Analysis of Performance Indicators on Sustenance of Micro Finance Institutes: A Comparative Study of East Asian & Pacific, and South Asian Countries

Venkata Vijay Kumar P (Corresponding author)

Indian Institute of Management Indore

India, Email: f07venkatav@iimidr.ac.in

V K Gupta

Indian Institute of Management Indore

India, Email: vkgupta@iimidr.ac.in

1. Abstract

Micro Finance services have existed for the past three decades in the developing nations. It has been implemented as the complementary to the formal financial infrastructure. The major objective is to provide the financial services to the poverty section that has been denied by the commercial banks. Voluntary and NGOs plays a vital role in the implementation of the Micro finance services in developing nations. The usage of performance measurements in the voluntary and NGOs is low as supported by literature. The literature also highlights the significance of the performance indicators, for better performance of an organisation. Financial self sustenance (FSS) and Operational self sustenance (OSS) reflects the financial performance of Microfinance Institute. The present study attempts to identify the various variables and capture the significance of the influence upon the FSS and OSS of an organisation in the context of East Asia and pacific region and South Asia (regions defined by MIX – Market).

The increase in the outreach of in Microfinance institutes (MFIs) decreases the depth (average loan/ borrower), which is in sync with the literature. However the prior said phenomena's sensitivity is found to be lower in MFIs in the south Asian countries than the MFIs in the East Asian and pacific countries. The FSS in both the contexts has less of difference but has significant difference in terms of OSS. However, the variables those contribute to FSS and OSS value are also different with respect to the region. The results obtained in this paper identify and highlight the importance of the region specific variables that are to be improved in order to increase the sustenance of MFIs.

Keywords: Developing nations, Financial self sustenance (FSS), Microfinance, Operational self sustenance (OSS), Performance

2. Introduction

Microfinance is one of the fields, which have been in practice in the developing nations for the past two decades. Field has achieved major successes in few nations and has provided the access to the financial infrastructure to the poor. Microfinance as such forms the complementary to the present financial institutes in the financial infrastructure. Asian nations have also opted to implement microfinance in both the formal and

1

informal channels. This led to evolving of alternative channels like microfinance which provided services through the rural and cooperative/ credit union banks exclusively in order to reach the poverty part of the society. At the same time even private financial institutes (Non banking financial institutes) and NGO (Non Government instates) were encouraged to actively involved in undertaking the microfinance services to the poverty.

The role of regulatory authorities is significant in the Microfinance institutes. Few nations have accepted MFI as the regular banking infrastructure and hence allowed the mobilisation of funds and deposits schemes to be included in the profile. The involvement of deposit scheme would enable the MFI in decrement in the cost of capital but at the same time increases the volatility of operations of the organisation. Since the stakeholders involved in the MFI services are of low income and hence the impact of instability of MFIs would be very high on the final clients. Hence the regulation authority decision plays a vital role in the financial and operational performance of the MFIs.

The sustenance of the MFI becomes a major issue as the age of the MFI increases. The support of external stakeholders in the terms of capital is significant in the initial stages. However it decreases with the time, as the MFI is expected to stabilise and increase sustenance with the time. This generates an interest in the study of the factors affecting the sustenance of the MFI. The sustenance needs to be in the terms of both the operation and financial terms. The operational sustenance deals with the ability of the MFI to cover the operational expenses with the help of the total revenue obtained. Whereas the financial sustenance deals with the ability of an MFI to cover the both the operational and financial expenses incurred by the MFI with the total revenue obtained. The significance of sustenance of MFIs depends on the type of MFI. Microfinance organisations are broadly classified into three major categories as Non-profit, Mutual benefit and For profit category on the basis of profit generation. The non-profit type MFIs has higher focus on the operational sustenance where as the for-profit and mutual benefit institutes deals with both the operational and financial sustenance.

The typical features of Asian MFIs have exhibited good outreach. They have provided loans to one of the largest number of borrowers (70% of which are women). Whereas in terms of deposits has lower percentage as due to non-allowance by all MFIs. That is the regulatory authorities in few countries have not allowed to MFIs to provide the deposit scheme (as RBI in India doesn't allow providing deposit scheme). The saving balance per borrower is still at lower levels, which proves the accessibility to the poor (Weiss, Montgomery, Kurmanalieva, & Asian Development Bank, 2003). At the same time education of effective of financial issues at the individual levels is actively undertaken. Provision of small amount loans at individual and group levels and provision of small scale business ideas and group activities are encouraged.

The increase in the outreach has led to increment in the costs of operations and hence decrement in the operational sustenance of the MFIs. Saving schemes have provided the funds at the lower costs of financing hence directly reflecting upon the financial sustenance of an MFI. The strong influence of each feature upon the financial and operational sustenance makes study to understand the characteristics of MFI in the first step.

