

Impact of Characteristics on Outreach and Profitability of Microfinance Institution in India

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Abstract

Purpose: This paper aims to examine how selected characteristics indicators impact on performance measures of outreach and profitability in microfinance institutions (MFIs).

Design/ Methodology/ Approach: The study is an exploratory nature. The data is taken from 42 microfinance institutions. A panel data technique is employed as the key analytical framework.

Findings: It is shown that the characteristics play a critical role in the performance of MFIs. Find that size and number of offices has positive impact on microfinance institution.

Research limitation/ implications: Data availability and accessibility is a limitation. Microfinance institutions in India do not provide their annual report on regular basis.

Originality/ value: Society may get the benefits because outreach level will increase and poor people access to credit and their standard of living will increase.

Keywords: Characteristics, Financial Performance, Performance Measurement, MFI, India

Introduction

India is an emerging economy and poverty is still one of the major problems of the country. Mostly poor people live in the Southern region of the country. In the economy, it is argued that among others, absence of access to credit is

presumed to be the leading cause for the failure of the poor to come out of poverty. Bridging the gap between demand and supply of credit in the formal financial institutions' frontier has been challenging (Vichore and Deshpande, 2012). So, governments of emerging economies take actions to reduce the gap between demand and supply of credit by microfinance institutions (MFIs) till they provide microcredit to the poor people. Microfinance institutions mission is to provide financial services to low-income households. In emerging countries, microfinance institutions also offer loans and technical assistance on how to start and develop a business (Hartungi, 2007). Microfinance is an effective tool which may be helpful in reducing poverty and spread economic opportunity by giving poor people access to financial services, such as credit and insurance.

According to above definitions, there can be two main objectives of microfinance institutions. These are, reaching the poor people that is also known as social performance goal and becoming sustainable. Social performance describes how well an organisation is achieving its mission or special goals. Social goal will be evaluated by the outreach performance of MFIs. Sustainability refers to the profitability of microfinance institutions. Good governance is essential for outreach and profitability of MFIs (Pinkowitz *et al.*, 2006). It is also believed that good characteristics generate goodwill among clients of MFIs. Outreach and financial sustainability are complementary; this is because as the number of clients increases, MFIs enjoy economies of scale and hence reduce costs which help them to become financial sustainable (Meyer, 2002). It is also argued that there is inverse relationship between outreach and financial sustainability.

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Higher outreach leads to higher transaction cost in order to get information about credit worthiness of clients and hence make MFI financially unsustainable (Hulme and Mosely, 1996), (Kereta 2007). Microfinance is assuming a special significance in the context of increasing emphasis on poverty alleviation, women empowerment and rural development in India (Ananda and Colaco, 2012). So, we can say that microfinance institutions play a vital role in emerging economy for developing the standard of living of poor people. According to World Bank, it is estimated that all over the world more than 7,000 microfinance institutions are serving 16 million clients. In total the microfinance institutions have provided more than \$2.25 billion loans and other financial help. So, we examine the effect of characteristics on outreach and profitability of MFIs.

Review of Literature

Vichore and Deshpande (2012) analyzed the performance and growth of MFIs in terms of cost efficiency, cash constraints and net portfolio in India providing microfinance services to low income clients. The study was an exploratory study which suggested that proper training should be provided to the employees of MFIs especially in disbursing loans and collection of the loan amount so that the cost per borrower could be managed efficiently.

Rai and Rai (2012) studied the factors affecting financial sustainability of microfinance institution. To find the factors affecting financial sustainability, a Multiple Linear Regression analysis was used and found that the capital/ asset ratio, operating expenses/loan portfolio and portfolio at risk > 30 days were the main factors which affect the sustainability of microfinance institutions.

Ananda and Colaco (2012) overviewed the performance and prospectus and described how microfinance was effective and financial viable method of addressing sustainable rural development through provision of microcredit to rural poor for productive activities. Microcredit had assumed a special significance in the context of increased emphasis on poverty alleviation, women empowerment and rural development in India.

Dissanayake (2012) carried out a study to ascertain the significant determinants of Return on Equity in MFIs. Correlation matrix and multiple regression analysis were

used for this. The study found that the operating expense ratio, write off ratio and cost per borrower were the statistically significant predictor variables in determining return on equity in a MFI in Sri Lanka.

