

# Increasing the Outreach And Sustainability of Microfinance through ICT Innovation

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*Making financial services available to the poorest people, especially investment loans for micro-business development, is recognized as an important part of poverty reduction strategies. However, in spite of its successes, microfinance has barely scratched the surface of need. While “increasing outreach” has been the catch-cry for at least the last five years, the present delivery models are not quite meeting the challenge, especially when it comes to serving communities in remote locations characterized by low population density. Technological innovation is the great hope, although it brings with it fundamental changes to the microfinance delivery mechanisms that have become almost sacred for the microfinance sector.*

## Up-scaling ICT For Development – A “Demand-Side” Approach

Since the emergence of a distinct ICT for Development (ICT4D) sector, advocates have said that ICTs are “enablers” or “tools” for development, rather than ends in themselves. The implication of this is that impetus for upscaling ICT4D will primarily come from the demand-side. Advocates not only need to demonstrate effective ICT4D applications but, more importantly, they need to find those applications that capture the imagination and involvement of many, and provide a compelling case for investing in ICT infrastructure and for getting the ICT policy and regulation framework right.<sup>1</sup> ICT-enabled banking services for the poor may be one such application.

Electronic commerce has its genesis in the banking sector. Over the last three decades, banks have transformed their business from paper-based systems to fully integrated ICT-enabled systems. E-commerce has become so ubiquitous that, in some economies, cash is now almost superfluous. Cash is used for only the smallest transactions and even this is poised to be replaced by a “micropayments” service, where

consumers pay for small items through their mobile phone, or through a value-carrying smart card. It could be argued that ICT-enabled banking services were the application that propelled us into the “Information Economy”.

Might the same evolution occur in less developed countries? At this point in time, many microfinance practitioners see ICT innovation as a key strategy in efforts to take microfinance to the next level in terms of outreach and sustainability. The pending roll-out of ICT-enabled microfinance services represents a paradigm shift for the sector. It will change fundamentally the business models and methodologies that microfinance practitioners hold dear. All of this makes the subject of "Microfinance and ICT Innovation" quite central to the Poverty Reduction agenda, whether one approaches that agenda from a microfinance point-of-view or an ICT for Development point-of-view.

2005 is an opportune year to progress the "Microfinance and ICT Innovation" discussion, being the International Year of Microcredit and also the year of the second phase of the World Summit on the Information Society.

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<sup>1</sup> In English-speaking, developed country contexts, these applications have been referred to as “killer applications”.

## Introduction to Microfinance

Microfinance is the provision of relevant and affordable financial services to poor households. The “micro” prefix refers to the size of the financial transactions; it does not imply that the microfinance providers (MFPs)<sup>2</sup> themselves are small.<sup>3</sup> Microfinance is primarily concerned with credit and savings although, in recent times, allied services such as insurance, leasing, payment transfers and remittances are being introduced to the mix. In the early days, the forerunner known as “microcredit” was focused on providing working capital to people who generate income for themselves in very small business activities. While this important emphasis remains, the sector has broadened its definition to *the delivery of financial services to poor households so that they can manage their financial resources more effectively*. Hence the more recent but broader descriptor, “microfinance”.

Providing microfinance to poor clients requires innovative operating methods to manage risk and reduce transaction costs. Poor households do not usually have physical assets to offer as collateral for loans, so MFPs have developed substitutes. The most common form of substitute collateral has been the formation of groups of borrowers and the establishment of joint-liability procedures, where loan group members effectively guarantee one another's loans. To reduce transaction costs, MFPs primarily deal with these loan groups rather than with individual clients, and they outsource certain administration tasks to the groups.

Some MFPs have developed from existing community-based savings and loans cooperatives. In India, for example, these are referred to as “self-help” groups. Other MFPs have evolved out of the revolving loan

programs of charitable non-government organisations, which offered loans to help beneficiaries develop income-generating activities. Other MFPs have been established by commercial banks or government-owned development banks, either as a response to their observation that providing financial services to the poor could be a suitably viable business opportunity, or as a response to government edict that they provide financial services to all strata of society, including the poor.

