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Microfinance and Growth of MSMEs: The Moderating Role of Entrepreneurial Thrust

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Abstract

The main objective of the study is to investigate the role of entrepreneurial thrust in the relationship between growth in microfinance and growth of micro, small and medium enterprises (MSMEs). A panel of 15 countries from 2004 to 2013 is investigated in the analysis. Microfinance index is developed by using PCA and impact of microfinance index is examined on growth of MSMEs along with other dimensions of microfinance. The study documented that in isolation microfinance may not increase growth of MSMEs but if a borrower possess entrepreneurial thrust then growth in MSMEs is evident. Entrepreneurial thrust plays a role of catalyst in the relationship. Furthermore role of entrepreneurial thrust in growth of MSMEs is found to be more important than role of growth in microfinance itself. It is also established that in the presence of entrepreneurial thrust if even small loans are given to the borrowers then it leads to increase in business activities. It is concluded that microfinance may be a better tool to alleviate poverty but for creating new enterprises entrepreneurial thrust is found to be a prerequisite. In absence of entrepreneurial thrust microfinance may not be workable. **Keywords:** Microfinance, Entrepreneurial Thrust, MSMEs Growth.

Introduction

Need for achievement theory by McClelland (1965) states that it is needed by human beings to prosper, succeed, excel or achieve. It is argued that Entrepreneurs are driven by this need and entrepreneurial thrust which is considered as an integral part for initiating any entrepreneurial activity may help in this regard. For an economy, growth may not be achieved by just doing jobs but by creating jobs. Besides that, for the growth of MSME's some starting capital may also be needed which may be provided by microfinance. So it is expected that microfinance will play its role in the growth of MSME's and the relationship between microfinance and MSME's growth will be moderated by entrepreneurial thrust. As, in absence of entrepreneurial thrust the borrower may not utilize the loan for entrepreneurial activity but for fulfilling his basic needs. So, if a microfinance client has entrepreneurial thrust then it is expected that he/she will contribute more to the growth of MSME's. As the growth of MSME's is considered as an essential economic activity especially in developing countries because it may not only increase the employment opportunities but may also improve the financial position of the poor and will help in achieving millennium development goals. Growth of MSME's may be slow if there is lack of capital and absence of entrepreneurial thrust. There is a need to examine the problem deeply.

The research is different as compared to previous studies because no research has been conducted as per our knowledge in which the moderating role of entrepreneurial thrust is analyzed in the relationship between microfinance and growth of MSME's. Similarly a panel data approach is used which is not previously analyzed. Furthermore, microfinance is more of an applied phenomenon rather than just a theoretical existence. The result of the study will be applicable to the society as a whole. It will help policy makers identifying to whom loan should be given and to whom donation should be extended. The study will helpful for those microfinance institutions that work for growth of MSME's in scrutinizing their potential borrowers. Also the study will identify role of microfinance in growth of MSMEs in the presence of entrepreneurial thrust.

Literature Review

Research (Claessens, 2006) showed that microfinance institutions has assisted millions of people in providing basic financial services but to build stable and viable economies in developing countries, a greater consideration is needed to the growth of MSME's. According to World Bank estimates SMEs contribution to GDP in high income countries is recorded to be 51.5 percent on average, whereas the same is found to be 15.6 percent for low income countries. On the other hand the micro enterprise sector contributed 47.2 percent to GDP in low income economies but in high income countries the contribution to GDP is just 13 percent. Although there are a lot of problems faced by owners of these enterprises in developing countries but the worst one, is the access to capital for the growth of enterprise (Carpenter & Petersen, 2002).

As most of the Banks and financial institutions are located in cities or urban areas so it is difficult for the residents of villages to have access to these financial institutions. Consequently the problem of lack of capital for the growth of MSMEs is much worse in rural areas of developing countries as compared to urban areas. This discrimination may create economic imbalance and lead to social inequality (Hassan, 2008). To fulfill capital need for their enterprise individuals in rural areas obtained credit from informal sources. These informal sources charge them with high interest rates. This may affect the social aspect of microfinance and makes the state of

affairs more vulnerable for the borrower in case of business loss. On the other hand most of microfinance institutions not only target rural areas but also charges less interest rates as compared to informal sources. So it is expected that microfinance will positively affect growth of MSME's

