Management Information System: Issues and challenges

1.0 Introduction

Management Information System (MIS) can be defined as collecting and processing of raw data into useful information and its dissemination to the user in the required format. It consists of information, which impacts managements to feel the pulse of the organization and take decisions accordingly. In fact a full MIS consists of all the systems that the institution uses too generate the information that guide management’s decisions and actions.

Microfinance Institutions (MFI’S), over the past few years, have been paying increasing attention to information systems. They are increasingly realizing that information lies at the very heart of microfinance. The practitioners as well as donors have become aware of the vital need for formal and informal financial institutions to manage large amounts of data. As a result, there is a massive drive to improve the effective understanding and use of these data. Needless to say that it is no possible to collect and collate large volumes of data without adopting new technology. As a result the MFIs are watching the developments in information technology very closely.

1.1 Problem in Developing MIS

Despite the availability of technology today there is a problem in developing a good and problem free MIS software for the MFIs. The diverse nature of microfinance creates an intriguing complexity for software application development. Some of the complexities in developing a single or a small number of software to meet the needs of the MFIs are discussed below.

- **Many Institutional Models**: The organizational forms is a function of the specific of social, political, economics, regulatory and legal environments throughout the world. There are a variety of organizational forms that are assumed by the MFIs for carrying on their work. The MFIs can be in the form of credit union, cooperatives, Non governmental Organizations (NGO) and even banks. All have their own varied type of requirement for MIS and its automation.

- **Different Lending Methodologies**: MFIs have vastly different lending methodologies across the globe and even within the same country. Some MFIs follow individual lending some follow village banking methodology and yet others may be following solidarity group lending. In Indian for example some MFIs follow the e Grameen Model as per the example of the Grameen Bank, Bangladesh while other follow Self Help Group Model as propagated by the institutions like National Bank for Agriculture and Rural development (NABARD)

- **Methodology on Interest Payment**: The practices for calculating interest and the periodicity for its payment vary according to the product and organisation. These variations can occur even within the same organisation depending on the product and the area of operation.

- **Other varied requirements**: /there are variations in terms of the currencies languages and reporting requirements of the MFIs.

1.2 Inference

All these wide variations complicate the development of software that can be picked off the shelf and implemented in most of the MFIs. It creates great burden on software companies creating quality application that is affordable and meets all the requirements of the MFIs. In fact this is the major problem faced by those responsible for providing automation in the industry.

The need of technology cannot be overstated but the complexity and diversity forces one to take a hand look at the following:

- What is the role of MIS in improving the sustainability of MFIs?
- What are the basic components of sound microfinance packages for MFIs?
- Why are there so few solutions available?
2.0 Role of MIS

2.1 Sustainability

Let us look at what does the MIS do for the sustainability of MFIs? The answer is Nothing., MIS will not do much for the sustainability of microfinance if institutions ignore good business practices. The following are some of the widely stipulated best business practices:

- Focus on profitability
- Quality loans
- Provision for loan loss reserve
- Community accepted and appropriate accounting procedures
- Gathering and reporting of accurate and timely information.

These good business practices should be in place before any MFI even thinks about MIS software. Without quality business practices, MIS will do little if anything to sustain these institutions. In fact, MIS can complicate the situation by creating a financial drain and propagating but allow you to do bad business more efficiently.

If, however, the MFIs follow good business practices, MIS will go a long way in sustaining these institutions. Some examples of what MIS can do for good MFIs are:

- Increased productivity and efficiency
- Lower transaction cost per loan
- Greater outreach in rural and urban areas
- Faster delivery of more products and services
- More accurate and timely reporting
- Better decision making

2.2 Uses of MIS

- Since it can be programmed to follow business rules uniformly, MIS reinforces discipline in accounting and portfolio tracking.
- Computers can link all data pertaining to a customer or customer group hence MIS can provide a consolidated view of each customer or group.
- MIS allow for single entry of data that can then be used by many people. Data once entered can be accessed, manipulated and used by all users. Thus MIS reduces duplication of effort and increases speed of work.
- MIS integrates information and process.
- MIS supports workflow and procedures for users.
- MIS can be ported to remote areas via laptop or palm technology.
- MIS application can be customized or enhanced to support new products and institutional growth.