Since the early 1990s, a major emphasis within the microfinance sector has been on institutionalization of microfinance activities, including building the quality and capacity of the governance and management of MFPs, and the development of computerized Management Information Systems (MISs). This institutional development is necessary for a number of reasons. First, if MFPs accept client deposits, they are generally required to meet prudential requirements as defined in local banking laws. Essentially, they are required to become licensed banks. Second, institutional maturity is needed to enable and manage growth in client outreach. Growth in the client base allows the MFP to reap advantages of scale, thereby achieving a greater degree of financial sustainability.<sup>4</sup> Third, institutional maturity is necessary to attract capital investment, whether concessionary or commercial, from external sources.

The overriding mission of an MFP is to provide financial services to poor households on a financially sustainable basis. While most MFPs have a pro-poor, development-oriented emphasis, they are more correctly understood as banks rather than as (charitable) development organisations. Indeed, many MFPs are licensed, commercial banks.

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<sup>2</sup> Throughout this paper I refer to “Microfinance Providers” (MFPs) rather than the more common “Microfinance Institutions” (MFIs). Increasingly, commercial banks in developing countries are providing microfinance either directly through in-house programs or indirectly through partners. MFI generally refers to independent microfinance institutions, and tends to be exclusive of alternative models for delivering microfinance that are emerging.

<sup>3</sup> In Bangladesh, for example, a number of MFPs – ASA, BRAC, Grameen and Proshika - each have in excess of one million clients.

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<sup>4</sup> Financial sustainability for an MFP means that it is generating enough revenue from interest charges and fees to cover all direct and indirect costs, including operating expenses, provision for loan losses, and adjusted cost of capital. (The adjusted cost of capital refers to the cost of maintaining the value of the institution's equity relative to inflation and the cost of accessing commercial funding rather than concessional loans).

## **The Microfinance Themes of “Outreach” and “Sustainability”**

There are two current imperatives within the microfinance sector – “increasing outreach” and “improving sustainability”. There is, however, a creative tension between these two imperatives. On the one hand, if “increasing outreach” is taken to mean “more clients from a similar demographic”, then “outreach” and “sustainability” are effectively synonymous terms. Increasing client outreach provides economies of scale that in turn makes the MFP more efficient and therefore more sustainable, at least in immediate financial terms. It is a case of “more of the same”, while continually seeking incremental improvements in operational efficiency.

On the other hand, if “increasing outreach” is taken to mean “targeting hard-to-reach clients” such as people living in remote areas, then “outreach” and “sustainability” are effectively competing terms. Reaching clients in remote areas is relatively expensive, which makes the MFP less efficient and therefore less sustainable. This is the real outreach challenge for MFPs because it requires new, as yet unproven business models and processes, including technological innovation.

## **Microfinance and ICT Innovation**

### ***Back-Office Management Information Systems***

Many microfinance practitioners see ICT innovation as a key strategy to take microfinance to the next level in terms of outreach and sustainability. The most fundamental ICT application is the back-office MIS. A suitably sophisticated MIS is prerequisite for the MFP to monitor the quality, sustainability and efficiency of its loan portfolio, to monitor development impact, and to manage general administrative tasks. It is not possible for an MFP to upscale significantly without an MIS that can grow with the institution.

The larger MFPs have sophisticated back-office systems based on the same functionality provided by mainstream banking software. Indeed, some MFPs use off-the-shelf packages that might be found in any commercial bank. There are, however, a number of difficulties that arise when using these packages. Microfinance differs from traditional banking in a number of fundamental ways, with respect to products offered, clients served, the environment in which it operates, and the non-financial information that needs to be recorded and tracked. Many off-the-shelf software packages lack the functionality or flexibility to deal with these realities and requirements. This raises the need to either modify off-the-shelf software or develop in-house software, which assumes that the MFP has the internal capacity to develop and maintain software or the financial resources to outsource this work. More needs to be done to make standard and affordable MIS software accessible to smaller but expanding MFPs.

In the “Microfinance and ICT Innovation” discussion, these MISs are not considered the most exciting innovation – indeed, they are hardly even referred to as innovative. They are, nevertheless, the most critical and fundamental aspect of an MFP’s hi-tech infrastructure. Further ICT innovation, of the type discussed below, is not possible without a sophisticated and appropriate back-office MIS. With this understanding, it is now possible to explore opportunities to apply ICTs closer to the client interface, to create significant new efficiencies and allow MFPs to serve the hard-to-reach clients in more remote areas.

### ***Mobile Computing***

While the back-office MIS enables the MFP to monitor its loan portfolio, this functionality is undermined if the data analysed by the MIS is not up-to-date or contains errors. With dispersed branch offices, paper-based transaction records and manual data entry, there can be a data delay of days and even weeks, and the possibility of introducing errors during the data entry process is high.

