Preface

This book is set in a background of efforts to create a decent global society providing all people a fair chance, and to remedy disparities of power and opportunity, through a democratic and market based process. The microfinance movement is about providing poor people, the world over, an opportunity to take responsibility for their lives by providing them complementary elements such as financial capital and guidance.

To help poor women across the world escape poverty through entrepreneurship, Microfinance Institutions started offering small loans since the early 1970s. These loans help finance working capital or small investments in a very tiny business. Innovative, group monitoring and peer group pressure based contracts, among others, increased the probability of success and ensured that loans were repaid. The high repayment rates of the poor borrowers approaching 98% in good times, has got financers as well as donors the world over to take notice of the Microfinance movement (Morduch, 1999). Armendariz & Morduch (2005) and Ashta (2009) explain why the MFIs succeeded where banks feared to tread.

Very briefly, the crux of this explanation (Ashta, 2009) indicates that banks were not able to lend to poor people owing to high transaction costs and high risk from information asymmetry. As a result, the Marginal Revenue curve of the poor was way below the Marginal cost curve of the banks (called the supply of credit curve) and the two did not meet, as shown in Figure 1. However, the marginal cost curve of money lenders was lower, and illustrated by the dashed line, partly because they were living in the same area and therefore had lower transaction costs and partly because their families knew the credit history of the borrowers and therefore there were lower asymmetric information costs. Therefore, the marginal cost curve intersected with the marginal revenue curve at D, but being a monopoly in each village, the money lender could charge high interest rates of \( R_{MLm} \). The essential point is that if poor entrepreneurs take loans at such high interest rates, their businesses cannot survive.

The advent of microfinance essentially resulted in lower interest rates to a level where the poor could borrow and expect a small profit in their businesses, as illustrated in Figure 2 (Ashta, 2009). In this figure the original supply curve of the banks has been taken out, and the supply of credit curve is that of the moneylenders. The dashed portion of the curve shows that MFIs were able to reduce this supply cost further. They were able to do this by innovative group lending schemes, progressive lending and other incentives, all of which were aimed at reducing information asymmetry. Moreover, in addition to reducing risk, these MFIs got funds from donors and loans from commercial banks at rates lower than those available, if at all, to moneylenders. For both these reasons, the supply curve shifted down. At the same time, group lending may also have led to better business performance owing to Hawthorne effect (people are watching you, so you perform better) or owing to the fact that other group members had to monitor and advise to ensure the success of the borrowers. This may have shifted the marginal revenue curve of the poor entrepreneurs outwards to \( MR' \) in the figure. The final result is that if the MFI is in a
monopoly position it can charge, $r_{MFIm}$, which is lower than the interest rates charged by money lenders. If the MFI is in competition, it may lower interest rates further to $r_{MFIC}$, as shown in Figure 2.

Therefore, donor capital, initially, and loans and private investments more recently, have pushed the number of microfinance borrowers to about 150 million, mostly women. With an average family size of five, it is estimated that about 750 million people are covered by microfinance. The success of the movement has brought fame and prestige, and a Nobel Peace prize was awarded to one of the pioneers of this movement, Prof. Muhammad Yunus, along with his microfinance institution, the Grameen Bank. Many institutions started as NGOs and have become for-profit financial institutions and some have converted themselves into banks to attract deposits. On the other hand, the success in outreach has also attracted banks to downscale to serve poorer borrowers.

This success and visibility have made people wonder whether the movement needs donor funds, social capital, socially responsible investment or, perhaps, even commercial investment. So far, barely 2% of the 10,000 estimated Microfinance Institutions (i.e., 200 MFIs) are profitable and financially sustainable. But among those which are, profits can be extremely high.

An Initial public offering by Compartamos in 2007 was a visible landmark. The share capital of Compartamos floated in 2000 was $ 6 million, its book value in 2006 was $126 million and the IPO valued the company at $1,500 million. The issue was over-subscribed thirteen times and two days later, market capitalization jumped to $ 2 billion.

This success made people wonder how Compartamos grew so fast. They noticed that the valuation was based on high expected growth rates, based on high past growth rates of about 50% per annum. These high growth rates were made possible by high retained earnings and a high return on equity. The high return on equity was based on high interest rates approaching 100% per annum with Value Added Tax. As was shown in Figure 2, monopoly interest rates can be charged even by MFIs, even if

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**Figure 1. Why money lenders lend at high interest rates**

Money lenders have lower transaction costs and lower information asymmetry. As a result, they push down the supply curve for poorer borrowers to the dashed line shown in the diagram. They charge high interest rates $r_{ML}$, much higher than the interest rates $r_o$ charged by the competitive organized sector to the wealthier borrowers. (Source: Ashta, 2009)
these may be lower than rates charged by money lenders. The question which has been hotly debated in academic and practitioner circles is whether such high rates of 100% are ethical (Ashta & Bush, 2009; Ashta & Hudon, 2009; Granger, 2009; Lewis, 2008; Rhyne & Guimon, 2007; Rosenberg, 2007; Smith & Epstein, 2007). On the one hand, such lucrative profits would encourage commercial investments into Microfinance which should eventually bring down interest rates through competition. On the other hand, such high interest rates and the unethical perception may make donors, social investors and socially responsible investors look elsewhere. It may also bring governments to cap interest rates to what would be considered acceptable levels by the citizens. Such externally exposed caps, it is often argued, may create capital rationing and limit the microfinance movement (Helms & Reille, 2004; Honohan, 2004), but there is evidence also that lifting usury caps does not necessarily lead to spectacular growth of Microfinance (Ashta, Attuel-Mendes & Ditter, 2008).