1.1   Parameters identified to measure the activities of an MFI

Financial indicators and ratios used in the MFIs (Bruett, T, et al, 2005) in the measurement of the performance are

1.1.1   Raising of the capital

The present study has no focus on the measurement of the effectiveness or significance of the operations involved in sourcing of funds (Raising of capital). However attempts are made to discuss the involvement of subsidies (indirect provision of capital) and their impact on the significance on the sustainability of MFIs.

1.1.2   Accessibility of funds to society

1.1.2.1 Outreach: The number of clients or accounts /that is active at a given point in time

This indicator is more useful than the cumulative number of loans made or of clients served during a period. Among other distortions, cumulative numbers make an MFI offering short-term loans look better than one providing longer-term loans.

The theoretical frame work as provided by Sergio Navajas as a part of the outreach (Navajas, 2000). The six components of the framework considered for the outreach of the funds to the customers are depth, breadth, length, cost, worth and scope.

1.1.2.2 Operational performance

The operational performance measurements include the number of the customers per staff member, operational expenses to the total revenues i.e. operational self-sustenance etc. These measurements help to understand the effectiveness usage of the organisation resources (staff and loan amount) in generating revenues and providing stability.

1.1.2.3 Financial performance

The various measurements included in this section are the cost and return on capital provided. Return to the equity holders, revenue generation capabilities, etc. The other most import parameter is the financial self-sustenance, which talks about the total finance expenses to the financial revenue. This ratio provides the amount of financial freedom the organisation enjoys.

1.1.2.4 Financial risk measurements

This section consists of the measurements dealt with the amount of loan portfolio at risk with respect to the number of outstanding days. At the same time it consists of the percentage of loan portfolio, which was written off etc. These parameters provide the effectiveness and ability to undertake the shocks from the financial disasters, which could occur.

1.1.3   Post impact of micro finance on the society

1.1.3.1   Financial impact

It is the amount of financial freedom an individual borrower attains with the loan obtained from the MFI, in terms of change in the life standard index, economic strength, etc.

1.1.3.2   Social impact

This is measured more with qualitative methodologies. Moreover, as it involves measurement of direct and indirect social impact on the life of the individual, as brought up by the MFI activities, the measurement process requires longitudinal studies spread across many months, sometimes years.

3.   Literature Review

Shetty & Veerashekharappa (2008) paper outlines the different kinds of MFI functioning in India on the basis of profit generation. The paper also provides information on the history and different types of MFI. At the same time the paper finds the concern over the present regulations and demands for a change in the regulations in order to increase the significance of MFIs in India. Regulations in India are not in favour of the MFI operations. Especially the restrictions with the equity capital raised by MFIs, enforcing NBFC regulations for the deposits acceptance have put MFIs in deep problem in raising capital for the further expansion and increase their breadth by Sriram & Updhyayula (2002).

The impact of regulation on the performance of micro financial institute is still an un-explored area. Hartarska & Nadolnyak (2007) did a cross-country study of the regulatory impact on the performance of MFIs and attained

non-significant results. Nonetheless, the authors could find that the MFI collecting savings had increased the outreach and hence the indirect impact of regulation could be observed in the performance of MFIs.

Tsai, K. S. (2004) highlights the increasing Indian and China banking to allow MFIs functioning in order to increase the credit availability. At the same time explains the imperfect substitutes of the microfinance and informal lending availed in the villages. Author study was based on the basis of information from both the India and China and it has been found that the informal lending still does exist prominently in both the nations. Kumar, C. S. (2009) also attempts to study on a comparative between India and China for the performance of MFIs on the basis of provision of informal lending in the villages. At the same time the banking regulations differ to a greater extent in between India and China.

The importance of the performance measurement indicators in developed nations for the CDFI (community development financial institutes) is well highlighted by Kneiding & Tracey, (2009). The author also specifies the need of the same in the developing nations where CDFI are commonly called as the Micro Financial Institutes (MFI). Sergio Navajas provides a theoretical framework for the outreach of the micro financial products on the basis of the data of Bolivia Navajas (2000). Letenah Ejigu specifies the increase in the necessity of the performance indicators of micro financial institutes depending on the data obtained on the MFIs operating in Ethiopia. Anthony Kyereboah-Coleman (2007) highlights the need of governance in the micro financial institutes. The author has also communicated that the present debt to equity levels in MFIs is higher as compared to traditional times. This, he argues, has resulted in the increase in the outreach of MFIs to the ultimate customers, though at the cost of higher risk exposure as argued by Kyereboah-Coleman & Osei (2008). Moxham (2009) attempted to understand the application of performance indicators present for public and private organisations to non-profit organisations and found good acceptability. Moxham & Boaden (2007) also found that the MFI presently has a very low utilisation for formal financial performance indicators. In another important study, Gary Woller attempts to understand the acceptability of the balanced scorecard to measure the social impact by MFIs.