A recent innovation that serves to overcome these issues is mobile computing systems – palmtop computers that loan officers take to the field so that financial transactions can be recorded directly into the MIS, without the need for intermediary data entry at the branch office. The data entered in the palmtop computers is typically uploaded to the MIS at the end of the day, either directly in the branch office or via a remote communications link. Furthermore, the roll-out of wireless broadband infrastructure will enable these systems to be “always online”, resulting in true real-time data collection and monitoring of the loan portfolio at branch and institutional levels.

These mobile computing solutions also have significant implications with respect to data accuracy and integrity. Electronic data entry at field level, with on-the-spot, system-generated receipts for clients, significantly reduces data entry errors. Data accuracy is a fundamental requirement for any bank. An MFP will quickly lose credibility with its clients if errors are introduced during data entry, and “client confidence” is of paramount importance to any bank.

### ***The Branch Office Franchise Model***

Serving new clients from remote locales is a key outreach challenge for MFPs. These locales include rural areas where the population density is low, the market is smaller and service provision is more expensive. MFPs find it difficult to serve these areas, especially when the overwhelming pressure is to reduce transaction costs and increase profit margins. One approach to meet this challenge is the “branch office franchise model”, where an MFP links with third-party merchants in remote areas. This is an extension of the mobile computing solution discussed above. These branch office franchisees manage transactions on behalf of the bank, and they receive an agreed payment for service on a per-transaction basis. Fees might be shared by the client and MFP, on the basis that the transaction costs would otherwise be significantly higher for both

parties if the service were delivered by more traditional models. Transaction data is transferred electronically to the bank either in real-time or, for example, at end-of-day.

The key qualities of franchisees are that they are long-term businesses, respected and trusted in their communities, with computer skills and connectivity. A recent player in this mix, notably in India, are the rural telecentre networks that are particularly suited to serving as retail outlets for a distributed microfinance network, because of their innovation-business orientation and their familiarity with IT systems and telecommunications services.

Given that these (non-regulated) branch office franchises collect deposits as well as loan repayments, the model requires some consideration by financial-sector regulators.

### ***Card Services, EFTPOS<sup>5</sup> And ATMs***

There are many similarities between consumer credit cards and microcredit services. Like microfinance methodologies, credit cards were introduced to reduce the high costs associated with small transaction lending. Common characteristics include unsecured credit for unspecified purposes,<sup>6</sup> small transactions, and pre-defined credit limits. Other salient features of credit cards, which many microfinance clients would like their providers to duplicate, include on-demand borrowing, a re-draw facility, and repayment flexibility within pre-defined guidelines. We know that microfinance clients desire these features because they continue to utilize local moneylenders for these very services where they are not provided by their MFP.

Given the similarities between consumer credit cards and microcredit services, the concept of a “microcredit card” arises as a logical innovation. The introduction of card-based services also requires the roll-out of either

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<sup>5</sup> EFTPOS - Electronic Fund Transfer at Point of Sale

EFTPOS functionality with third-party merchants (as per the branch office franchise model discussed above) and/or Automatic Teller Machines (ATMs). The former is probably the better solution for microfinance, because it facilitates immediate receipt for repayments and savings, which reduces the possibility of intermediary error or fraud. With ATM solutions, deposited repayments and savings are processed “back at the office” and receipted later, a process that is unlikely to secure the confidence of clients. In either solution, withdrawal of credit or savings is equally straightforward.

The delivery of card-based microfinance offers even more opportunities. MFPs can implement microfinance-tuned credit-scoring algorithms, allowing clients who have proven their creditworthiness over time through successful repeat business to have their borrowing limit automatically increased, be given access to additional products and services, and be granted greater borrowing and repayment flexibility.

MFPs can also consider smart card technology as part of their “microcredit card” solution. Smart cards have an embedded computer chip that can store client and transaction data, as well as process information.<sup>7</sup> Smart cards function as electronic passbooks, thereby reducing reliance on printed receipts. Because all relevant client data is stored on the card, MFPs can utilize EFTPOS systems and ATMs that do not need to be always on-line. This is a significant advantage in areas where telecommunications are unreliable and/or expensive. Finally, smart cards can be used in conjunction with biometric technologies (such as fingerprint scanners) to enhance the process of client identification, thereby enhancing privacy and data security.

