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A Study of ICT for Business Services and Human Development in Nigerian Microfinance Institutions

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Abstract
This research intends to investigate the extent to which Microfinance Institutions (MFIs) use ICT to deliver business services and train their staff. It intends to investigate the performance of ICT for business service delivery and staff skills development in Microfinance Institutions (MFIs). The investigation will focus on the actual ICT usage by Microfinance Institutions (MFIs) in Nigeria with reference to ICT literacy, business applications, and planning. The data collected from the survey was analyzed quantitatively and qualitatively. The analysis results indicate that the usage of ICT in microfinance business is low, while the usage is fair in business process automation but none in professional skills enhancement through e-learning. Based on this finding it may be concluded that there is need to experiment e-learning for professional skills development in Nigerian Microfinance Institutions and further research is needed to test the level of computer technology acceptance in microfinance (business) Institutions.

INTRODUCTION

Today we live in an information society in which more people must manage more information, this in turn requires more technological support, which both demands and creates more information. Electronic technology and information are mutually reinforcing phenomena, and one of the key aspects of living in the information society is the growing level of interactions we have with this complex and increasingly electronic environment. The general consequence is that we deal with large volumes of information, new forms and aggregations of information, and new tools for working with information (Marchionini, 1997). These new tools we use to manage information at corporate, governmental and societal level are tools we must learn to use, pay for, and maintain. The primary tool of the information society is the computer. Microprocessors are used to improve the performance of other technologies, and computers are increasingly used to control and integrate other kinds of information technology (e.g. TV, radio, telephones).

Microfinance Institutions (MFIs) are institutions that provide financial services to poor and low-income households (and their microenterprises), allowing them to better manage their risks, achieve consistent consumption patterns, and develop an economic base. Decades of experience have demonstrated that the poor are not only creative with micro-loans (loans as small as ₦500), but willing to repay as well. According to UNDP reports, despite the growth of microfinance industry, only 3% to 6% of the estimated global potential of 500 million poor households had been reached. Microfinance loans tend to have high interest rates in order to recover the high costs of loan administration. Information and Communication Technologies (ICT) can allow MFIs to lower the cost of loan administration, and thus, offer more affordable and flexible loan products to clients.

In addition, ICT can also help MFIs to expand their service coverage by providing logical, strategic and analytical support. Association for Microfinance Institutions of Nigeria (AMFIN) acknowledged that there is need to support capacity building and computerization for sound Microfinance Institutions (MFIs) such that they have systems to control costs and establish efficient branch management, that is, growth potential. In the Philippines the introduction of basic banking software product enabled administrative costs of rural bank operations to be lowered by 60%. This was accompanied by faster services, better control of fraud, improved records and management reports. It is estimated that microfinance institutions with more than 1000 clients/members are sufficiently large to make computerization of operations an economic proposition. Information Technology (IT) plays an increasingly important role in facilitating the introduction of new products or services, in improving operational services, and in guiding managerial decision-making. Therefore, mismanagement of IT can be detrimental to the competitive effectiveness of enterprises. Effective management of IT is particularly critical for Small and Medium Enterprises (SMEs) because they operate different from large enterprises.

A Microfinance institution, as an SME, can only realize economic benefit from computerization if it manages its IT resources effectively. Effective ICT utilization, appropriate applications, and individually tailored solutions can create opportunities and thus ICT can play a substantial role to address a number of goals in the development agenda. In an attempt to identify sectors that are likely to be responsive to technological change and promise high return on investment, small and medium enterprises have materialized as one potential target sector to harness ICT for development. Information technology solutions are not currently meeting microfinance

institution needs with only 34% of African microfinance managers happy with their microfinance information systems. Many reasons were cited for it, including an inability for microfinance institutions to clearly articulate what their business goals and needs are, and to make IT decisions in support of those goals. Many microfinance institutions treat IT as an add-on and consider it as something the systems administrator should deal with. The unwillingness of microfinance institutions who have successfully introduced new technologies to share with others is another challenge facing microfinance industry in developing countries.

Information lies at the very heart of microfinance. Whether by hand or by computer, microfinance institutions (MFIs) hold and maintain large amounts of important business data, from basic client information to detailed analyses of portfolio statistics. This data must be stored, processed, and clearly presented so that MFI Boards and Managers can make sound decisions. A good information system should do just that: it should act as a conduit through which raw data become useful and useable information. Technology is consistently cited as one of the greatest challenges faced by MFIs around the world. While efficient use of technology can help reduce costs, improve efficiency, and increase outreach, many MFIs continue to make poor technology investments or simply do not invest in technology thus limiting their ability to grow and respond to demand.