Morduch (1999) has argued that that there is very less chance of MFIs to sustain without the subsidies and support from external stakeholders. The author further argues that this needs to be probed and attempted for the other channels in development of MFIs instead of replication on the basis of present best practices in the industry. Crabb (2008) contends that many MFIs are dependent on the subsidies and support provided by their external stakeholders like government, societies, corporate etc. The paper provides an analysis of the various organisations and concludes that there has been requirement of external stakeholders for the sustenance of the MFIs as argued by Crabb (2008). Crabb (2008) also provides the formula for the Operational self-sufficiency, defined as: Financial revenue (total)/ (Loan loss provision expense + operating expense). A value of 1 indicates full operational self-sufficiency, whereas a value less than one indicates the institution must rely on outside sources.

Pollinger et al. (2007) contend that MFIs are presently not self sustainable and hence require to raise new capital from external sources; government provides different subsidies in order to overcome the sustainable issues. However these subsidies have severe impact on the long sustenance of the MFIs as dicussed by Pollinger, Outhwaite, & Cordero-Guzmán (2007). There has been continuous debate over the sustainability versus poverty approach in the functioning of MFIs. The poverty approach provides better access of MFIs to the poor, i.e. depth increases but the sustenance of organisation in this case is difficult. In sustainability approach, while the access of MFIs to the poor decreases, the returns from the upper part of the poor increases and thus has longer sustenance as argued by Schreiner (2002).

MFO are in attempt to increase the access and sustainability of the organisation with the increment of the debt levels. That is in the process of increasing the leverage in the capital structure. However the trade off between the outreach, sustainability and leverage decides the functioning of organisation. Author analyzes the data of 73 micro finance organisations and concludes that to increase in the depth MFO need to increase the interest rates as analyzed by Conning (1999).

Hartungi (2007) studies the various factors involved in the success of MFIs in Indonesia. The major activities identifies are: dynamic adaption of MFI with the local conditions, and the usage of the technology (information technology as specific) in the outreach to the people. He underlines that the active involvement of the MFI

employees and increase in transparency helped in better functioning of MFIs in Indonesia. He adds that prior intimation of the incentives to the client and employees provided better efficiencies for the MFIs.

Crombrugghe et al. (2008) have used the regression analysis to understand the relation between the financial self-sustenance and operational self-sustenance. The independent variables considered in their paper were: yield, cost per customer, age etc. the paper finds that there is no need for increasing the size or monitoring costs of loans in order to meet the financing costs. Cull et al.'s (2007) study backs the same logic that there has to be trade off between the outreach and the financial performance of the MFIs. The authors say that in order to generate the profits, the MFIs were losing their cause of serving the poorest. Mersland & Strøm's (2007) study focussed on the performance and corporate governance works: they employed panel data analysis and regression analysis to find the impact of board characteristics, ownership type, competition and regulation etc on financial measures like ROA, yield, and outreach, to name a few. They found that the presence of female CEO etc has huge impact on the size of loans provided.

Kim & Kim (2008) in their research paper used descriptive analysis as the first step to understand the characteristics of the ranges, variance etc; the second stage consisted of factor analysis to attain the important factors which could estimate the maximum variance. The final stage consisted of regression analysis to understand the relationship between the dependent and independent variables. This format helped the authors in understanding the characteristics of the process involved in a better manner. Thapa (2007) worked on comparison between cross continental MFIs in terms of financial sustenance. The paper also supported that MFIs increasing their accessibility to poor cannot be self-sufficient as far as the factor of sustainability is concerned.

Petridou & Glaveli (2008), in their study found that the Implementation of the microfinance results in the improvements of the lives of the society who utilizes the scheme; moreover, they found that the earning capabilities of the women folk in the rural sector also increased. They further found that literacy, or the knowledge of the section affected by microfinance increases and that they could understand the economics of the present dynamic world. The authors further reasoned that the increase in income and consumption from the lower section of society results in the improvement of the society in general. On a opposite note, Gehlich-Shillabeer (2008) contends that micro finance industry can also turn into the debt trap for its members. That is to say, the clients can be renewing or continuously increasing the debt amounts to repay leading to an increase in stress and finally defaulting at the level of larger amounts. While the occurrence of this kind of crisis would lead to decrease of revenues to the lower levels, the repayments would stay at the same level thus leading to an increment in default. This way, the society on debt will undergo a severe blow in the times of recession, finally resulting in an increase of poverty.

Research questions

1. Does any difference exist in sustenance (both in terms of operations and financial self-sustenance) between the regions?