3.0 Components of a Good MIS Solution

The catch is that most MIS solutions provide only some of the functionality and capabilities needed for sustainability and outreach.

This can be better understood by knowing the components of a good MIS solution. They can be organized under the following categories:

- Functionally and Expandability
- Flexibility
- Usability
- Reporting
  Standards and Compliance
- Technical Specification and Correctness
3.1 Functionality and Expandability

The MIS solution for the MFIs should have some sort of functional completeness and integration. The areas that must be covered by the solution should be:

- **Accounting packages**: the solution should have an accounting component wherein the data can be captured regarding the financial transactions of the MFI.
- **Portfolio tracking**: the solution should have a module for entering the details of the various products of the MFI and its linking individual borrowerwise in order to enable the organization to track its loan portfolio and product mix.
- **Deposit Monitoring**: the solution should have the data about the depositors of the MFIs wherein tracking could be done individual unit wise depending of the practice being followed by the MFI. In case it is accepting deposits from the individuals then it should be capable of handling data individual borrower – wise or in case it is accepting deposits from the groups then it should be capable of handling data groupwise.
- **Customer Information Systems**: The software should be capable of capturing non-financial data about the customer also. e.g. The software should be able to capture the details like name, address, family history and other demographic information which is needed to maintain proper records and identifying the customer.

The software should be capable of handling large volumes of data so that it is to handle the growing needs of the organization. In fact the software should be capable of growing with the organization. This is critical as MFIs can grow very fast.

3.2 Flexibility

MIS can be built around Accounts or around Customer. In modern financial software’s it is much more preferable to have a Customer centric design as the MFIs need to be as much customer focussed as possible in order to sustain themselves. In such a design the information regarding a customer or group is easily accessible.

Secondly, the software should be parameter driven i.e. it should allow the user to put in business rules for the MIS. It should also be able to accept new products and customers.

Thirdly, the solutions should be able to handle multiple institution types. It should not be limited to one type of institutional model as diversity is the hallmark of MFIs. The solution should be capable of being implemented in an variety of organisational forms. Further, it should also be able to deal with variety of organizational structure like single unit or multi branch structures.

Fourthly, since the MFIs have a variety of lending methodologies hence the software should not restrict itself to one or two types of methodologies, as that will limit its acceptability with the clients.

Fifthly, the software should be able to handle various interest rates of loans and deposit products. It should be able to make accurate calculations of interest and repayments based on these interest rates. It should be able to handle various payment types and frequencies based on the customer. This is important because MFIs can have a variety of repayment facilities for different customers. The software should be able to handle various types of customer accounts. As discussed earlier, the MFIs operate in diverse environments hence the software should be able to handle multiple languages and currencies.

3.3 Usability

The success of the software depends, more than anything else, on its deployment and adaptability at ate user end. Since most of the MFIs do not have a specialized Mis department or computer professionals, the MIS software should be user friendly. To begin with the software should have a familiar and friendly user interface. The software should be window based as that is the most popular operating system in today’s world.
The display on the screen should be logical. There should be consistency in terms of language format and functions. The data entry should be easy and straightforward for the user to understand.

The software vendor should provide some amount of training while implementing the software. User documentation and on-line help should be provided in order to enable the MFIs to maintain continuity at its level in case of employee turnover or when some new problem creeps up. The software should as far as possible facilitate straightforward workflow and not create unnecessary complications. In case software requires any MFIs change too much in terms of its workflow then it will probably not be used.

3.4 Reports

The reports required by any MFIs can be classified into 4 categories, viz.

- **General Reports**: By general reports we mean reports like the performance on the budgetary front like comparative report on actual expenses vis-à-vis the budgeted expense or say report on consolidated performance of the MFI.