Respondents are rather satisfied with their systems. They are most satisfied with client profile information (3.88), MIS loan/portfolio reporting (3.65) and loan/portfolio management (3.65). They are least satisfied with social/economic performance reporting (2.87). The organizations spend on an average 9% of their annual operational budget on ICT (based on 12 responses), with two organizations spending 15% and one 30% of their budget. The great majority would like to make more use of technology: to improve reporting on financial, operational and social/economic performance. Reducing costs and improving efficiency is the second most important reason, followed by the wish to attract new clients and retain old ones, and to expand geographical outreach.

The main constraints the organizations face in making better use of technology to support organizational goals and objectives are (in order of importance): lack of funding (81,3%); the ability to accurately define requirements (37,5%); the fear of making poor choices (12,5%) and not being sure what the benefits can be for the organization (6,3%). Regarding current and future use of IT systems, the survey results show that organizations are generally rather satisfied with the back office systems in place and do not feel the need to expand/improve them a lot. In contrast, the focus of expansion is on front-end technologies.

STRUCTURE OF NIGERIAN FINANCIAL/BANKING SECTOR

In December 2005, the Central Bank of Nigeria (CBN) introduced a Microfinance Policy Framework to enhance the access of micro- entrepreneurs and low income households to financial services required to expand and modernize their operations in order to contribute to rapid economic growth. The rationale was that no inclusive growth can be achieved without improving access of this segment of the economic strata to factors of production, especially financial services.

The basis of this bold initiative in 2005 is still valid. With the benefit of experience spanning over five years of operating the Microfinance Policy, the Central Bank of Nigeria (CBN) believes that a review of the Policy to reflect lessons from experience, global economic trends and the envisioned future for small business development in Nigeria has become auspicious.

Microfinance services refer to loans, deposits, insurance, fund transfer and other ancillary non-financial products targeted at low-income clients. Three features distinguish microfinance from other formal financial products:

i. Smallness of loans and savings,
ii. Absence or reduced emphasis on collateral, and
iii. Simplicity of operations.

Before the emergence of Microfinance Institutions (MFIs) under the Microfinance Policy, the people that were unserved or under-served by formal financial institutions usually found succor in non-governmental organization-microfinance institutions (NGO-MFIs), moneylenders, friends, relatives, credit unions, etc. These informal sources of funds have helped to partially fill a critical void, in spite of the fact that their activities were neither regulated nor supervised by the Central Bank of Nigeria (CBN). This revised policy framework continues to take cognizance of this category of institutions, which have now become key players in the Nigerian microfinance landscape. However, more emphasis would be placed on Microfinance Institutions (MFIs) because they are under the regulatory and supervisory purview of the Central Bank of Nigeria (CBN).

The envisioned microfinance sub-sector under the policy regime recognizes the existence of informal institutions and provides for their mainstreaming into the national financial system. The policy also seeks to harmonize operating standards and provide a strategic platform for the evolution of microfinance institutions particularly Microfinance Institutions (MFIs). Existing non-deposit taking service providers, which continue to operate outside the purview of regulation and supervision of the Central Bank of Nigeria (CBN), would be encouraged to make periodic returns on their operations for statistical purposes to the Central Bank of Nigeria

(CBN).

This document therefore, presents a revised National Microfinance Policy Framework for Nigeria that would enhance the provision of diversified microfinance services on a sustainable basis for the economically active poor and low income households. It also provides appropriate machinery for tracking the activities of development partners and other non-bank service providers in the microfinance sub-sector of the Nigerian economy.

This revised policy is prepared in exercise of the powers conferred on the Central Bank of Nigeria (CBN) by the provisions of Section 33 (1) (b) of the *CBN Act No. 7 of 2007* and in pursuance of the provisions of Sections 56-60 (a) of the *Banks and Other Financial Institutions Act [BOFIA] No. 25 of 1991* [as amended]. It should be read in conjunction with the Microfinance Institutions (MFIs) Operating Template and the revised Regulatory and Supervisory Guidelines for Microfinance Institutions (MFIs) in Nigeria.

OVERVIEW OF MICROFINANCE ACTIVITIES (2006 – 2010)

The microfinance industry in Nigeria had been confronted by numerous challenges since the launch of the Microfinance Policy Framework in December, 2005. Coming on the heels of the banking sector consolidation, many of those adversely affected found their way into microfinance. Thus, a significant number of the newly licensed Microfinance Institutions (MFIs) were established or operated like "mini-commercial banks". Also, the erstwhile Community Banks (CBs) that converted to Microfinance Institutions (MFIs) did not fare any better.