2. Identification of the factors influencing the operational, financial sustenance of MFIs in both the regions and Study the various components present in each factor and their significance on the financial and operational sustenance of MFIs

3. Identify the differentiating factors of operational and financial sustenance between the MFIs in two regions

4. Impact of deposit scheme on both operations and financial self-sustenance of MFIs

4. Methodology

The data is obtained from MIX Market (a database of MFIs information present in the world). The data of the both the region 1 and region 2 for the year 2008 is considered for the analysis. Study is an attempt to understand the characteristics of the two regions from the available data. Region 1 considers the East Asian and Pacific

region countries and the region 2 consists of the MFIs from South Asian countries (Please refer to Appendix 2). A total of 298 MFIs data is analysed where 153 MFIs belong to East Asian and Pacific region and 145 MFIs belong to South Asian region. The variables considered are on the basis of financial ratios and indicators defined as SEEP 18, (Bruett, T, et al,2005).

Both Financial self-sustenance (FSS) and Operational self-sustenance (OSS) are calculated as the below given formulae

OSS = financial revenue / operational expenses

FSS = financial revenue / sum of operational and financial expenses

In the first step ANOVA test is undertaken to test the existence of difference in the FSS and OSS on the basis of region specific. In sequence dimension reduction is undertaken at three stage (stage 1 – MFIs from both regions, stage 2 – MFIs from region 1, stage 3 – MFIs from region 2). In the next step with the decreased number of factor, the components leading to the success of MFIs in each individual region are identified. This is identified with the help of the regression analysis implemented for the OSS, FSS (in two separate models) as dependent and the variables obtained from the factor analysis as independent for each region individually. With the help of the coefficients of the independent variables in each model would provide the significance of each variable upon the OSS and FSS respectively w.r.t to region. Finally an ANOVA test is conducted to understand the influence of the deposit scheme presence on the FSS and OSS of MFIs.

5. Data analysis and Discussion

5.1 ANOVA test (FSS, OSS difference by region wise grouping)

In the initial step the ANOVA testing is conducted to test the existence of difference of FSS and OSS w.r.t region specific. It has observed from the results obtained from ANOVA testing that the F value is not significant hence there is no difference between the regions in terms of FSS. However the F value is significant in terms of OSS in between the regions.

The descriptive analysis provided that the region 2 (south Asian) MFIs have higher mean values of FSS and OSS in comparison to the region 1 (East Asian MFIs). However there is huge difference in the OSS mean values between the regions. Indicating that there is greater sustenance levels for the MFIs located in region 2 than the MFIs located in region 1.

5.2 Factor Analysis

The factor analysis is undertaken in three phases

5.2.1 Factor analysis of both regions MFIs data

In the first step the factor analysis is undertaken to understand the factors which could be considered for the further analysis. Kaiser-Meyer-Olkin Measure of Sampling Adequacy is conducted for the sampling adequacy level found to be 59.3% which is sufficient enough to move forward with the factors generated. Bartlett's Test of Sphericity which reflected the chi square value as significant and hence the factor analysis could be carried with the data considered.

The component matrix obtained categorised the variables into six major factors. However, only five factors could be matched with the concepts of MFI. That is the cost, size, profitability, leverage and risk management of an MFI. (Table 1 provides the information of component matrix)

5.2.2   Factor Analysis (data of region 1 MFIs)

In the next step the factor analysis is undertaken on the data of MFIs of region 1 in specific, Kaiser-Meyer-Olkin Measure of Sampling Adequacy is conducted for the sampling adequacy level found to be 59.5% which is sufficient enough to move forward with the factors generated. Bartlett's Test of Sphericity which reflected the chi square value as significant and hence the factor analysis could be carried with the data considered.

The component matrix obtained provided three major factors. Hence only three factors could be matched with the concepts of MFI. That is the cost, size and profitability of an MFI. (Table 2 provides the information of component matrix)

The MFIs belonging to the region 1 (east and Asian pacific) are more concentrated on the increment of profitability and size factors. The cost factor is considered in increment in the profitability of the organisation. However the MFIs in this region are less considerate towards the risk mitigation and provision of losses as such.

5.2.3   Factor Analysis (data of region 2 MFIs)

In the next step the factor analysis is undertaken on the data of MFIs of region 2 in specific, Kaiser-Meyer-Olkin Measure of Sampling Adequacy is conducted for the sampling adequacy level found to be 65.2% which is sufficient enough to move forward with the factors generated. Bartlett's Test of Sphericity which reflected the chi square value as significant and hence the factor analysis could be carried with the data considered.

In the analysis of the region 2 information, the component matrix obtained provided five major factors. All five factors could be matched with the concepts of MFI. That is the cost, size, profitability, leverage and risk management of an MFI. (Table 3 provides the information of component matrix).