The entrepreneur must have sufficient capital to finance the startup costs of the business, plus access to additional capital to fund further growth (Pretes, 2002). Lack of capital is recognized as one of the important limitation to the growth of MSME's, which is mainly due to lack of collateral security. Although, capital can be provided by microfinance institutions but at the same time only the provision of capital may not be sufficient, as most of the poor households may utilize these small loans for non-income generating activates. Similarly most of the graduates of developing countries including business graduates are for export purposes and rather than developing new micro enterprises they prefer to look for a job. Therefore starting a new business may not be only dependent upon access to capital but also a desire to start a new business and that desire is termed as entrepreneurial thrust in this research. Consequently it is expected that entrepreneurial thrust in MFI clients might play an important role in the growth of MSME's.

Despite the growing interest in the field of microfinance, most of the studies on microfinance are limited to specific areas like impact assessment (Imai & Azam, 2012; Nghiem, Coelli, & Rao, 2012; Lensink & Pham, 2012), tradeoff between sustainability and self sufficiency of microfinance institutions (Quayes, 2012; Annim, 2012; Kar, 2013b), Women empowerment (Ali & Hatta, 2012; Ngo & Wahhaj, 2012; Haile, Bock, & Folmer, 2012), products and services offered by microfinance institutions and their comparison with commercial financial institutions (Kebede & Berhanub, 2013). Some researcher like Boehe & Cruz (2013) examined the role of female members of microfinance institutions and challenged the commonly held assumption that participation of female members effect performance of microfinance institutions in which Microfinance institutions operate. Montgomery & Weiss (2011) thrashed out the welfare role of commercially oriented Microfinance institutions whereas (Chaudhary & Ishfaq, 2003) & (Kurosaki & Khan, 2012) inspected payment behavior of clients of Microfinance Institutions but the literature is silent about the role of microfinance institutions in creating MSME's in the presence of entrepreneurial thrust. Furthermore, little literature is found (Antonio, 2013; Tomaselli, Timko, & Kozaka, 2013) describing the role of microfinance on small and medium enterprises but this study will take into account not only small and medium enterprise but also micro enterprises as well.

Methodology

Data related to microfinance i.e. number of active borrowers of microfinance institutions, gross loan portfolio of microfinance institutions, total assets of microfinance institutions, equity used in the capital structure of microfinance institutions and personnel working in microfinance institutions are downloaded from Market Mix database. Proxies for entrepreneurial trust and MSME's growth are acquired from GEM (Global Entrepreneurship Monitor) database.

The effect of growth in microfinance is measured with respect to five dimensions i.e. change in number of active borrowers, change in gross loan portfolio, change in total assets, change in personnel and change in equity. Effect of each above mentioned variables on MSME's growth & entrepreneurial thrust as well as the effect of microfinance aggregate index is used in the analysis. Principal component analysis (PCA) is used to amass individual microfinance growth measures into single microfinance growth index. According to (Florackis & Ozkan, 2009), the problem of multicollinearity can be controlled by using PCA. Moreover PCA is better for creating an index because it automatically generates weights which are used to measure largest proportion of variance in the underlying data. GEM's data is used to measure entrepreneurial thrust for each country. Percentage of 18-64 years population (individuals involved in any stage of entrepreneurial activity excluded) who intend to start a business within three years is taken as a proxy for entrepreneurial thrust.

MSMEs growth is also derived from GEM database. Proxy used for MSMEs growth is Percentage of 18-64 years population who are currently an owner-manager of a new business, i.e., owning and managing a running business that has paid salaries, wages, or any other payments to the owners for more than three months, but not more than 42 months

To study the moderating effect of entrepreneurial thrust on the relationship between microfinance & its dimensions and growth of MSME's data of 15 countries from 2004 to 2013 is analyzed. Moderating variable entrepreneurial thrust (ET) and independent variables are first centered and then six interaction terms cnabXet, cglpXet, ctaXet, cpnlXet, ceqtXet and micXet are created by multiplying moderating variable, entrepreneurial thrust and Independent variables. Six separate regressions are run to scrutinize the relationship. Fixed effect and Random effect models are applied in the analysis to examine the issue. Before applying regression data is checked for stationarity. Mod graphs are also used to deeply investigate the relationship.