An assessment of the microfinance sub-sector, following the launching of the policy however revealed some improvements. These include increased awareness among stakeholders such as governments, regulatory authorities, investors, development partners, financial institutions and technical assistance providers on microfinance. Specifically, a total of 866 Microfinance Institutions (MFIs) have been licensed, Microfinance Certification Programme (MCP) for operators of Microfinance Institutions (MFIs) put in place and the promotional machinery beefed up. Accordingly, entrepreneurs are taking advantage of the opportunities offered by increasingly demanding for financial services such as credit, savings, payment services, financial advice and non financial services. Despite the above development, a large percentage of Nigerians are still excluded from financial services. A study carried out by Enhancing Financial Innovation and Access (EFIA) in August, 2010 revealed that 39.2 million representing 46.3 per cent of the adults in Nigeria, was excluded from financial services. Out of the 53.7 per cent that had access, 36.3 per cent derive their financial services from the formal financial institutions, while 17.4 per cent exclusively patronized the informal sector. Also, the results of the survey revealed that Nigeria was lagging behind South Africa, Botswana and Kenya with 26 per cent, 33 per cent and 32.7 per cent in financial exclusion rate, respectively. Several factors have accounted for the persisting gap in access to financial services.

For instance, the distribution of microfinance banks in Nigeria is not even, as many of the banks are concentrated in a particular section of the country, which investors perceived to possess high business volume and profitability. Also, many of the banks carried over the inefficiencies and challenges faced during the community banking era. In addition, the dearth of knowledge and skills in microfinancing affected the performance of the Microfinance Institutions (MFIs). Furthermore, there are still inadequate funds for intermediation owing to lack of aggressive savings mobilization, inability to attract commercial capital, and the non establishment of the Microfinance Development Fund.

In order to redress this unintended development, the Institution commenced a programme of capacity building, sensitization and awareness on the appropriate model for microfinance banking in December 2007. Maiden, Routine and Target Examinations, as well as nurturing and mentoring of the Microfinance Institutions (MFIs) were also embarked upon during the same period to inculcate the microfinance concept and assist them to stabilize. The impact of the global financial crisis of 2007/2008 on Microfinance Institutions (MFIs) was more severe than anticipated. Credit lines dried up, competition became more intense and credit risk increased to the extent that many clients of Microfinance Institutions (MFIs) were unable to pay back their loans owing to the hostile economic environment.

The banking sector reform of 2009 did not leave the MFBs unscathed as many of them experienced panic withdrawals by clients who were under the notion that if the Deposit Money Banks (DMBs) could have challenges, the Microfinance Institutions (MFIs) would not fare better. The run on some of the MFIs was so severe that they had to close shop. The combination of these factors significantly weakened the microfinance sub-sector and its ability to achieve its objectives. It is against this background that the 2005 Microfinance Policy was reviewed.

TECHNOLOGY FOR RUNNING THE BUSINESS

Two-thirds of the organizations completely lack an application to ensure that the data flows automatically from the portfolio management application to the financial accounting software without duplicate data entry. About half of the organizations also don't have an application to electronically share data relating to the repayment

record of loan accounts with a credit bureau**.** In contrast, nearly two-thirds do have an application that automatically generates required management reports, but out of these most identify room for improvement. This is also the case for data storage while most organizations do have an application to store all loan/portfolio management data on a single central database; this is also where they identify the most room for improvement.
Finally, two-thirds of organizations do have core systems accessible via the Internet for all staff, but half of them see room for improvement. Most organizations have plans to improve or introduce technology applications in the next 1-2 and 3-5 years. This especially concerns automation processes (automatic generation of reports, automatic data flows) as well as storage of all loan/portfolio management data on a single central database and accessibility of the core systems via the Internet. Organizations perceive least need for improvement with regard to sharing data relating to the repayment record of loan accounts electronically with a credit bureau and hosting of data and MIS software within their own offices.

PROCESS AUTOMATION/WORKFLOW TECHNOLOGIES

Two-thirds of the organizations would like to improve their use of tools such as customer relationship management systems and mobile solutions to automate aspects of their loan application process, including data gathering, analysis and credit assessment. Most also see the need to improve their use of such tools to easily monitor, change and improve process flows.

Features most in need of improvement are “Accurately keeping track of delinquency/default management activities”, “cost effectiveness” as well as “ease of use for staff” and “reporting and data analysis”. The “ability to support a higher number of accounts/clients” and the “speed of processing transactions” are least in need of improvement.