MFIs in the south Asian region are also in the lines of region 1. However these MFIs in addition to the profitability and size they are also considerate towards the risk mitigation and provision of losses. At the same time region 2 MFIs are also involved in the consideration of the leverage in order to decrease the cost of capital at the same time increment in the outreach of MFI.

5.3   OSS Analysis

In the next stage a regression analysis is undertaken between dependent variable as OSS and variables (components of factors determined in prior analysis) as the independent variables.

5.3.1   OSS analysis of region 1

The data of region 1 is undertaken and OSS as the dependent variables and rest variables as the independent variables (as obtained from the prior said analysis) are undertaken for regression analysis to understand the significance of the impact of the variables on the OSS.

The value obtained for R square is 34 percent for the model fit and the Durbin Watson value was 1.914 which is under acceptable range. The coefficient table of regression test found that the depth of loan, Portfolio at risk and ROA are directly proportional to the OSS of MFIs in the region 1. Whereas the operating expenses is negatively related to the OSS. Hence the increment in the ROA, Portfolio at risk and depth level of loan would lead to the higher OSS. However the increment in the operating expense would lead to decrement in OSS, which is obvious.

5.3.2   OSS analysis of region 2

Regression analysis in the region 2 information has the better fit of model compared to region 2 that is the R square values is 58 percept fit in the model at the same time the Durbin Watson has a value of 2.166.

The independent variables are ROA, depth of loan, Portfolio at risk, financial expense and borrowers per staff member are positively related to the OSS in the region as observed from the coefficient table. That is the OSS is highly dependent on the financing part of the MFIs. That is the amount in relation with the leverage involved. At the same time all the variables are directly in relation with the OSS as observed regression testing.

The variables obtained in the different regions have very different impact on the OSS values of the MFIs. That is it is operating expense, which is indirectly proportional to OSS in region 1 whereas, it is the financial expense, which is in directly proportional to OSS in region 2. This says that the organisations in the region 2 are utilizing of higher leverage, which in terms increases the portfolio at the lower cost. However this would also impact the increment in the financial revenue generated and hence resulting in the increase OSS levels in the region 2.

However in both the regions increase in depth level of the loan amount would increase the OSS. It is also the same case with the ROA and the Portfolio at risk. However the region 2 OSS is also dependent on the number of borrower per staff members. That is the increment in the number of borrower per staff would lead to the decrement in operational costs and hence higher OSS. It is also observed that the coefficients of the variables in the region 2 are higher valued in comparison to the second region.

5.4 FSS analysis:

In the next stage a regression analysis is undertaken between dependent variable as FSS and variables (components of factors determined in factor analysis) as the independent variables.

5.4.1   FSS analysis of region 1

The data of region 1 is undertaken and FSS as the dependent variables and rest variables as the independent variables (as obtained from the factor analysis) are undertaken for regression analysis to understand the significance of the impact of the variables on the OSS. The value of R Square as for the model fit is 20%, which is way below acceptable levels. However the Durbin Watson statistic is having better value of 1.964.

ROA, Capital to asset ratio and the portfolio at risk are directly proportional to the FSS of an MFI as observed from the coefficient table of the regression analysis. That is higher ROA higher the revenue and hence higher returns. At the same time higher the capital utilisation betters the financial returns and hence better FSS values. However the Yield is negative proportional to the FSS, which might be due to the increment in the operational expenses in order to increase the financial returns. Hence that compensates the profits generated.

5.4.2   FSS analysis of region 2

In the next step the regression analysis is conducted, where FSS is dependent and the rest of considered variables as the independent variables (as obtained from the factor analysis) of the region 2. The regression analysis indicates the high R square value of 90.4 percent resulting in the better fit of the model.

Operating expense as related to assets, financial expenses are negatively proportional to the FSS, this because the increment in the expenses would lead to lower profits and hence the lower FSS. Even the Yield is negatively proportional to the FSS similar as in the region 1 as observed in coefficient table of regression analysis. However portfolio at risk is negative related to the FSS which is with the logic of higher the riskier portfolio higher the volatility and hence lower the stability. Financial revenue, capital asset utilization is directly proportional to the FSS and this is because higher the capital asset utilization higher is the revenue generated and hence the higher value for FSS.

5.5 ANOVA test (MFIs information grouping on basis of deposit scheme)

In the next step ANOVA testing is undertaken on the basis of presence of the deposit scheme in the MFIs. That is the involvement of the deposit scheme would need to increase the outreach as due to increased amount of capital availability at the same time decrease in the financing cost and hence increment in the FSS. Average loan per borrower, operating expense per assets and capital per asset ratios are the major parameters, which were impacted with the presence of the deposit scheme as observed ANOVA test. The average loan balance per borrower is quiet higher in the MFIs without deposit scheme. This indicates that the saving scheme implementation had resulted in borrowers to raise lower amount as loan amounts. Hence the capital to asset ratio was also found to be lower for the MFIs with deposit scheme as lower loan amounts needed a lower capital infusion by the MFIs. At the same time operational expenses have also resulted lower for the MFIs with deposit schemes. This is due to the lower amount requirement by borrower in those particular MFIs.