Results & Analysis

Descriptive statistics of dimensions of microfinance i.e. change in number of active borrowers(CNAB); change

in gross loan portfolio(CGLP), change in total assets(CTA), change in personnel(CPNL) and change in equity(CEQT) are reported in 2nd to 6th columns of Table I. Dependent variables used in the analysis i.e. CNBR (change in growth of MSMEs) are reported in column 7. Moderating variables CET (change in entrepreneurial thrust) is reported in column 8.Descriptive statistics from 2^{nd} column of Table 1 shows an average growth of 142,527 in terms of number of active borrowers. For MFI's maximum and minimum growth in number of active borrowers for microfinance institutions are recorded for India in 2009 and 2011 respectively. It can be inferred from these findings that large number of people were targeted in 2009 in India because of the boom in the Industry at that time but this practice have not worked well as expected and an abrupt decrease in number of active borrower is spotted in 2011. Furthermore in 2010, microfinance industry of India faces severe crisis when a large number of borrowers belonging to MFIs of Andhra Pradesh witnessed a mass default. Over-indebtedness and forced recovery practices are found to be some of the reasons of this mega default by researchers. Standard deviation for growth in number of active borrowers is found to be 5.6 times greater than the mean. Jarque bera statistics is found to be 51295.39 which is a sign of non-normality with a skewness of 4.06 and kurtosis of 50.42. In addition to number of active borrowers it is also observed from the descriptive statistics that on average MFIs of a country have a gross loan portfolio growth of US\$ 122,000,000. But a large standard deviation of US\$ 344,000,000 is found which is almost three times as higher than the mean. From this behavior it is figured out that there is a high level of diversity among the growth intensities of gross loan portfolios of MFIs for different countries. As our sample consists of heavily populated countries like China and India as well as low populated countries of Africa so the diversity among the countries is obvious. A minimum growth of US\$ -1,170,000,000 in gross loan portfolio is noticed for Mongolia in 2012 and a maximum growth of US\$ 2,670,000,000 in gross loan portfolio is spotted in Indonesia during 2010. The distribution for gross loan portfolio is found to be positively skewed with a value of 3.21. It means that the distribution of gross loan portfolio is asymmetric with a right long tail. Kurtosis of the distribution with a value of 13.34 leads to the conclusion that the distribution is leptokurtic. Jarque-Bera statistics also confirms the deviation of the distribution from normality.

Change in total assets of microfinance institutions are reported in column four of Table I. From Table I it is recognized that on average microfinance institutions witnessed a growth of US\$ 131,000,000 in their total assets during the sample period. This growth is not only observed in terms of total assets but also in other proxies of microfinance growth as well. A maximum growth of US\$ 2,940,000,000 in total assets is observed for microfinance institutions of Peru in 2012 and a minimum growth in total assets of US\$ -1,710,000,000 is recorded for Mongolia in 2012. It is spotted from the data that not only Peru but also other Latin American countries including Bolivia, Ecuador and Mexico experienced growth in microfinance during that period. The skewness, kurtosis and Jarque-Bera statistics are found to be 3.12, 21.19 and 8198.06 respectively. This confirms the rejection of having a normal distribution.

Correspondingly descriptive statistics of change in personnel working in microfinance institutions is recorded in column five of Table I. A positive value of 771 is the indication of the fact that on average microfinance institutions included in the sample experiences a growth of 771 personnel in the sample period. An All-out figure of 250,035 and lowermost figure of -263,007 is observed for the same country i.e. Sri Lanka in 2004 and 2007 respectively. It may be concluded from these two figures that microfinance institutions of Sri Lanka experience a problem of over hiring in 2004 but within three years they decided to downsize and that is the reason that in 2007 they experience a negative growth. A twenty three times greater standard deviation of 17,979 from the mean expounds that MFIs of the countries included in the sample period experiences extremely different growths in their human resource. With a negative skewness of -1, positive kurtosis of 164.21 and a bigger value of 576201.10 for Jarque-Bera statistics endorse that the distribution for CPNL is not normal with long left tail and sharp peak near the mean.