The number of full-time IT staff varies between organizations. While four organizations do not have any full-time IT staff, seven of them have one or two full-time staff. One organization has five, another eight, another 15 and another 25 full-time IT staff. Most use of external consultants was made for “technology strategy development” (63%) as well as for “reporting improvement” (56%). The organizations rank as most important that “The on-going costs to maintain our information system are affordable” and, linked to this, “We are satisfied that the price we paid for our information system software is worth the benefits. The organizations also consider it very important to be confident in their IT department’s ability to maintain their hardware and software. Hiring and retaining qualified staff is considered less of a problem. Also the organizations don’t think that their information system prevents them from achieving their operational goals.

SOCIAL MEDIA

The survey results show that organizations are rather satisfied with their back office systems in place and do not feel the need to expand/improve them a lot. The focus of expansion is rather on front-end technologies. Therefore, we will now focus on front-end facilities such as social networking, online facilities and online platforms for people to collaborate. Social media is a powerful tool for reaching out to (new) customers. It’s cheap and you can target specific groups. Targeting specific groups and offering them something useful is more effective than using social media just for propaganda. Good practices in the use of social media for specific goals are announcing conferences and workshops, or using it to market new loan products.

Most of the participants use social media to share information with others. Main reason is for reaching new customers, but also for sharing information with a professional network. To make maximum use of social media, a strategy has to be developed. The time needed and the regular updates required are reasons for not using social media. Appointing an IT officer can contribute to setting up a successful strategy. There are many examples of applications that can be useful for microfinance customers: mobile banking, GSM banking, on line applications, SMS reminders for loan repayments, Internet online surveys (e.g. for social performance), business health checks, customer platforms, e-learning solutions, tool-kits, etc.

BUSINESS DEVELOPMENT SERVICES (BDS)

One of the questions asked how ICT can help in Business Development Services (BDS) for current customers. Some of the answers provided were: Match relevant businesses together more quickly. Share information and documentation on specific subjects. Use social media to connect mentors and entrepreneurs. Provide business plan templates and give online reviews of the plans. Online coaching, specific questions can be answered by specialists E-learning.

BACK OFFICE SYSTEMS

In the first question about the back office system, participants were asked what they think are the most important stages in managing change in information systems. Probably the most important stage is to identify the needs. Take enough time for this. Having a thorough knowledge of your business and processes is needed to choose the right tools. Issues that are important are: the need for flexibility of the system, local regulations (e.g. security)

and data conversion. Teaching users and getting the commitment of management shouldn't be forgotten.

When should an organization consider changing its MIS? Some examples: Problems with capacity, regular system crashes, lack of support, system supplier not able to keep up with new technological developments, absence of required reports, inaccuracies in reports, increases in costs without benefits. Some of the most common problems/shortcomings with Information Systems within an MFI as stated by the participants: Costs, security, qualified personnel, and ability to connect between systems. In the last part of the workshop, participants were asked to give scores to different questions and statements. In the table below you find an overview of the answers given by the participants.

THEORETICAL FRAMEWORK

This study was guided by IT hierarchy services needed by IT-enabled business models. This IT hierarchy theory was chosen for investigation of ICT in microfinance institutions because it examined IT management, IT-based service delivery, and platform of information technology in an organization. The following are the nine components of IT hierarchy:

1. **Applications Infrastructure:** An application is a software program that resides on a computer for the purpose of translating electronic input into meaningful form. Applications management includes purchasing software, developing proprietary applications, modifying applications, providing installation and technical support, and other tasks related to ensuring that applications are meeting the needs of the organization.
2. **Communications:** Technology that facilitates digital communication both within the organization and with the outside world is relevant here. It includes the management of hardware and software to facilitate communication via computer, telephone, facsimile, pagers, mobile phones, and other communication and messaging services. It includes the cabling and any other communication linkages required to create an effective communications network, in addition to the necessary hardware and applications to meet the needs of the organization.
3. **Data Management:** This refers to the way the organization structures and handles its information resources. Data may be sourced from internal or external databases. Data management includes data collection, database design, sorting and reporting information, creating links to external databases, assuring data compatibility, and other activities surrounding the effective management of electronic information.
4. **IT Management:** Information technology management includes many of the professional and strategic activities of the information technology group including negotiation, IS planning, project management, and other tasks. IS project management is defined as the coordination and control of all of the activities required to complete an information systems project.
5. **Security:** To protect data, equipment, and processing time, organizations restrict access to certain data and protect data and applications from manipulation and contamination. Recovery refers to the need for a plan to maintain computer operations and information should a disaster occur.
6. **IT Research and Development:** The information systems market develops rapidly, particularly with the rise of new e-business technologies. It is thus necessary to continually test applications and hardware to assist with planning decisions. IT research and development includes identifying and testing new technologies for business purposes and evaluating proposals for new information systems initiatives.
7. **IT Education:** Training and education in the use of IT can be defined as formal classes, individual training, and technology-based self-training programs for users ensuring hands-on computer proficiency levels meeting corporate requirements. IS management education can be defined as education aimed at senior levels in the firm designed to generate value from IT use.