Das's (2012) paper articulated and analyzed the different social impact assessment studies conducted so far in the country and abroad. In this paper only the three broad aspects, poverty, outreach and women empowerment, were sincerely considered to cover up the whole literature of social impact assessment of micro financing and it was found that most of the social impact assessment studies were being conducted in international context. Empirical studies on the role of microfinance in Indian context were not sufficient.

Ayayi's (2012) paper discussed credit risk assessment in the microfinance industry. Correlation matrix was used and it was found that low credit risk is a direct consequence of sound implementation of good governance practices and sustainable financial performance through sound qualitative and quantitative risk management tools, and the depth and breadth of outreach and write off were the two most important determinant indicators of a microfinance institution credit risk control.

Roy (2011) examined the delivery process and profitability of MFIs. Delivery mechanism was explained in terms of four parameters namely collateral requirement, size of the loan amount, repayment time and purpose of the microfinance loan. Profitability was analyzed ROA and ROE. This study adopted simple correlation and descriptive analysis technique and found that MFIs of Assam were enjoying higher profitability.

Osoimehin *et al.* (2011) examined the determinant and trend of MFIs outreach. Generalized least square method was used to analyze the relationship between determinants of outreach. The study found that microfinance outreach was positively and significantly determined by average loan size, debt-equity ratio, loan repayment rate and salaries. The finding suggested that there should be more emphasize on average loan size for the improvement of outreach.

Hartarska (2009) studied the effect of external governance mechanism of MFIs performance and analyzed their performance by adopting an empirical approach usually employed in cross-country banking research on the impact of market forces and regulation on performance.

MFI performance is measured by sustainability and outreach indicators and found that regulatory involvement and financial statement transparency do not impact performance while some, but not all, rating agencies play a disciplining role.

Shastri (2009) studied about the microfinance and poverty reduction in India. He found that scheme of microfinance is an effective instrument for lifting the poor above the level of poverty by providing them self-employment opportunities and making them credit worthy. There was a need of designing financially sustainable models and increase outreach and scale up operations for poor in India.

Rauf and Mahmood's (2009) paper viewed the growth strategy adopted by the microfinance sector and its impact on performance of the microfinance institutions. This study was based on the theoretical model of six dimension of outreach. These indicated that breadth of outreach is below the target outreach. The financial performance of sector was weak, its cost per borrower was increasing and productivity ratio was low. This approach impacted the growth of microfinance.

Coleman and Oesi (2008) tried to evaluate how governance indicator impact on performance measure of profitability of MFIs. They measured profitability by only ROA. They found that governance plays a critical role in the performance of MFIs and that the independence of the board and a clear separation of the positions of a CEO and board chairperson have a positive correlation with both performance measures.

Kereta (2007) studied the outreach and financial performance analysis of MFIs in Ethiopia and found that in Ethiopia the industry's outreach rises in the period from 2003 to 2007 on an average by 22.9% per annum. From financial sustainability angle, it was found that MFIs were operational sustainable measured by return on asset and return on equity and the industry's profit performance was improving over time.

From the review of literature it may be underlined that in India study on impact of characteristics of MFIs on the outreach and profitability of MFIs is not done. So, the academic motivation behind this study is to examine MFIs characteristics and their impact on profitability and outreach of selected MFIs in India.

Research Methodology

Research Objectives

The present paper aims to examine the Indian MFIs characteristics and its relationship with the outreach and profitability indicators for a period of six years i.e. from 2006-07 to 2011-12. Correlation and Ordinary Least Square (OLS) regressions have been carried out on panel data to check the impact of MFI characteristics on the outreach and profitability performance of Indian MFIs.

Data Collection: Data have been taken from the MIX market and official website of MFIs. After screening and removing missing variables, unbalanced panels of 42 MFIs with 231 observations have been left for estimation.

Variable Measurement

A brief explanation of the variable and formulae used for calculation is given next. Return on assets (ROA) as a measure of MFIs profitability and it is measure by finding the ratio of profit after interest and taxes/average of assets. Return on equity (ROE) is also a measure of MFIs profitability and it is measure by finding the ratio of profit after interest and taxes/average of equity. With regards to outreach, we find the annual rate of change of active borrower of an institution because one major social objective of MFIs.