Congruently the descriptive statistics of change in equity of microfinance institutions i.e. (CEQT) are reported in column six of Table I. From Table I it is acknowledged that a typical MFI have acquired a growth of US\$ 22,242,000 in its equity during the sample period. As the sample consists of MFIs having different legal statuses i.e. legal status of Banks, Credit Unions, Cooperatives, Non-Bank financial institutions, NGOs and others so a standard deviation of 73,151,565 is found for our sample which is almost three times greater than the mean. MFIs of India are found to be on the bottom of the list in terms of growth in equity in 2012 and MFIs of Armenia are found to be on top of the list during 2009. It is also identified that the distribution for CEQT is non-normal with skewness of 1.55, Kurtosis of 18.09 and a Jarque-Bera statistics of 5261.27.

Mean for growth in MSME's of those countries which are included in the sample is found to be 0.49. This indicates that the average rate at which new businesses are emerging in the sample countries is .49%. Although this figure is positive but extremely smaller, signifying the need for new businesses in these countries. A maximum change in CNBR of 15.1 is found for Peru in 2006 whereas a minimum change of -22.4 in new business ownership rate is found for Uganda in 2011. A standard deviation for CNBR is found to be 5.971575 indicating variations in growth in new businesses in different countries. Likewise mean for change in

entrepreneurial thrust is found to be 2.01 with standard deviation of 5.4. Maximum value for change in entrepreneurial thrust is found for Chile in 2009 where as minimum value for change in entrepreneurial thrust is found for Mexico in 2012. Both of the distributions are found to be non normal with a skewness of 0.61881 for CNBR and 0.25334 for CET, Kurtosis of 9.089251 for CNBR and 6.662991 for CET with a Jarque-Bera statistics of 199.4885 for CNBR and 70.65017 for CET.

	CNAB	CGLP	СТА	CPNL	CEQT	CNBR	CET
Mean	142527	122000000	131000000	771	22242000	0.49	2.01
Median	31133	23824291	28326711	258	5938268	0.3	0.4
Maximum	10917376	267000000	294000000	250035	528000000	15.1	5.4
Minimum	-5642700	-1170000000	-1710000000	-263007	-396000000	-22.4	-6.8
Std. Dev.	940200	344000000	386000000	17979	73151565	5.971575	20.51093
Skewness	4.06	3.21	3.12	-1.00	1.55	0.61881	0.25334
Kurtosis	50.42	20.04	21.19	164.21	18.09	9.089251	6.662991
Jarque-Bera	51295.39	7351.13	8198.06	576201.10	5261.27	199.4885	70.65017
Probability	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Table I: Descriptive Statistics

The initial step for our analysis is to investigate the degree of integration of each variable. For that purpose different Panel unit root tests are applied. Panel unit root tests come out from time series unit root tests. The main difference between panel unit root tests and time series unit root tests is that behavior of time series dimension as well as cross-sectional dimension is considered in panel unit root tests whereas in time series unit root tests only time series dimension is considered.

The results of Levin-Lin-Chu (2002), Harris-Tzavalis (1999), Breitung (2000), Im-Pesaran-Shin (2003), Fisher-type (Choi 2001) and Hadri LM test are summarized in and 错误!未找到引用源。. The results support that the series CNAB, CGLP and CEQT are stationary according to all the above mentioned tests. Series microfinance is stationary according to all tests except Hadri LM series CGLP and CTA are found to be stationary according to Harris-Tzavalis test, Breitung test and Fisher-type test. On the basis of these results we are in a position to apply panel regression.

	CN	AD	CC	'T D	C	ГA	CDNI			
Tost	UN	AD		TTLL	U.	A	UINL			
1 651	Stats	P-Value	Stats	P-Value	Stats	P-Value	Stats	P-Value		
Levin-Lin-Chu	-5.015	0.000	1.307	0.904	0.937	0.826	-4.742	0.000		
Harris-Tzavalis	-22.409	0.000	-13.553	0.000	-14.761	0.000	-24.695	0.000		
Breitung	-7.130	0.000	-3.473	0.000	-3.969	0.000	-8.289	0.000		
Im-Pesaran-Shin	-4.482	0.000	0.691	0.755	-0.202	0.420	-3.799	0.000		
Fisher-type	327.160	0.000	197.056	0.000	248.578	0.000	295.180	0.000		
Hadri LM	0.659	0.255	11.816	0.000	11.146	0.000	-2.900	0.998		
Teat	CEQT		Micro	finance						
rest	Stats	P-Value	Stats	P-Value						
Levin-Lin-Chu	-10 039	0.000	-2 632	0 004						