The descriptive analysis of ANOVA also reveals that the involvement of deposit scheme leads to increment in the number of active borrowers, which might not be significant enough by the F test. However the presence of the deposit scheme is decreasing operational expenses and increases the financial expenses. This might be due to the gain in the lower cost of capital is over thrown in the repayment in the form interest to the depositors at the same non ability to utilize the funds for the business as due to the non-approval by regulatory authority.

6.   Findings

The findings of the study on the basis of data analysis are as ANOVA results indicate the presence of difference in the OSS of MFIs in between the regions. South Asian MFIs have higher values of OSS and FSS than the East Asian and Pacific region MFIs. On further analysis it has been found that the financial expenses are more important for the MFIs in South Asian MFIs than the operational expenses in order to have higher OSS value. That is due to increment in leverage etc is providing higher amount of profitability and hence leading to better OSS and FSS values.

The Profitability, Size and Costs are the common variables for the both the region MFIs. However the provision of risk management and the leverage utilized are also additional factors which forms vital components in the information of the South Asian MFIs. Average loan per borrower, ROA, Portfolio at risk are three components, have influenced the OSS in both regions. However the operating expenses in the region 1 drives the OSS where the financial expenses in the region 2 drive the OSS. This is due majorly due to the higher leverage used by the region 2 MFIS.

The ROA, Yield, Portfolio at risk and capital asset utilization forms the major dependent variables for the FSS of MFIs in the both regions present. However the portfolio at risk has the positive coefficient in the region 1 FSS and negative in relation with the FSS of region 2. This is due to the higher the risk higher the returns, which are, used in region 1 where as the region 2 is related with more of risk mitigation properties. It has also been observed that the financial expense and operating expense parameters also influence the FSS in the region 2.

The presence of deposit schemes doesn't provide an additional advantage to MFIs in compared to MFIs, which doesn't of deposit scheme service. This could be due to the non-ability to utilize the deposit funds for expansion in order to be regulatory compliance. Hence the deposit scheme would be burden instead of boon. However the presence of deposit scheme have increased the outreach and OSS but not to significant levels that could differentiate with the MFIs without deposit scheme. FSS of the deposit scheme MFIs are lower when compared to rest of the MFIs. This is due to the providing the interest to the deposit holders without having the revenue generating capabilities from the deposit scheme funds.

A recommendation on the basis of literature, data analysis and the findings is MFIs in the East Asian and Pacific countries need to increase the significance in the provision for the risky capital. That is needed to introduce the risk mitigation activities in the MFI operations in order to increase the both FSS and OSS. There can also be look out for the increment in the debt levels that is need to increase the leverage in order to increase the reach at the same time decrease the cost of capital. This would increase OSS and FSS values at the same time increment

in the reach of the MFIs. The presence of deposit scheme is not benefiting the OSS or FSS values of MFI. However this scheme needs to be introduced as risk mitigation activities.

The study has been conducted on only two regions, which could be extended to the all-7 regions as defined by the MIX Market database. At the same time multiple year time length could be analyzed in order to understand the dynamic changes in the driver variables of the performance of the MFIs with the help of panel data analysis.

7. Conclusion

The journey of MFIs has been encouraging in the both the regions. The sustenance of the MFIs has been in the discussion as due to the increase in the maturity in terms of age. Both the financial self-sustenance and the operational self-sustenance has been the base of the discussion.

This study could find the individual region MFIs factors for the performance analysis and interpretations. The Profitability, Size and Costs are the common variables for the both the region MFIs. However the risk mitigation activities and the higher leverage characteristics of the region 2 MFIs have given edge to the performance of region 2 over the performance of the MFIs in region 1.

Even the regression analysis have said the Average loan per borrower, ROA, Portfolio at risk are major influencers of the OSS and Yield, ROA, Portfolio at risk and capital asset utilization as the main components influencing the FSS in both regions. The deposit scheme presence makes no or little difference in the FSS value of the MFIs.

On the whole the MFIs have been in the increment mode in the sustenance characteristics. There has been less of difference is found in both the FSS and OSS values of MFIs on the basis of regions. Hence the performances of the MFIs of both the regions are in same state.

On a whole the MFIs in the both the regions could share the strategies like risk mitigation activities, safety level of debt capital raised and other operational activities core competencies in order to provide the better service to the final customer.

References

Conning, J. (1999). Outreach, sustainability and leverage in monitored and peer-monitored lending. *Journal of development economics., 60*(1), 51.