Size will be measured using natural log of net total asset of MFI. With regards to age, it is measured by the number of years of operation using year of incorporation and number of offices established by MFIs.

Following variables as controls, personnel allocation ratio is measured by finding the ratio of number of loan officer/ number of personnel, and firm assets structure measured by the fixed assets as a percentage of total assets.

Tools of Analysis

In carrying out the analysis, we employ the basic panel data regression equation

$$Y_{it} = \alpha + \beta X / + \epsilon_{it}, i = 1 \dots N; t = 1 \dots T \quad (1)$$

where i denotes the individual microfinance institutions and t denotes time. In this case, i represents the cross-

Table 2: (Correlation Probability of MFIs)

	ROA	ROE	OUT	SIZE	AGE	OFFICE	PAR	AST
ROA	1.000							
ROE	0.251*	1.000						
OUT	-0.065	-0.099	1.000					
SIZE	0.157*	0.185*	-0.227*	1.000				
AGE	0.009	0.092	-0.204*	0.410*	1.000			
OFFICE	0.068	0.023	-0.068	0.663*	0.152**	1.000		
PAR	0.109***	0.139**	-0.047	0.039	0.060	0.063	1.000	
AST	0.057	-0.002	-0.082	0.335*	0.056	0.224*	-0.044	1.000

Churchill and Iacobucci (2005) have argued, multicollinearity condition reduces the efficiency of the estimates. How much correlation causes multicollinearity, it is not clearly defined. Hair *et al.* (2006) and Nuredin (2012) argue that correlation coefficient below 0.9 may not cause serious multicollinearity problem. Pal and Soriya (2012) recommended that if the correlation between explanatory variables exceeds 0.8 then it would be a problem of multicollinearity. Here, the above results are showing correlation much below it. So, there is no

presence of multicollinearity among the variables.

Levin, Lin and Chu's (2002) unit root test was applied before running the OLS regression, to check the stationary of the data. It is applicable on panel and pooled data (Levin *et al.*, 2002). Results of the test lead to reject the hypothesis of the unit root.

This study used panel data models where the random effect and fixed effect models could be used to estimate the relationships among variables and thereby taking care

Table 3: (OLS Regression Results of Model 1 for Outreach of MFIs)

Regressors	Outreach	
	Fixed effect	Random effect
Intercept	72.580*	29.621*
	(3.665)	(3.293)
SIZE	-3.2935*	-1.2429*
	(-2.915)	(-2.672)
AGE	-0.2123	-0.1514
	(-0.4236)	(-1.594)
OFFICE	0.0035	0.0029
	(1.2287)	(1.489)
PAR	-0.0158	-0.0167
	(-0.3913)	(-0.582)
AST	-0.0246	-0.0166
	(-0.3762)	(-0.336)
Rsquare	0.2763	0.0769
F-statistic	1.4706**	3.7135*
Hausman test		χ^2 11.0498**

Note: *, ** represent level of significance at 1 percent, 5 percent respectively. The Hausman specification test is used to check the suitability of fixed effect model versus random effect model. Values of t-statistics are provided in parenthesis below the co-efficient estimates.

of the omitted variables. Results of both the models are checked through applying Hausman Specification Test (Hausman, 1978). In case where both models are found significant then Random Effect Model results are taken into consideration.

Table 3 shows the results of OLS regression where outreach being the dependent variable and MFIs characteristics is the independent variables.

Chi² result indicates that fixed effect model is more appropriate. Size of MFIs is significantly and negatively explaining the outreach of MFIs in India. Result also indicated that number of offices positively affect the outreach of MFIs. Age, Personnel allocation ratio and asset structure also negatively affect the outreach of Indian MFIs. Coleman and Oesi (2008) also concluded that size of an MFI has a negative impact on outreach and is highly significant. Age also has a negative impact on outreach.

Table 4 shows the result of OLS regression where profitability being the dependent variable and MFIs characteristics is the independent variables. Chi² result

indicates that fixed effect model is more appropriate because we reject the null hypothesis for profitability measure indicator ROA at 1 percent. For ROE, Chi² result indicates that we do not reject the null hypothesis. So, we take random effect model for this. Profitability of Indian MFIs is positively significant with size of MFIs. So, size of MFIs is beneficiary to increase the profitability of MFIs. Age and office negatively affect the profitability of MFIs. ROA and ROE are significantly affected by age and office, respectively. Personnel allocation ratio has a positive impact on profitability but significantly at 10 percent on ROE. Asset structure of MFI has a positive effect on ROA and negatively effect on ROE.