- **Management Reports**: These are the types of reports that are generally for the usage of management for decision making and monitoring the performance of the MFIs, e.g., report providing the statistical summary about the MFI, statement of cash flows, delinquencies, etc.

- **Financial Reports**: These are the standard reports about the financial transactions by the MFIs, e.g., trial balance, daily transactions, audit reports, etc.

- **Customer Reports**: These are customer specific reports, e.g., account statement, balance inquiries, etc.

The software should have the capabilities for generation and linking of these reports automatically. Most software’s do contain a host of predefined reports.

Depending on the nature of work and the organizational structure different MFIs have different modes and timings for generation of reports. Hence, the system should be capable of generating the reports online or in batch mode on real time or set schedule basis. The software should have the flexibility of generating ad hoc, i.e., user defined reports in addition to the predefined reports. To facilitate meaningful inquiry into the database the software should also provide for some tool based report generation capability.

3.5 Standards and Compliance

The software should have been built on the foundation of sound accounting practices as accepted by the environment in which the MFI is operating. Some of the desirable features of the accounting soundness of the software could be:

- It should comply with the Generally Accepted Accounting Principles (GAAP) or International Accounting Standards (IAS) and the local requirements.
- It should provide for the real time or batch mode updating of the ledgers as per the convenience of the MFI.
- It should also provide partial posting of the entries in order to allow for distribution of the work of data entry.
- It should have the capability for categorizing the loan given by the MFIs. For e.g. it should be able to categorize a certain loan into current or delinquent so as to curb operation on the delinquent accounts.
- The software should be capable of maintaining the accounts either on cash or accrual basis as per the practice followed by the MFI.
- It should be capable of calculating the interest automatically as per the practice followed by the MFI. Interest may be calculated on the basis of current payment, late payment deposit or loan accounts etc.
In addition to the sound accounting practices, the software should also be able to meet the regulatory norms applicable on the MFI. These regulatory norms can be from the side of donor or local authorities. The software should have the facility for modifying old norms and adding new ones as and when required e.g. the software should be capable of accepting changes in the tax rates as applicable. The software should be especially compliant to the regulations of Central Bank of the country and should be able to generate the required reports for submission to the Central Bank.

The software should preferably be also integrated with external entities, e.g. in future we may see the development of a national payment system. This is especially useful, as several times the person in the MFI will ensure that the MFIs does not violate any such requirement inadvertently.

3.6 Administration and Support

There are many administrative and support issues that make or mar the success of software in any organisation. Some of them are discussed here under.

- Security: Since the database is the heart and soul of the MIS the software should be capable of restricting access to it by login id, etc. it should have in built safeguards to restrict access to the database restrict its modification and manipulation by unauthorized users, it should also be adequately protected against virus attack.

- Backup and Recovery: The system should have the feature the user to take a regular backup. The system should have the feature of enabling full or incremental backup so that the user is adequately protected against system failure or sabotage. In case of a failure, the system should be able to restore transactions, balances and statements, etc. from the data backed up by the user. In short it should be easy for the user to restart the system accurately from the stored data.

-Fault tolerance: The system should be tolerant to the glitches like unreliable power supply that occur during the course of operation. It should continue to function and notify the user during problem periods. In case of total failure the system should be able to restart accurately when the problem has been resolved.

-End of period processing: The software should be capable of handling the data in terms of fixed period of operation, for e.g. one financial year or quarter, etc it should be able to relate the data to the multiple periods as reporting may be required to be done for various periods, it should accurately and automatically post the calculations at the end of the period with minimum human intervention.

- Support Infrastructure and Maintenance: The support infrastructure and maintenance service should be available. They need to be accessible to the user and should be provided timely in order to keep the system running at peak efficiency at all times.

- Versions and Upgrades: No software can be such that it needs no upgrades in future. Hence the MIS software should be upgraded and new functionalities should be added to it as the organization and its needs grow. It is preferable that the new functions should be added as per pre-determined schedule as it helps in managing the cost of the upgrades.

