank, Banco d'Oro. Competitor Globe entered the market only in 2004 with its G-Cash offering but with a different focus. It partnered with the Rural Bankers Association of the Philippines (RBAP) under the Microenterprise Access to Banking Service (MABS) program sponsored by USAID. This is an initiative designed to significantly expand access to

<sup>2</sup> CGAP FN 62: Microfinance and mobile banking: the story so far (2010), p. 7

<sup>3</sup> R. Sultana: Mobile banking: Overview of regulatory framework in emerging markets (2009), p. 4

<sup>4</sup> <http://www.easypaisa.com.pk/>

<sup>5</sup> <http://www.cgap.org/p/site/c/template.rc/1.11.45745/1.26.5606/>

microfinance service. The MABS program assists partner rural banks in the Philippines to increase the financial services they provide to the microenterprises, small farmers and low-income households by providing microfinance technical assistance and training.

**Kenya:** MNO offering mobile phone-based services.

Kenya demonstrated a rather low financial inclusion with 38% of its adult population having deposit accounts in 2010 as shown in Figure 1. However, the country had a strong mobile penetration of 62%, which became a driving force for the strong growth of m-banking in Kenya. First launched as a payment provider for the MFI Faulu Kenya in 2005, M-Pesa's functionality was continuously developed for person-to-person transfers of cash balances. Safaricom launched the mobile phone-based payment and money transfer service, known as M-Pesa in 2007. The service allows users to deposit money in an account stored on their cell phones and operated through mobile phones. Cash can be deposited or withdrawn with a local M-Pesa agent. The success of the service has been driven by Safaricom's ability to tap into a large domestic remittance market<sup>6</sup>. According to Safaricom, M-Pesa reached 14.9 million customers at the end of September 2011, representing 82.4% of its customer base. The value of transactions processed through the M-Pesa platform was equivalent to 20% of the country's GDP. In 2010, M-Pesa and Equity Bank announced a joint venture, M-Kesho, which permits M-Pesa users to convert their mobile wallet into an interest-bearing Equity Bank account and access additional products such as microloans and insurance.

**Advantages and disadvantages of m-banking in developing countries**

Countries with a low banking infrastructure and a high percentage of rural population might consider m-banking as one way to promote financial inclusion. They can directly impact development by providing a favorable regulatory environment for the sector. It is also in their own interests to collect and disburse cash in a safe and timely manner. As mobile penetration exceeds financial penetration in developing countries, telecommunications companies are well positioned to offer m-banking services. Their core business is to manage high volumes of low-value transactions at high speed and with the necessary coverage at relatively low costs. M-banking represents an additional service for them with strong perspectives-based scalability. In the early stages, m-banking has indirect advantages for the microfinance sector as it provides financial education to many unbanked customers. MFIs are often not allowed to mobilize savings for regulatory reasons and therefore the MNOs can fill an important gap. MFIs additionally profit from safe and timely money transfers. Loan officers hence spend less time with cash collections and have more time for the group or can attend more meetings. Customers finally have access to financial services including savings accounts, which allows them to save even small amounts.

M-banking also involves risks that can lead to negative consequences. Governments might face conflicts of interests by allowing telecommunication companies to offer financial services as they are not regulated under the banking law. This involves consumer protection, distinction between payments and savings, anti-money laundering and combating the financing of terrorism regulations. As a result, some countries require a banking license to offer m-banking services. In the case of Kenya, the banking regulator is in charge of m-banking. The money collected from M-Pesa's clients is deposited in a trust account in one of the leading Kenyan commercial banks. Telecommunication companies run a certain risk with regard to regulation as it was the case in Pakistan where Telenor Pakistan had to acquire a MFI with a banking license in order to continue providing the service. Disadvantages for MFIs can arise when the offering of MNOs does not match the needs of the MFIs or the network of agents does not cover the outreach of the MFIs. Risks for users include potential loss of savings base in case of political events. But most m-banking providers start with small services and develop their offering over time so that customers can build trust.

**Conclusion**

Unless there is a strong case, like an environment with low banking and m-banking infrastructure, MFIs will hardly be the driving force in the development of m-banking. But the service can have tremendous benefits for borrowers as it is complementary and supportive to the lending. Particularly in remote areas, it allows customers to transfer the repayments safely and in a timely manner to MFIs. Overall, the m-banking offering is part of branchless banking, and each MFI has to make its own assessment and strategy on how it can exploit the offered service to its advantage. Over time, the convergence of telecommunication and banking services will lead to financial inclusion of unbanked customers as can be observed in the case of M-Pesa, which offers its clients conversion of their accounts into interest-bearing M-Kesho accounts at Equity bank.

*We wish to thank Shubha Bhanu of Credit Suisse Business Analytics (India) private Limited for contributing to this publications.*

<sup>6</sup> A. Heyer and I. Mas: Seeking fertile grounds for mobile money (2009), p. 1

**Abbreviations frequently used in reports**

Abb.	Description	Abb.	Description	Abb.	Description
CAGR	Compound annual growth rate	EPS	Earnings per share	P/B	Price-to-book value
CFO	Cash from operations	EV	Enterprise value	P/E	Price-earnings ratio
CFROI	Cash flow return on investment	FCF	Free cash flow	PEG	P/E ratio divided by growth in EPS
DCF	Discounted cash flow	FFO	Funds from operations	ROE	Return on equity
EBITDA	Earnings before interest, taxes, depreciation and amortization	IBD	Interest-bearing debt	ROIC	Return on invested capital

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