Crabb, P. (2008). Economic freedom and the success of microfinance institutions. *J. Dev. Entrep. Journal of Developmental Entrepreneurship, 13*(2), 205-219.

Cull, R. J., Demirgüç-Kunt, A., & Morduch, J. (2007). Financial performance and outreach : a global analysis of leading microbanks. *The Economic Journal*.

de Crombrugghe, A., Tenikue, M., & Sureda, J. (2008). Performance analysis for a sample of microfinance institutions in India. *Annals of Public and Cooperative Economics, 79*(2), 269-299.

Gehlich-Shillabeer, M. (2008). Poverty alleviation or poverty traps? Microcredits and vulnerability in Bangladesh. *Disaster Prevention and Management, 17*(3), 396-409.

Hartarska, V., & Nadolnyak, D. (2007). Do regulated microfinance institutions achieve better sustainability and outreach? Cross-country evidence. *Applied Economics, 39*(10), 1207-1222.

Hartungi, R. (2007). Understanding the success factors of micro-finance institution in a developing country. *International Journal of Social Economics, 34*(6), 388-401.

Kim, Y. H., & Kim, H. H. (2008). Development and validation of evaluation indicators for a consortium of institutional repositories: A case study of dcollection. *Journal of the American Society for Information Science and Technology : JASIST., 59*(8), 1282.

Kneiding, C., & Tracey, P. (2009). Towards a Performance Measurement Framework for Community Development Finance Institutions in the UK. *Journal of Business Ethics, 86*(3), 327-345.

Kumar, C. S. (2009). Credit Rationing And The Economics Of Informal Lending: Theoretical Results And Econometric Inferences Using The Household Surveys From China And India. http://hdl.handle.net/1813/13990 (January 3, 2010)

Kyereboah-Coleman, A. (2007). The impact of capital structure on the performance of microfinance institutions. *The Journal of Risk Finance, 8*(1), 56-71.

Kyereboah-Coleman, A., & Osei, K. A. (2008). Outreach and profitability of microfinance institutions: the role of governance. *Journal of Economic Studies, 35*(3), 236-248.

Mersland, R., & Strøm, R. Ø. (2007). Performance and corporate governance in microfinance institutions. from http://mpra.ub.uni-muenchen.de/3888/

Morduch, J. (1999). The microfinance promise. *Journal of economic literature., 37*(4).

Moxham, C. (2009). Performance measurement: Examining the applicability of the existing body of knowledge to nonprofit organisations. *International Journal of Operations & Production Management, 29*(7), 740-763.

Moxham, C., & Boaden, R. (2007). The impact of performance measurement in the voluntary sector: Identification of contextual and processual factors. *International Journal of Operations & Production Management, 27*(8), 826-845.

Navajas, S. (2000). Microcredit and the poorest of the poor : theory and evidence from Bolivia. *World development : the multi-disciplinary international journal devoted to the study and promotion of world development., 28*(2).

Petridou, E., & Glaveli, N. (2008). Rural women entrepreneurship within co-operatives: training support. *Gender in Management: An International Journal, 23*(4), 262-277.

Pollinger, J. J., Outhwaite, J., & Cordero-Guzmán, H. (2007). The Question of Sustainability for Microfinance Institutions. *Journal of Small Business Management, 45*(1), 23-41.

Robinson, M. (2001). The Microfinance Revolution Sustainable Finance for the Poor. from http://encompass.library.cornell.edu/cgibin/checkIP.cgi?access=gateway%5Fstandard%26url=http://www.world bank.icebox.ingenta.com/content/wb/70

Schreiner, M. (2002). Aspects of outreach : a framework for discussion of the social benefits of microfinance. *Journal of international development., 14*(5).

Shetty, N. K., & Veerashekharappa. (2008). The microfinance promise in financial inclusion and welfare of the poor : evidence from India. *Journal of Applied Economics*.

Srinivasan, N. (2008). Microfinance India: State of the Sector Report 2008

Sriram, M. S., & Updhyayula, R. (2002). The Transformation of Microfinance in India: Experiences, Options and Future.

Thapa, G. (2007). Sustainability and Governance of Microfinance Institutions: Recent Experiences and Some Lessons for Southeast Asia. *Asian Journal of Agriculture and Development, 4*(1), 17-37.

Tsai, K. S. (2004). Imperfect Substitutes: The Local Political Economy of Informal Finance and Microfinance in Rural China and India. *World Development, 32,* 9, 1487.

Weiss, J., Montgomery, H., Kurmanalieva, E., & Asian Development Bank, I. (2003). *Micro finance and poverty reduction in Asia : what is the evidence*. Tokyo: ADB Institute.

Book References

Bruett, T., Barres, I., Mbeba, R. D., Small Enterprise Education and Promotion Network., & Alternative Credit Technologies. (2005). *Measuring performance of microfinance institutions: A framework for reporting, analysis, and monitoring*. Washington, D.C: The SEEP Network.