STATE-OF-ART OF ICT USE IN MICROFINANCE IN DEVELOPING COUNTRIES

MANAGING INFORMATION

Technology makes it possible for MFIs to collect more information with high accuracy. It enables institutions to process and store that information more quickly, more neatly and more reliably than with manual systems. It also facilitates the ease and speed of information flow, significantly improving communication both within the institution and externally. As a result, more people can have better, faster access to more relevant information.

The enhanced ability to collect, organize and analyze information helps institutions to better understand their customers, their costs, and their options.

They use this information to:

- Make better decisions about strategy, objectives and priorities;
- Monitor and test performance;
- Learn from the methodologies and techniques being applied by the institution; and

- Make timely adjustments.

WHY DO MANY MIS INITIATIVES FAIL TO LIVE UP TO THEIR FULL POTENTIAL?

Project teams tend to focus on technical details at the expense of understanding how people will use the system to perform their jobs. How many times have we seen an IT expert being the MIS project "champion" while employees hardly know there is a MIS project in their institution? Business processes, people and information management are neglected and not addressed properly. In the end, the new technology is installed, the IT department cheers, but employees and managers continue to work manually struggling with paper and Excel based systems.

WHAT CAN GO WRONG?

Common Difficulties:

- ✓ Underestimate time → Project behind schedule
- ✓ Underestimate cost → Project over budget

REMEMBER BUSINESS FUNDAMENTALS: MFIs should treat technology like any other investment: returns on investment should be calculated and measured against complete costs. The technology must deliver clear value added to all users, including customers, staff and management. Management is key like any other project, technology implementation should enjoy clear management support, involve stakeholders at all levels, be planned meticulously (with milestones and performance targets), and include a budget for on-going costs as well as any unexpected additional costs. Specialized consultants can be valuable in helping to manage the project and acting as intermediaries with vendors.

GET SPECIALIZED, INDEPENDENT ADVICE: MFIs are sometimes seduced by technologies that may not be right for the MFI at a given time. Specialized, independent consultants can bring an objective perspective and help MFIs set strategic priorities, assess technology requirements, and manage technology vendors.

BE REALISTIC ABOUT UPFRONT AND ON-GOING COSTS: Systems that will support an MFI over the long term can be expensive. The purchase price of hardware and software usually accounts for only 15 per cent of the total cost of implementation. The majority of IS expenses are incurred in staff time, training, and adapting operations to the new system. Technology will also be an on-going expense as an MFI's operations respond to changing client needs and regulatory and economic environments. An annual budget for information technology maintenance should not exceed 12–15 per cent of an MFI's revenues.

IMPROVING OUTREACH

The efficiencies gained through better information management and the redesign of products and services frees up resources for MFIs to use elsewhere. They can pass the efficiency benefits onto clients through lower prices, which would make their services more affordable to poorer customers. They can open new offices or access points to reach a larger number of customers or geographic regions. Alternatively, they can use the freed up resources to develop new products or new delivery mechanisms that enable the institution to serve people or places that it could not serve before.

Indeed, in addition to freeing up resources, information technology can be part of an MFI's outreach solution. Whereas the cost of delivering financial services in rural areas may have previously been prohibitive, IT may make it affordable. It can do this in four ways:

1. **By Increasing Staff Productivity.** Improved information systems, credit scoring, battery operated hand-held computers and other technologies can make it possible for individual employees to serve more customers and for managers to either supervise more staff or improve the quality of supervision and support provided to existing staff. As a result, the institution can achieve greater economies of scale and do so more quickly than before.
2. **By Reducing Transaction Costs**. Technologies such as wireless devices, electronic payment systems, and credit scoring can enable MFIs to complete transactions at a lower cost than before, thus making it possible for retail outlets or remote units to break-even faster.
3. **By Removing Physical Asset Barriers to Growth**. With technology, MFIs can create alternative delivery channels or delivery mechanisms that make it possible to reach clients without necessarily having to rely on brick and mortar infrastructure, i.e. on buildings and offices. This physical infrastructure is costly to acquire and maintain, and the significant investment required to create each individual access point typically restricts growth. Although capital investments are also required for IT infrastructure, those investments tend to be intense during initial design and installation, with much lower costs for adding individual access points. This facilitates growth and, again, greater economies of scale.
4. **By Increasing the Range Of Access Point Options**. MFIs can choose from a growing number of options for reaching their customers, including ATMs, retail agents equipped with POS devices,

Internet kiosks, etc. They can select the option or multiple options that can provide the best outreach for their particular needs at the lowest cost. MFIs can also choose whether to rent someone else's infrastructure or to build and own their own. By borrowing and building on the resources of others, their growth is less limited by their own internal human resource capacity and fixed asset budget. Together, the improved efficiency, lower costs, and higher productivity will enable MFIs to grow faster, further and deeper than was possible without IT.