Conclusion

Present study measures the outreach and profitability of MFIs in India. The model was applied on a sample of 42 MFIs. Outreach is measured by the percent change of number of active borrower and profitability is measured by the ROA and ROE. Results indicate that the size of a firm has significantly negative relationship with outreach and significant positive impact on profitability and

Table 4: (OLS Regression Results of Profitability of the MFIs)

Regressors	ROA		ROE	
	Fixed effect	Random effect	Fixed effect	Random effect
Intercept	-248.477*	-88.474*	-1669.442*	-828.387*
	(-4.481)	(-2.973)	(-4.788)	(-4.002)
SIZE	14.973*	4.053*	91.021*	40.119*
	(4.728)	(2.636)	(4.571)	(3.751)
AGE	-5.813*	-0.0472	-18.373**	-1.474
	(-4.116)	(-1.374)	(-2.069)	(-0.577)
OFFICE	-0.006	-0.007	-0.108**	-0.099**
	(-0.758)	(-1.111)	(-2.153)	(-2.395)
PAR	0.023	0.149***	0.797	1.141***
	(0.205)	(1.685)	(1.118)	(1.952)
AST	0.128	0.028	-1.137	-1.111
	(0.487)	(0.183)	(-0.984)	(-1.092)
Rsquare	0.3514	0.0443	0.4189	0.0776
F-statistic	2.075*	2.056***	2.7608	3.7365
Hausman test	χ^2 18.357*		χ^2 9.460	

Note: *, **, *** represent level of significance at 1 percent, 5 percent and 10 percent respectively. The Hausman specification test is used to check the suitability of fixed effect model versus random effect model. Values of t-statistics are provided in parenthesis below the co-efficient estimates.

confirms earlier studies by Coleman (2007), Coleman and Oesi (2008). This could be explained by the fact that size does not necessarily ensure outreach if this is not put to efficient use. This shows that most of the Indian MFIs are not utilizing their size to enhance their outreach as a performance variable. Positive significant impact on profitability may be because a large firm has the ability to reduce the risk and to enhance productivity through diversification of product and services.

Results also indicated that age of MFIs has a negative impact on both profitability and outreach, while age significantly affected the outreach and it is insignificant in terms of outreach. This result is also confirmed by earlier studies. This may be due to the fact that the poor do not necessarily need a firm's reputation to enjoy small credit.

Personnel allocation ratio and asset structure of MFIs have negative impact on outreach performance but positive impact on ROA. Personnel allocation ratio has significantly positive impact on ROE (at 10 percent significance level). This may be due to the number of loan officer making better relation with the client which increases the profitability of MFIs because client of MFI does timely payment of loan. Office of MFIs has positive impact on outreach. This may be due to the creation of branches across the nation and MFI also creates the opportunity of getting itself close to the customer. MFI size, and age as a measure of reputation and effected the outreach and profitability of MFIs positively or negatively. Then issue arise that how to effectively balance these seemingly conflicting between social and profitability objective to enhance the performance of MFIs.

From the foregoing discussion, it may be concluded that the size of MFI has positive impact on performance of MFI. So, MFIs should use their size to enhance the outreach level. More offices should be established till they increase the level of outreach and increase the performance of Indian MFIs. The other factors also affected the performance of MFIs positively or negatively. In a study of this nature it would have been more appropriate to examine all MFIs in India.

However, data availability and accessibility was a limitation. In spite of this limitation, we would want to indicate that findings of the study are not compromised. Recognizing the study limitations, we are of the opinion that this study could serve as a framework for further studies in this area. Researchers need to be encouraged to

examine the components of characteristics and its effect on performance of MFIs for the verification of the results.

Policy Implications

The findings of the study have attempted to direct attention towards the importance of characteristics in evaluating the performance of MFIs. It can be observed from the results of the study that size and number of offices have positive impact on MFIs. So, MFIs should increase the number of offices and use their size to enhance the outreach level. Performance of MFIs is not affected by the age of MFIs. Overall, the society may get the benefits through the MFIs because outreach level will increase and poor people's access to credit and their standard of living will increase.