Electronic References

http://faculty.chass.ncsu.edu/garson/PA765/factor.htm

http://www.mixmarket.org/mfi/country/India

Appendix 1

Table 1: Component Matrix obtained on factor analysis of both regions data

Variables	Component					
	1	2	3	4	5	6
Operating expense/ assets	.824	.377	-.079	.248	-.015	-.101
Yield on gross portfolio (nominal)	.803	.385	.029	.231	-.174	.051
Operating expense/ loan portfolio	.769	.342	-.038	.254	.130	-.241
Financial revenue/ assets	.711	.401	.060	.048	-.351	.235
Personnel	-.457	.848	.081	.087	.037	-.003
Number of active borrowers	-.478	.829	.054	.122	.019	.023
Number of depositors	-.499	.796	.073	.159	.049	-.035
Total assets	-.502	.606	.111	.020	-.005	-.023
Cost per borrower	.087	-.141	.826	.310	.072	.015
Average loan balance per borrower	-.244	-.304	.808	.153	.009	.114
Borrowers per staff member	-.248	.091	-.560	-.168	-.223	.385
Provision for loan impairment/ assets	.385	.343	.216	-.588	.208	.308
Capital/asset ratio	-.007	-.165	-.121	.509	.428	.508
Write-off ratio	.411	.326	.152	-.445	.346	.056
Financial expense/ assets	.007	.065	.425	-.404	-.698	.083
Portfolio at risk > 30 days	.131	.079	.147	-.405	.589	.104
Debt to equity ratio	.018	-.031	.030	.208	-.154	.636

Table 2: Component Matrix obtained on factor analysis of data on region 1

Variables	Component		
	1	2	3
Operating expense/ assets	.929	.070	-.003
Yield on gross portfolio (nominal)	.927	.136	.047
Operating expense/ loan portfolio	.869	.017	.031
Financial revenue/ assets	.782	.200	.137
Provision for loan impairment/ assets	.428	.204	.162
Personnel	-.144	.955	.152

Number of active borrowers	-.171	.940	.119
Total assets	-.227	.890	.224
Cost per borrower	.041	-.228	.859
Average loan balance per borrower	-.372	-.236	.776
Borrowers per staff member	-.108	.331	-.565
Financial expense/ assets	.085	.089	.484
Portfolio at risk > 30 days	.015	-.015	.032

Table 3: Component Matrix obtained on factor analysis of data on region 2

Variables	Component				
	1	2	3	4	5
Operating expense/ assets	.864	.283	-.149	.080	-.225
Yield on gross portfolio (nominal)	.800	.239	-.049	.084	-.328
Operating expense/ loan portfolio	.777	.234	-.175	.158	-.339
Financial revenue/ assets	.708	.251	.079	-.070	-.004
Write-off ratio	.550	.336	.158	.024	.354
Personnel	-.453	.792	.043	.343	-.030
Number of active borrowers	-.486	.776	-.011	.231	-.053
Total assets	-.467	.677	.128	.423	.042
Financial expense/ assets	.034	.086	.747	-.454	-.146
Average loan balance per borrower	-.166	-.480	.584	.474	-.031
Debt to equity ratio	-.149	.111	.569	-.359	-.175
Capital/asset ratio	.068	-.382	-.503	.360	.301
Cost per borrower	.160	-.371	.488	.605	-.210
Borrowers per staff member	-.354	.216	-.295	-.509	-.011
Portfolio at risk > 30 days	.359	.027	.189	.089	.573
Provision for loan impairment/ assets	.502	.315	.350	-.100	.572

Appendix 2

Table 4: MFIs from 11 countries reporting data for 2008 belongs to region 1

Country	MFIs	Gross loan portfolio	Number of active borrowers
Cambodia	15	739,892,521	1,049,148
China, People's Republic of	14	27,825,179	45,708
East Timor	1	2,913,095	11,692
Indonesia	38	85,345,083	268,082
Laos	3	2,101,405	4,818
Malaysia	1	132,976,574	165,286
Papua New Guinea	2	6,259,553	7,991
Philippines	64	538,103,364	2,354,746
Samoa	1	897,312	4,162
Thailand	2	1,012,501	4,699
Vietnam	17	3,056,145,711	6,994,759

Table 5: MFIs from 6 countries reporting data for 2008 belongs to region 2

Country	MFIs	Gross loan portfolio	Number of active borrowers
Afghanistan	14	17,305,083	43,953
Bangladesh	20	2,058,775,800	21,636,489
India	69	23,008,227	321,475
Nepal	27	101,817,280	566,283
Pakistan	12	144,464,228	931,487
Sri Lanka	11	287,337,389	955,210