5. **Facilitating Integration** Technology can help find practical solutions to making partnerships work. On the one hand, it can help solve the technical problems of connecting different individuals and institutions, system compatibility, security, meeting regulatory requirements, and designing applications that enable the sharing of relevant, timely information. On the other hand, it can make the idea of integration more attractive.

MICROFINANCE TECHNOLOGIES

A wide range of technologies are available to help microfinance providers improve efficiency, track operations more accurately, increase transparency and reach new customers. Yet the majority of the microfinance institutions struggle to select the right technologies and get the most from their investments.

The following technologies are used in microfinance:

- ✓ **Information Systems (IS) Technology** which helps microfinance institutions (MFIs) to track, analyze, and report on their operations. Small MFIs may manage with manual ledgers or spreadsheets, but most MFIs eventually need custom-built or commercially available IS software to track financial transactions and create reports for management, donors, and regulators. IS technology can also include handheld computers that record client information, scoring techniques that analyze data to predict customer behavior, and connectivity technologies that transmit data among staff and branches, such as broadband or VSAT (a wireless data connection via satellite).
- ✓ **Delivery Technologies.** Large MFIs and banks sometimes use non-traditional delivery technologies, such as automated teller machines (ATMs), point-of-sale (POS) networks (devices in retail outlets which use debit/credit cards to facilitate electronic payments and transactions), and mobile phone banking. These technologies allow customers to make payments, transfers, cash withdrawals, and cash deposits outside branch offices. Although new delivery technologies have the potential to reduce the cost of serving the poor, in many countries they have not yet proven as cost-effective as more conventional operations.

Technology can benefit microfinance service providers in the following ways:

- **More Informed Decisions:** An IS that produces timely, accurate data enables managers to continually evaluate performance, better predict cash needs, and anticipate and respond to crises rapidly. By upgrading its IS, Spandana (India) management was able to compile timely, reliable data and monitor performance across the MFIs 45-branch network.
- **Increased Flexibility:** Cooperative 23 de Julio (Ecuador) transmits data instantaneously throughout its branch network using dial-up and VSAT connections, which are faster and cheaper than physically transferring data, and allows customers to bank at any branch.
- **Lower Operating Costs:** Mibanco (Peru) reduced loan origination costs by 10 percent by streamlining its loan approval process with a scorecard to predict client repayment behavior.
- **Better Reporting.** First Microfinance Bank (Pakistan) developed an IS that allowed managers to produce reliable, standardized reports which follow accounting industry and national standards.
- **Increased Deposits**. By placing easy-to-use ATMs in well trafficked areas, Prodem (Bolivia) gave its clients the ability to save more often, and in smaller amounts, when they had cash available.

ICT FOR MICROFINANCE INSTITUTIONS ACCESSIBILITY

Management information system application software, the Smart Cards and Personal Digital Assistants (PDAs) are some of the technologies that can facilitate microfinance business. These technologies allow the loan officers to more efficiently serve their clients by reducing paper work, increasing accessibility to information and finally simplify computations of complex analyses. The above cutting-edge technologies that have been used by microfinance institutions are described as follows:

- Management Information Systems (MIS) – through well-defined MIS, MFIs can access or analyze information more efficiently for better decision-making, operations management, and product development. Some of the features expected from MIS include: access control and security (i.e. passwords, audit trails), loan functionality (processing different types of loans with changing repayment periods and interest rates), deposits functionality (including access for the user to the interest rates, fees and penalty charges), report generation and database query/analysis capacity (i.e. loans profile by gender and risk, credit scoring, etc)

- Smart Cards – are plastic in nature and similar in appearance to debit/credit cards. Smart cards have micro-chips embedded in them. The function of the micro-chip is to store data and this brings opportunity for MFIs to carry all their related loan and purchase information on a micro-chip. Therefore, a smart card can serve as a debit cards, an account passbook and even a credit card.
- Personal Digital Assistants (PDAs) – these are small portable handheld computers that can be used by loan officers to access the institution's MIS. The loan officer can use PDA to update information at the head office while still in the field.

