

A Case Study: Micro Financial Institutions (MFI) - Loan Maintenance

Introduction

Small time farmers find it very challenging to access loans for their farming activities. Though many financial institutions promise all necessary help to farmers, most of these promises tend to remain on paper.

This particular MFI, started as a charitable organization some two decades ago to provide subsidy to small farmers in villages around Dharmasthala, an Indian temple village in Dakshina Kannada district of Karnataka. It is now one of the biggest NGOs in India today.

The Self Help Group Model

One of the core activities of the MFI is to effectively use the Self Help Group model to promote union among small farmers/artisans/entrepreneurs to give them easier access to loans for its members. This MFI is active in nine districts of Karnataka and has promoted 1,16,500 SHGs and a cumulative membership of 12,85,000 families. These SHGs maintain a cumulative savings of Rs. 258 crores as on September 2010.

How it works

The MFI has provided more than USD 400 Million in microcredit. It borrows from commercial banks and lends money to its SHGs. It charges an interest rate of 15 percent (reducing balance), which is considered as the best in the farming sector. Besides loans, it also provides training and capacity building, technology, community development, marketing support to its farmers. SHGs comprising of farmers and microentrepreneurs are formed by the representatives of the MFI in each village. Credit is given to tune of 40 times the savings of the group. These loans are disbursed for farming activities.

REQUIREMENTS

Transparency in the system:

- Each SHG loan needs to be linked to a Bank account, so that all loans and its re-payment can be tracked.
- Disbursement of loan amounts to the members is done with high integrity.
- Bank may like to encourage individual to have an account directly with the bank.
- Day MIS and plan be known to all workers engaged in collection and disbursement.



Authentication of SHG members:

- At the time of opening an account.
- At the time of collecting the loan repayment amount.
- At the time of repayment of the loan.
- High level of integrity of authentication is required in rural areas (President, Secretary and Treasurer are also rural and signatures may not work, weakness for documentation for transactions).
- Near online update of loan disbursements and repayment as per the policies laid out by the MFI.
- Loan collection with flexibility in amounts (flexi emi) from the member has high integrity and non-repudiation.

Audit trails

- Near real time trail of all financial transactions that take place between the MFI and the SHG.

CONSTRAINTS

- All SHGs are in the rural areas.
- Most members are illiterate.
- Most SHG member activities are in agriculture or run micro enterprises.
- SHG members cannot visit bank or the MFI project offices to repay their loans, once every week, due to loss of daily wage/ revenue opportunities.
- Near real time financial transaction update is not possible with the current systems.

Glossary:

Day Begin a process where all account balances from the Bank's CBS is downloaded onto the terminal and the Smart Card of the terminal handler.

Day End a process where all account balances, through the day's activities, are posted on to the Bank's CBS.

BC Business Correspondent or the Village Banker. A person given the Micro ATM Terminal. He/ She works on behalf of the Bank by communicating/ intermediating between the Bank and his fellow village folks by doing branchless/ door step banking at his/her village and settling cash with his/ her affiliated bank branch.

Project Office: Employee of the MFI at Project Offices.



Components of the Solution -

- Micro ATM – iMFAST Terminal
 - Enables biometric authentication through the use of Fingerprint.
 - Enables authentication of multiple people through the use of multiple Smart Cards.
 - Secured Last mile connectivity through GPRS, CDMA, LAN.
 - GPS (optional) & Printer to print receipts for each transaction.
 - Voice Enabled transactions for the illiterates.
 - Runs several banking related applications to enable the last mile branchless banking activities.
- Middleware
 - All transactions originating from the Micro ATM device land at the middleware over the internet, which in turn communicates the same (over ISO 8583 or other standard secure protocols) to the Bank's Core Banking System (CBS).
 - Provides middle level authentication of transactions to reduce load on CBS.
- Operations
 - Online transactions wherein transaction is transmitted to the core banking system of the bank.
 - Offline – balances and other details are picked up from the bank over the GPRS/CDMA/PSTN (OTA) in the beginning of the day and synched the updated balances back to the bank on day end.
 - Smart card keeps track of all transactions like passbook.
 - A POS device which operates Smartcard and fingerprint authentication is used for operations. This device is well equipped with the all types of software to generate MIS and carry out other operations like printing receipt etc.
 - Other facilities like loan, recurring deposits, general purpose credit card payment, bill payment, insurance collections are also made available (optional).
 - POS is operated by BC who is responsible for cash management & settles cash with the branch against the transactions on the system.



Solution

Integra Micro Systems (Integra) is a pioneer in providing last mile financial inclusion technology and services in the country. We provide technology and services in financial inclusion to more than 25 Nationalised and Regional Rural Banks.

The solution involves usage of Smart Card for maintaining transactions (passbook like) working as Identification of the customer and authentication by fingerprint match (like signature matching), and POS software creating the necessary formal documentation for the bank.

The basic solution of Savings and Loan account has been updated for Self Help Groups -

- Smartcards are issued to the President, Secretary and the Treasurer.
- The President's Smart Card stores the Transaction for his Group. These transactions could be Withdrawal or Deposits. Hence, the President's card always needs to be placed on the terminal during any transaction. President need not be physically available at the time of the transaction but his card is always required.
- Any two of the President, Secretary, Treasurer cards are required for authentication of the transaction. These two members need to be physically present, with their smart card, at the time of transaction.
- Since the transactions are maintained on the President's card, the joint account facility with smart card operations is created for the system.