### ***Internet Banking***

Internet banking provides clients with real-time information about their accounts, and the ability to transfer funds between their accounts. It is an empowering tool because it gives bank clients the flexibility to manage their financial resources deliberately, at their own leisure, and without having to visit a bank office during opening hours. In particular, it is a vital accompaniment to card-based services, allowing clients to keep track of numerous small electronic transactions.

From the bank perspective, Internet banking is an efficiency tool because it reduces the work of (human) tellers and therefore reduces labour costs. It is a relatively easy and inexpensive service to offer, and the incremental cost of having 1,000, 10,000, or 100,000 Internet banking clients is negligible.

The main constraint to MFPs implementing Internet banking is their clients’ minimal access to the Internet. In some areas, this will be overcome somewhat with the roll-out of rural telecentre networks. It is also possible for MFPs to develop modified ATMs that provide this functionality.

### **Remittances: Microfinance Outreach to International Labour Migrants**

For many developing countries, remittances by international labour migrants are larger than both official development aid and foreign direct investment. A challenge for development-finance planners is to tap into this flow of capital in a way that is empowering for the individuals and families involved, and which results in long-term economic improvement for themselves and their communities. There is an opportunity for MFPs, through technological innovation, product design, awareness-raising and facilitation, to extend outreach to these migrant workers and their families at home.

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<sup>6</sup> These days, MFPs rarely hold to the claim that their lending is purely for micro-enterprise development.

<sup>7</sup> Some smart cards have a memory chip only, others have memory and a microprocessor.

Specifically, the following interventions are required:

- Enabling policy and regulation that entices remitters to transfer their funds through formal channels rather than informal channels. This must include mechanisms for MFPs to be licensed as authorized recipients of international money transfers
- Technology solutions, international partnerships and associated business models that allow remitters to transfer their funds in a planned way, at regular intervals, in relatively small amounts, for reasonable cost, direct to the intended beneficiary (e.g. to a MFP-provided savings or loan account)
- A cohesive strategy by MFPs to educate labour migrants of the range of financial products and services that is available to them
- A cohesive strategy by development planners to highlight options for long-term investment, especially microenterprise investment.

In terms of technology solutions, MFPs need to develop their own electronic transfer capabilities to eliminate the cost of the “electronic middlemen” that currently provide this service. An example is Sri Lanka’s Hatton National Bank, whose “HNB Easy Remittance” system has been implemented with currency dealers throughout the Middle East, enabling Sri Lankan migrant workers to remit funds directly to HNB accounts, including microfinance accounts, for a small percentage of the price offered by other funds transfer providers.

## **Conclusion**

All of the above examples of ICT innovation in microfinance are being trialled or implemented in various MFPs around the world. However, they are yet to become widespread. There is much to learn and more experimentation to take place. Nevertheless, the microfinance sector stands at a junction point, where its business models and processes are going to be challenged by these innovations.

There are many constraints to the roll-out of ICT-enabled banking systems. First, all of the usual digital divide issues apply: ICT regulatory regimes that hinder rather than enable innovation, non-existent, unreliable or high-cost ICT infrastructure, and the lack of human capacities needed to fully engage with the ICT applications. Second, there are challenges from the microfinance perspective as well: financial sector regulation that restricts innovation, technical capacities of MFPs to manage the design, roll-out and maintenance of ICT systems, and managerial capacities of MFPs to manage the necessary changes in business processes that will accompany the ICT innovations.

One observation that urges caution is that some ICT-enabled services, especially card-based services, tend to de-personalize and individualize the banking process and isolate the client from his/her peers. This conflicts with those group-based methodologies that are held up as the key reason for the high-repayment rates that are typical in the microfinance business. This concern cannot stop the transition to electronic services, but it is something that will need to be monitored closely.

Some people will say “it cannot be done in microfinance, electronic banking for the poor will not work”. To this attitude, we can reply with two salient points. First, it *has* to work, because economies and enterprises that have embraced electronic banking and commerce will find it increasingly difficult to do business with those that have not, leaving the latter at a continuing disadvantage. Second, we do well to remember that more than 20 years ago when microfinance was in its infancy, there were many who said “the poor cannot repay, the poor will not repay, the poor cannot save”. On all counts they have been proven completely wrong. Perhaps the same will be the case with e-microfinance.

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