0.000

0.000

0.074

0.000

0.000

-15.310

-5.498

-1.446

9.876

257.616

Table II: Panel Unit Root Tests

Harris-Tzavalis

Im-Pesaran-Shin

Breitung

Fisher-type

Hadri LM

-22.269

-8.920

-6.399

2.761

353.084

0.000

0.000

0.000

0.000

0.003

To examine the growth of MSME's for fifteen sample countries during the period 2004 to 2013, line graphs of each country is given in Figure 1. From figure it is found that four out of seven Latin American countries selected in the sample i.e. Argentina, Brazil, Chile and Mexico has almost same pattern of establishing new business with little variations. For example in Brazil the line is found to be more flat as compared to the rest of Latin American countries. On the other hand Line graph of Chile and Mexico have some additional fluctuations but the frequency and intensity of these fluctuations is very small. Contrary to these, line graphs of Colombia, Peru and Ecuador are found to have more frequent and more intense fluctuations in their growth MSMEs. It means that growth of MSMEs is more stable in Brazil, Argentina, Chile and Mexico when compared to Colombia, Ecuador and Peru.

Russia, Romania, Bosnia Herzegovina and Croatia are found to have same pattern in their line graphs for growth of MSMEs. The growth is found to be constant over the years for these countries. It appears that in general alike regions have experiences almost same growth in MSMEs. But it is not a rule because pattern of line graph for South Africa's growth of MSMEs is also found to be matching with eastern European countries. It is

also discovered that China has experienced unstable growth in MSMEs but mostly the change is in upward direction. It means that more MSMEs are formed in China as compared to the rest of the countries included in the sample. The opposite is true for line graph of Uganda where intense fluctuations are recorded in the downward direction.



Figure 1: Country wise graph for growth in MSMEs with respect to years

Regression Results

To study the effect of microfinance and its dimensions on growth of MSMEs and to test the moderating role of entrepreneurial thrust in the relationship between microfinance and growth of MSMEs, random and fixed panel regressions are applied. From results it is observed that none of the dimensions of microfinance and microfinance index is affecting growth in MSMEs. But it is observed that entrepreneurial thrust is positively affecting growth of MSMEs. It means that rather a moderating role, entrepreneurial thrust is playing a role of independent variable in the growth of MSMEs From Table III it can be noted that when entrepreneurial thrust is regressed with MSMEs along with microfinance index, entrepreneurial thrust is found to be significant at 1% level of significance for both fixed effect and random effect model. From results we can conclude that growth in MSMEs is affected by entrepreneurial thrust only and not by growth in microfinance. It is concluded that growth in microfinance can play its role in poverty reduction and maternal health but its role in the growth of MSMEs is ambiguous. Similarly, from Table III and

Table IV dimensions of microfinance i.e. Change in Number of active borrowers, Change in Gross Loan Portfolio, Change in Total Assets, Change in Personnel and Change in Equity are found to have insignificant impact on growth of micro, small and medium enterprises. On the other hand entrepreneurial thrust is found to be statistically significant. From first panel of Table III, it is noted that the coefficient of entrepreneurial thrust is found to be 0.257 which means that if there is one unit change in entrepreneurial thrust there will be 0.257 units change in growth of MSME's. The overall relationship is significant at 1% level with a Chi-Square value of 499.750 for random effect model and F-Statistics of 153.480 for fixed effect model. Likewise entrepreneurial thrust is found to be significant at 1% level of significance when regressed on growth of MSMEs along with dimensions of microfinance.

	Random									Fixed								
Variables	Coeff	Std-Error	Z-Value	P-Value	Sig		Chi ²	P-Value	Coeff	Std-Error	t-Value	P-Value	Sig		F-Stat	P-Value		
NBR							499.750	0.000							153.480	0.000		
Mic	0.052	0.119	0.440	0.663					0.053	0.124	0.430	0.670						
ET	0.257	0.012	22.240	0.000	1%	***			0.258	0.012	21.350	0.000	1%	***				
MicXET	-0.011	0.006	-1.750	0.080	10%	*			-0.012	0.007	-1.760	0.081	10%	*				
Const	-0.397	0.214	-1.850	0.064	10%	*			-0.395	0.223	-1.770	0.079	10%	*				
NBR							521.310	0.000							163.070	0.000		
CNAB	0.000	0.000	-1.170	0.242					0.000	0.000	-1.460	0.146						
ET	0.259	0.011	22.750	0.000	1%	***			0.261	0.012	22.040	0.000	1%	***				
CnabXET	0.000	0.000	-2.770	0.006	1%	***			0.000	0.000	-3.030	0.003	1%	***				
Const	-0.363	0.212	-1.710	0.087	10%	*			-0.353	0.219	-1.610	0.110						