References

- Ananda, S., & Colaco, X. F. (2012). Micro finance in India: An Overview of performance and prospects. *International Conference on Advances in Computing and Management*.
- Ayayi, G. A. (2012). Credit risk assessment in the micro-finance industry. *Economics of Transition*, 20(1), 37-72.
- Churchill, G. A., & Iacobucci, D. (2005). *Marketing Research: Methodological Foundations*, 9th edition, USA: Thomson South-Western.
- Coleman, K. A., & Oesi, A. K. (2008). Outreach and profitability of microfinance institutions: The role of governance. *Journal of Economic Studies*, 35(3), 236-248.
- Coleman, K. A. (2007). The impact of capital structure on the performance of microfinance institutions. *The Journal of Risk Finance*, 8(1), 56-71.
- Das, K. S. (2012). Social impact assessment on micro-finance institutions: A review of existing literature. *Asian Journal of Research in Business Economics and Management*, 2(6).
- Dissanayake, M. D. (2012). The determinants of return on equity: evidences from Sri Lankan microfinance institutions. *Journal of Arts, Science & Commerce*.
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate Data Analysis*. 6th edition, Pearson Education.
- Hartarska, V. (2009). The impact of outside control in micro-finance. *Managerial Finance*, 35(12), 975-989.
- Hartungi, R. (2007). Understanding the success factors of micro-finance institution in a developing country.

- International Journal of Social Economics*, 34(6), 388-401.
- Hausman, J. A. (1978). Specification tests in econometrics. *Econometrica*, 46(6), 1251-71.
- Hulme, D., & Mosley, P. (1996). *Finance against poverty*, Routledge London.
- Kennedy, P. (1985). *A Guide to Econometrics*, (2nd ed.), MIT Press, Cambridge, MA.
- Kereta, B. B. (2007). Outreach and financial performance analysis of microfinance institutions in Ethiopia. *African Economic Conference United Nations Conference Center (UNCC)*, Addis Ababa, Ethiopia.
- Levin, A., Lin, C., & Chu, J. (2002). Unit root tests in panel data: Asymptotic and finite-sample properties. *Journal of Econometrics*, 108(1), 1-24.
- Meyer, R. J. (2002). Track record of financial institutions in assessing the poor in Asia. Retrieved from <http://www.esocialsciences.com/data/articles/Document113112009240.6883051.pdf>
- Nuredin, M. (2012). Determinants of dividend policy of insurance companies in Ethiopia. Retrieved from etd.aau.edu.et/dspace/bitstream/.../4665/1/Muhammed%20nuredin.pdf
- Osothimehin, O. K., Jegede, A. C., & Akinlabi, H. B. (2011). Determinants of microfinance outreach in South-Western Nigeria: An empirical analysis. *Interdisciplinary Journal of Contemporary Research in Business*, 3(8).
- Pal, K., & Soriya, S. (2012). IC performance of Indian pharmaceutical and textile Industry. *Journal of Intellectual Capital*, 13(1), 120-137.
- Pinkowitz, L., Stulz, R., & Williamson, R. (2006). Does the contribution of corporate cash holdings and dividends to firm value depend on governance? A cross-country analysis. *Journal of Finance*, 61(6), 2725-51.
- Rai, A. A., & Rai, S. (2012). Factors Affecting Financial Sustainability of Microfinance Institutions. *Journal of Economics and Sustainable Development*, 3(6).
- Rauf, A. S., & Mahmood, T. (2009). Growth and performance of microfinance in Pakistan. *Pakistan Economic and Social Review*, 47(1), 99-122.
- Roy, A. (2011). Managing performance of MFIs – A look into their microfinance delivery process & profitability. *International Journal for Business, Strategy & Management*, 1(1).
- Shastri, K. R. (2009). Microfinance and poverty reduction in India (A comparative study with Asian Countries). *African Journal of Business Management*, 3(4), 136-140.
- Vichore, S., & Deshpande, S. (2012). Microfinance in India - A comprehensive analysis of the growth and performance of MFI's. *The International Journal's Research Journal of Social Science & Management*, 2(1), 51-56.