3.7 Technical Specifications and Correctness

1. Technical and Architecture: the software should be built on the platform of a sturdy relational database as they provide the facility of making customized queries to database by the user. A host of database under this category are available in the market today, e.g. Oracle Paradox, etc. The programming language should be current robust and modern e.g. C, C++, Java etc. so that the software is stable despite unreliable infrastructure.
2. Performance: The software should be capable of supporting multiple simultaneous users without compromising the performance in terms of speed. System should also not slow down as the database grows in size. The user should get fast response time from the interface and the reports should be generated quickly so that the user does not have to wait for inordinately long time to get his job done.

3.8 Cost

The price and cost of software can be argued from the point of view of value to the institution. The price of the software should be commensurate to the level of complexity or functionality. The price should be such that the MFI gets a high return on investment. The cost of the software may be worked out in terms of the cost per user or cost per customer such that its ownership represents value to the institution. For e.g. if it costs an MFI $ 14 per loan account and it has 50000 customer then an expenditure of $ 1 per customer i.e. total $ 50000 spent on IT will not be a very big expenditure for it.

4 Why So Few Solutions?

Despite the popularity of MFIs and the acknowledged need of good MIS solutions there are very few of them available in the market. The primary reason for this poor availability is money. There is little financial incentive for software companies to develop microfinance solutions for two primary reasons. One is the diversity and complexity across institution and countries in term or organizational form, lending methodologies, legal and regular environments, currency and language. Second is a lack of ability or willingness to pay for robust solutions by the MFIs.

Due to poor financial position of the majority of the MFIs, they are not able to pay for robust solutions. This makes it unattractive for the software companies to enter in this market. It is economics more than anything else.

5 What Should We Do?

Thus, what can be done to improve the situation? In a nutshell, the following could be the possible course of action.

Good Business Practices: The MFIs should first focus on building good microfinance practices as only they can sustain the MFI. This is the most important prerequisite for the future of the MFIs and the success of MIS in them.

Strategies with Information Technology: The organizing should elevate its view on Information Technology to a strategic level. Information Technology should be woven in the organizational operation and decision-making process in such a manner so that it becomes a core competency of the organization.

Value based approach: The MFIs should take a value-based approach to MIS solution not a cost or price approach. They should see the expenditure in Information Technology as an investment and not expense.

95% rule: Instead of trying to get or build a software which caters to the 100% needs of the MFI they should take a software which will satisfy 95% of the needs for the simple reason that organisations spend most of the money in getting that additional 5% functionality.

Buy high quality software: The MFIs should desist from buying poor quality software as they may ultimately lead to heavy loses in terms of data and time. Hence, it is advisable that MFIs should buy only high quality and stable software solutions.

Customization: The MFIs should try to manage as far as possible with the features provided in the software. They should customize only when absolutely necessary, as it is costly every time one tries to modify the programme code.
Avoid Internal Development: Unlike the popular perception it is not a good idea to try and develop the solution internally. This is so because, one, the MFI will not have as qualified developers as a software company and, two they may use their valuable human resources more profitable elsewhere.

References:

- Design and Implementation of MIS in MFIs: Ramesh Arunachalam.

A. Management Information System: Issues and Challenges.

1.0 Introduction
1.1 Problems in Developing an MIS
1.2 Inference

2.0 Role of MIS

2.1 Sustainability
2.2 Uses of MIS

3.0 Components of a Good MIS Solution

3.1 Functionality & Expandability
3.2 Flexibility
3.3 Usability
3.4 Reports
3.5 Standards & compliance
3.6 Administration & Support
3.7 Technical Specification & Correctness
3.8 Cost

4.0 Why so few solutions?

5.0 What should we do?

B. Design and Implementation of MIS for MFIs.

1.0 Background

2.0 Components of MIS.

2.1 Accounting Systems
2.2 Portfolio Systems
2.3 Client Impact Modules

3.0 Designing and Implementing a computerized MIS

4.0 Report Generation

4.1 Categories of Reports
4.2 Types of Reports in an MIS.

5.0 Salient features of Computerized MIS for MFIs.