SOLUTION

- Issue Smart cards to the President, Secretary and Treasurer of the SHG.
- Appoint Business Correspondents (Project Officers from the MFI) and issue the Micro ATM Terminals.
- Enroll members of the group and open the biometric smart card bank account for the group by filling appropriate form of the bank and collecting biometrics of the President and Secretary.
- Integra issues smart card after receiving the instructions from the bank on account numbers.
- Business correspondents are appointed and they would operate the terminal. One terminal can be operated by one BC.
- He/she is registered with the bank and is responsible for cash management. The BC is issued the biometric smartcard. Typically, BCs are from SHG/NGO.



- All SHG members were enrolled to open a SHG account with the bank. The enrollment of each SHG consists of the following –
 - Filling up a customised Account Opening Form (AOF) for SHG of the Bank.
 - Filling up an individual Account Opening Form of the Bank, for each SHG member.
 - Demographic details of each SHG member and his/ her designation in the group is captured.
 - Designations: President, Secretary, Treasurer, Member.
- These details are captured on the Account opening form as well as on a laptop's customised enrolment software.
- Capturing the image of each SHG member.
- Capturing fingerprints of each SHG member.
- The data from the laptop is provided to Integra EDP centre for further processing.
- The Account Opening Forms of the SHG and its individual members are provided to the bank branch by the concerned Project Office of the Taluk.
- At the EDP Centre, data is processing and sent to the Bank's Head Office to open accounts for the SHG and its individual group members.
- Once the accounts are opened, Smart Cards are printed for each SHG and its members. The Smart Card consists of the following -
 - One contactless smart card each for the President, Secretary and the Treasurer.
 - One contact smart card each for each individual group member (includes the President, Secretary and the Treasurer as group members).
 - Each Smart card has all the demographic details, designation, pertaining to the SHG members printed along with the photograph on the face plate.
 - It also contains the demographic details, designation, accounts numbers and Finger Prints of the group members stored in it.
- Each Project Office is now affiliated to a branch of the Bank. All account opening forms of the SHG members are submitted to this bank branch for opening of accounts.
- Operations and financial transactions pertaining to accounts of SHGs and its members that come under the administration of the Project Office are executed with this Bank Branch.



- iMFAST terminals are given to a set of officers at every Project Office.
 - Each officer has a bank account (called the settlement account).
 - Each officer is given a smart card in which his demographic details, designation, photograph are printed on the face plate.
 - The smart card also stores these details along with the fingerprint.
 - Each officer starts the day with a Day Begin, and moves into the villages with the iMFAST terminal and executes transactions with the SHGs through the terminal, smart cards and biometric fingerprints of the group members.

The transactions are the following –

- Withdrawal of the loan amount from the SHG account by its members.
- At the time of amount withdrawal, the following people must be authenticated:
 - Any two of the group office bearers (President, Secretary and Treasurer).
 - The officer from the MFI Project Office (BC).
 - President's Smart Card is necessarily required to store the transaction.
- The authentication is done by putting each contactless smart card of the office bearer along with that of the MFI's officer (BC).
- Fingerprints of each of these office bearers and the BC are authenticated one by one on the iMFAST terminal.
- The amount being withdrawn is announced through the voice features of the terminal.
- A receipt is generated and handed over the SHG group members.
- Cash is handed over to the SHG by the Project Officer (BC).
- Transaction log is created and stored in the Smart cards of the President's Smart card and that of the Project Officer (BC).
- Deposit of weekly loan repayment to the SHG Bank account by its members.
- Each SHG is to deposit the loan repayment every week.
- Each Project officer with the use of the iMFAST terminal and his smart card moves in the villages to collect the loan amounts from every SHG, once a week.
- Loans to each of these SHGs are now credited directly into the Bank accounts of the SHG through the MFIs policies.
- At the time of amount deposit, the following people must be authenticated:
 - President Card must be present to record the transaction.
 - The smart card and biometrics of the person (group member) who is repaying the loan.
 - The officer from the MFI project office (BC).



- Authentication process is the same as mentioned in the withdrawal of cash.
- The amount being withdrawn is announced through the voice feature of the terminal.
- A receipt is generated and handed over to the SHG members.
- Cash from the SHG is collected by the the MFIs Project Officer (BC).
- Transaction log is created and stored in the Smart cards of the SHG President and that of the Project Officer (BC).
- At the end of each day, the Project Officer returns to the Project Office with the terminal and cash collected.
- At the Project Office all cash is reconciled against the receipt generated and deposited to the Bank branch through the MFIs project officers' account.
- The officer does a day end on his iMFAST terminal. All account balances are synchronised with the Bank's CBS.
- All financial transaction trails are created and updated in the Bank's CBS.

Conclusion

This project has been taken up with Corporation Bank and the MFI is currently using Integra's solution in two districts, Tumkur and Belgaum, in Karnataka, and has enrolled more that 50,000 SHGs.

The solution provided addresses the following –

1. Complete transparency in the system: Each SHG account and the SHG member accounts are linked with the bank.
2. Authentication of SHG members during any kind of transaction is taken care of through the use of smart cards, biometrics, terminal.
3. The policy of joint ownership of the account, through multiple people signing (in this case, authenticating through the use of biometrics) is implemented with high level of integrity.
4. Last mile connectivity problems are taken care of through the terminal working in offline as well as online conditions, wherever connectivity is readily available.
5. Near online update of transactions and audit trails through transaction logs.

Achievements through this solution –

- Over 100,000 SHGs enrolled.
- Over 3,00,000 Smart Cards issued.
- Loans Disbursed: USD 77 Million.
- Loans repayment collected: USD 44 Million and ongoing.
- Banks worked with: Pragathi Gramin Bank, Corporation Bank, Canara Bank.