THE IMPORTANCE OF INFORMATION SYSTEMS

CEOs and senior managers, actually all staff of MFIs, depend on accurate and timely information to make sound, quality decisions or to gain insight into the business. The choice and implementation of an appropriate back office system, which provides adequate information processing and easy access to management information, lies at the heart of an MFI's business. A good back office system should also enable organizations to scale in size and to broaden its range of products and services relatively easily.

While a few MFIs have built large portfolios with limited use of IT, these are the exception. A Management Information System (sometimes referred to as an MIS or simply IS), involves all aspects of gathering, storing, tracking, retrieving and using information within a business or organization. Thanks to the development of computers, networks and the software applications that run on them, much of this work can now be automated and the information more readily accessed.

However, the software application itself is not the information system. All the policies, procedures, and practices that direct an organization's operations and the staff that interact with the information, combined with the software and hardware, comprise an information system. It may help to think about an information system in terms of the following four actions:

- ✓ The capture of raw data from a range of sources;
- ✓ The processing of this raw data into usable information;
- ✓ The storing of this information; and
- ✓ The access to and distribution of the information in a user-friendly format.

A well designed information system should:

- ✓ Give all users of the system quick and easy access to the information and reports they need to perform their function within an organization.
- ✓ Be reliable

Every MFI has some system for tracking their loan and operating expense information. Many small organizations use a manual system with pen and paper. Others may use a spread sheet, such as MS Excel, or a similar desktop application for tracking loans, and an off-the-shelf accounting package for producing reports. Whatever the method, when an MFI is no longer able to provide quality loan data in a timely and cost effective manner, it is time to consider something more automated or more sophisticated.

OPEN-SOURCE SOFTWARE FOR MICROFINANCE BUSINESS

Microbanks and credit cooperatives have sprung up all over the developing world, providing loan services to millions of poor people. Taking care of these businesses has become a big challenge for microbankers. The money in microfinance is constantly recycled. As money is repaid, usually within six months to one year, the money is recycled to another loan. Keeping track of thousands of clients with hundreds of thousands of ongoing transactions requires computers. The price of computer hardware has continued to fall down in the world in the recent years. The computer hardware is affordable, but the specialized software tools (MIS) are not. The MIS is expensive and the training and supports services to it in the developing world is too costly or unavailable.

Mifos software developed by Grameen foundation is open-source software designed to revolutionalize the way that microfinance practitioners access and use technology to run their operations. This system was launched in Global microcredit summit in Canada on November 13, 2006, during that time IDRC announced its intention of extending Mifo to microfinance to African community of users and developers. Microfinance institutions have scarce resources to invest in the purchase, maintenance and upgrading of MIS systems. Mifos being open-source software has reduced costs and can easily be adapted; anyone with right skills can modify the system to meet particular local needs and language requirements. This enables microfinance institutions to manage their own information systems with the help of local technicians. Mifos has same features and functionalities as its commercial counterparts. The features include client management, loan repayment tracking, fees, and savings transactions. The system is web-based within built security and support to different languages and currencies.

NO SINGLE INFORMATION SYSTEM (IS) WILL MEET EVERY MFI'S INFORMATION NEEDS.

The IS needs of institutions differ in size and in complexity. These differences are a function of many

organizational variables, including volume of transactions, methodology, regulatory environment, infrastructure, and overall readiness for change, as well as the resources available. Developing and managing an information system is not a simple linear process; it is an on-going, iterative transformation process that requires close examination of what you have now, what you need now, and what you might need for the future.

A full information system (IS) includes all the systems (both manual and computerized) used by an institution to generate the information that guides management's decisions and actions. We could think of them as:

- ✓ The core systems and additional systems.

CORE SYSTEMS:

- ✓ Accounting: Records accounting details and provides tools for financial management.
- ✓ Portfolio: The core business for many MFIs, manages all transactions relating to the loan portfolio.
- ✓ Deposit tracking: Manages all transactions related to savings if this product is offered.

ADDITIONAL SYSTEMS:

- ✓ Customer information: Detailed information about customers that may be used to understand the customer base.
- ✓ Reporting: Reports can be generated within each subsystem; it may also be necessary to extract information across subsystems and recombine the information for more complex reporting requirements.

LOAN PERFORMER SOFTWARE FOR MICROFINANCE BUSINESS

Crystal Clear software limited is a registered computer company in Nigeria. This company develops markets and supports a microfinance software package called loan performer with primary purpose of tracking loans and savings. This software has been recognized by World Bank and UNDP as a good tool for managing microfinance business process. The key functionalities of loan performer include: client communications when in sending general messages, message after a savings deposit/withdrawal, message after a savings transfer, repayment due reminder message, arrears notice massage to guarantor and loan/arrears balance messages. Other features of loan performer include: poverty assessment, bank reconciliation, loan refinancing, foreign exchange transactions, custom reports, SMS banking and Fingerprint scanning.