A recent CGAP study (Rosenberg, Gonzalez & Narain, 2009) reported on interest rate levels in 2006. It found that in the three years (2003 to 2006) median interest rates have reduced from 36% per annum to 28% per annum, although the median varies from continent to continent and country to country. Although the CGAP study took pains to indicate that Compartamos was an outlier (less than 1% of MFIs charge such high interest rates), interest rates of 28% seem high, and would seem unethical to donors in developed countries who are witnessing near zero interest rates. The CGAP study details the median broad components of interest rates (28%) into financing costs (8%), operating costs (13%), loan loss provisions (2%) and profits (2% of assets, 13% of equity). (The totals do not necessarily add up since median figures are used, the denominator is not the same, and other methodological reasons). The crux of this CGAP finding is that for operating costs, about 13%, to reduce further, we need technology. Therefore, if MFIs are to remain sustainable, interest rates cannot go down much below 28% per annum without new technology.

Figure 2. Why MFIs are able to lower interest rates

Microfinance institutions have lower cost of capital and they overcome information asymmetry. As a result, they push down the supply curve for poorer borrowers further to the dotted line shown in the diagram. At the same time, group monitoring and involvement may actually boost the performance on projects and push the MR curve of the poor to MR. The MFIs charge interest rates \( r_{MFIc} \) or \( r_{MFIm} \), depending on whether there is competition or monopoly in the local market, in either case much higher than the interest rates \( r_o \) charged by the organized sector to the wealthier borrowers, but much lower than the interest rates \( r_{ML} \) charged by money-lender (Source: Ashta, 2009).
This book is situated primarily in this perspective. What can technology do for microfinance and its mission to help poor people take responsibility for their lives? How can it bring down interest rates by reducing costs directly? More indirectly, can technology increase outreach and then bring economies of scale, which would also decrease costs? Or will technology lead to losses of revenues as microfinance becomes more impersonal and repayment rates fall. These different considerations are presented in Figure 3. As can be seen, the technology option increases the initial fixed costs. This could be the costs of purchasing the MIS, the costs of designing the online lending or mobile payment platform. Therefore the average fixed cost curve moves from AFC1 to AFC2.

At the same time, if the MFI is increasing these costs, it is because it is expecting transaction cost savings. For the moment, we have illustrated these as savings in variable costs. Thus, it would cost much less to process each loan application. Therefore, variable costs are shown as moving down from AVC1 to AVC2.

The final situation in costs depends on the tradeoffs between these two movements in the two cost curves. The final average total cost may be above or below the initial ATC1 curve. Thus, both ATC2 and ATC3 are possible.

Finally, it is possible that technology may lead to some loss in revenue owing to depersonalization. Loan repayments may be dependent on group lending incentives as well as personal relationships with the borrowers. If this is so, and if the technology option may push microfinance firms to increase the

Figure 3. Tradeoffs in using technology for Microfinance
number of clients served by each loan officer, the relationships may suffer and reimbursement rates would go down. This is illustrated in the figure by the MR curve moving down. From MR1 to MR2. These curves are indicated as flat for this illustration, but if the MFI is alone, as is often the case, the MR curve may be downward sloping and the effects could be even more complicated.

The exact impact of such technologies therefore depends on a myriad of factors and far more research is required on these questions than can be modeled by researchers external to an enterprise without exact information on costs.

Perhaps technology will lead to new forms of disruptive or radical innovation permitting peer to peer interaction, new ecosystems or platforms, new forms of crowdsourcing and recombinant innovations as businesses network and offer new kinds of business processes made possible by this new technology.

The first three sections of the book deal with chapters which would address these issues. Section 1, introduced by Raghavan Kunigahalli, contains six chapters by different authors, dealing with information technologies or management information systems and how they are contributing to microfinance. These technologies include improved MIS, more specific MIS adapted to microfinance, and sharing the MIS with other MFIs in the Software as a Service concept.

Section 2, introduced by Kevin Day, contains four chapters dealing with mobile phones and how they are contributing to increasing the outreach of microfinance. These chapters concern countries which have already implemented some form of mobile banking as well as countries where it is being tested and those which are thinking about it.

I myself introduce the three chapters in Section 3 dealing with online financing solutions and how they may permit microfinance to reach out to more investors and retail investors. A marketing analysis of the existing online microfinance players is followed by trying to understand if the web 2.0 tools do indeed lower costs. A case study of a more general website looks at how to bring institutional investors into contact with NGOs and for-profit entities with social objectives, including those in microfinance.

Gloria Estape-Dubreuil introduces the last five chapters constituting Section 4 and dealing with questions which do not fit into this perspective but are also related to technology and microfinance. Two of these papers are on techniques for risk management, two on adapting the microfinance perspective to developed countries, and the last paper is on using microfinance to finance appropriate technologies. It is important, at the end, to remember that we are all working to harness technology for a reason, and that is to improve the lives of the millions of poor people, whether they are in developed and poor countries.

The introductory notes to each of these parts will provide more details on the specific chapters included and the authors of each of these chapters.

The chapters bring out the fact that while the deployment of technology based solutions certainly offers cost reduction, it also offers better transparency, audibility, timeliness of data and enrichment of the engagement model with clients, all of which have the potential for long term impacts. On the one hand, all of these improve the image of the sector and reduce the ethical risks inherent in working with people from different cultures. On the other hand, they increase outreach not only to more poor borrowers, but outreach to the investors who are financing the microfinance sector, be they donors, lenders or investors.

All of these people, on the two ends of the microfinance supply chain as well as the stakeholders within the supply chain, in fact practically the whole world, is watching closely the deontology as well as the teleology of the microfinance movement. We are wondering whether the movement contributes to reducing poverty and whether it can do so through free, democratic, market-based solutions. This book is on how technology can add to both these solutions.
REFERENCES