Table III: Panel Regression for Growth of Micro, Small and Medium Enterprises

Figure 2: Moderation of the effect of growth in number of active borrowers on growth in MSMEs by entrepreneurial thrust



Table IV: Panel Regression for Growth of MSME's

	Random									Fixed								
Variables	Coeff	Std-Error	Z-Value	P-Value	Sig		Chi ²	P-Value	Coeff	Std-Error	t-Value	P-Value	Sig		F-Stat	P-Value		
NBR													_		156.690	0.000		
CGLP	0.000	0.000	-0.980	0.325					0.000	0.000	-1.320	0.189						
ET	0.254	0.012	21.980	0.000	1%	***			0.255	0.012	21.250	0.000	1%	***				
CglpXET	0.000	0.000	-1.670	0.095	10%	*			0.000	0.000	-2.160	0.033	5%	**				
Const	-0.377	0.216	-1.750	0.080	10%	*			-0.355	0.224	-1.590	0.115						
NBR							508.270	0.000							155.940	0.000		
CPNL	0.000	0.000	-0.400	0.689					0.000	0.000	-0.400	0.691						
ET	0.263	0.012	22.170	0.000	1%	***			0.264	0.012	21.270	0.000	1%	***				
CpnIXET	0.000	0.000	-2.150	0.031	5%	**			0.000	0.000	-2.060	0.042	5%	**				
Const	-0.421	0.212	-1.980	0.047	5%	**			-0.422	0.221	-1.910	0.059	10%	*				









Conclusion

The study documented that in isolation microfinance may not increase growth of MSMEs but if a borrower possess entrepreneurial thrust then growth in MSMEs is evident. Entrepreneurial thrust plays a role of catalyst in the relationship between microfinance and growth of MSMEs. Furthermore role of entrepreneurial thrust in growth of MSMEs is found to be more important than role of growth in microfinance. An independent share of microfinance in growth of MSMEs is found to be unclear. A high degree of entrepreneurial thrust corresponds to a high growth rate of MSMEs. It may not be possible to create entrepreneurial thrust in an individual but such environment can be provided which is favorable for entrepreneurial activities. It is also established that in the

presence of entrepreneurial thrust if even small loans are given to a large number of borrowers then it leads to increase in business activities. It means that entrepreneurial thrust has a vigorous significance in augmenting growth of MSMEs.

Practical Implications

The outcomes of the research are noteworthy. Entrepreneurial thrust is found to be requisite for formation of new businesses. In absence of entrepreneurial thrust microfinance may not be helpful in founding new businesses. Therefore policy makers should formulate such an apparatus that can measure the level of entrepreneurial thrust in the expected borrowers. If goal is just poverty alleviation and improvement of basic needs then microfinance can work even without entrepreneurial thrust but it may not be a long term solution. If long term economic prosperity is needed then a significant portion of loans should be extended to those people who have entrepreneurial thrust. As there are different legal statuses of microfinance institutions like NGO's, Banks and non-banks financial institutions and the objectives of these microfinance institutions may not be same. Each microfinance institution has to strive for its own objectives. The study can help microfinance institutions in achieving their objectives. If the objective is poverty alleviation then microfinance may work in isolation but if the objective is establishment of new micro enterprises then entrepreneurial thrust is more important than microfinance for growth of MSMEs.

Limitations and Futures Research Directions

Though the findings of research suggests that entrepreneurial thrust is compulsory for growth in MSME's but no suggestions or a measurement tool regarding how we can quantify the entrepreneurial thrust in an individual is proposed in the research. Hence further research regarding the measurement of entrepreneurial is needed to explore the issue in detail. This will facilitate microfinance institutions to decide whether to grant loan to a particular individual or not.

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