MONITORING AND RECOVERY

Examples of some of the monitoring actions that Micronet handles itself during this process are:

1. If a payment is late, the accounting system updates this information in Micronet.
2. The customer receives emails and SMS messages that are sent automatically and saved in the digital client file (schedules and templates can be set by the admin-user).
3. The loan officer and delinquency department see the client displayed on their personalized work screens.
4. An overview of all up-to-date outstanding amounts is available at any time.
5. Managers receive reports on outstanding amounts per loan officer.

ICT FOR HUMAN RESOURCE DEVELOPMENT IN MICROFINANCE

In the case of education sector more and more educational institutions have now realized the potential impact of using the Internet as part of the learning environment. In spite of many difficulties that still remain open issues, the benefits of Internet-based learning have been widely recognized. Some of these major advantages include flexibility and broader accessibility, improved students' performance, reflective evaluation of the learning experience and higher computer self-efficacy. Academic institutions get advantage of cost reductions and increasing revenues. The success of using Internet-based technologies in learning is due to its potential of integrating various types of media such as sound, video, animation, graphics and text. These media can be delivered in various forms such as collaboration, interactive simulation, etc.

E-LEARNING FOR MICROFINANCE IN OTHER COUNTRIES

Here I present a number of organizations that initiated distance learning practices in microfinance institutions. They are namely: PlaNet Finance and echange LCC. CDs were used for content, video clips and audio narrative to train loan officers of microfinance institutions in Arab world. The advantages of such ICT based training include: increase in productivity and efficiency of loan officers who represent 70% of staff in microfinance industry; building of stronger human resources leading to successful and sustainable microfinance operations; reduced costs in training participants with travel and accommodation expenses being reduced compared with traditional classroom training.

PLANET FINANCE

PlaNet Finance is an international non-profit organization based in France. In 1999, PlaNet Finance initiated an e-learning platform called PlaNet University. The online training platform offered a new, free training system which was setup with the evolution of IT. The PlaNet University has set up a training curriculum in microfinance. The objective was to make the set modules of that curriculum available online. All existing modules were available online in French and English. The training catalogue was made up of the standard contents, which were adapted to a diverse and open audience. From that perspective, the different themes addressed were based on the techniques recognized and used by the microfinance sector. The training programs were designed in collaboration with the consultants and microfinance practitioners. PlaNet University offered two ways of training namely: Self-paced training where the learner followed the modules in an autonomous way according to his availability. The most adapted training content was information, simple concepts and procedures. The second approach was tutored training.

CONCLUSION

Microfinance institutions use ICT at different levels for financial services provision. ICT has eased communication services, data processing services and report generation activities in some microfinance institutions. Survey results show that most MFIs have more than 1000 clients which makes computerization of business services a feasible exercise. Less than half of these institutions use ATMs to provide financial services to their clients. In most cases the management of an MFI acquires software for an institution using outsourcing approach. These institutions hardly use open source software tools for business automation. About 30% of the institutions we visited plan for their ICT strategy with the remaining 70% having no strategic plans for ICT use and management. ICT adds value to existing financial services when used constructively to support business data processing and communication. ICT brings new opportunities to microfinance institutions apart from office automation. We see ICT has been used in some countries to create branchless microfinance banks. In Nigeria there is still problem with infrastructure to create branchless banks. With government plans of setting up communication infrastructure for e-government, microfinance business stands to benefit from shared infrastructure. There is need for the top management of MFIs to align their business strategies with IT strategies if they are to benefit from the available infrastructure provided by the government. This research focused on ICT for business services and staff skills development. We found that microfinance software has been developed by some computer companies to support business processes.

The overview of the MIS selection process and its application through the different examples cited showed that developing an effective MIS system is a complex and lengthy process. In addition, it emerges that there is not a single perfect system: and MFIs have to consider many aspects including an in-depth analysis of their needs that only could be completed if the loan process is well structured and defined. Choosing a proper MIS does not mean just looking at the IT system but it means looking at the organization as a whole and identifying the strengths and weaknesses of the structure.

MFIs need to be aware that the cost of a MIS implementation might be higher than originally expected. By initiating this change, the analysis entails a lengthy process that might challenge some of the aspects of how the MFI is working. The MFI might have to rethink the way it operates in order to improve its efficiency and create an environment that both the MFI personnel and clients will benefit from. MFIs have to understand that technologies are ever changing and need to be ready to question their way of operating on a regular basis.

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