



Impact of loan officer's human capital in predicting MSMEs BUSINESS loan decisions: A study on Namakkal district, India

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Abstract

The purpose of this research article is to have an understanding about the factors influencing the Loan Officers' choice criteria in predicting Micro Small and Medium scale Enterprises (MSMEs) loans precisely. Descriptive research was followed in the study, a structured questionnaire was developed with the help of established scales adopted from existing literature. The designed questionnaire was then subjected to questionnaire interview method. A sample of 162 bank loan officers in Namakkal District were selected based on purposive non random sampling method. The collected data was then analyzed using stepwise linear regression. The final model was validated using R square value, Variance inflation factor (VIF) and R Square change statistics. The humancapital of the loan officers like educational qualification, relationship building capabilities, exposure to MSMEs, risk behavior, lending experience, problem solving capabilities were considered to be the independent variables in the model and it was found that these factors significantly influence the choice criteria of predicting the business loan of MSMEs precisely. The relative importance of the factors that influence the choice criteria of loan approval were also identified and discussed in this research study. MSMEs are dependent on external sources of finance to support their business, hence before applying for loan it is necessary for the MSMEs to analyze the factors influencing the loan approval decision. This research will be very helpful for the MSMEs to understand how human capital and risk behavior of the loan officer influences the choice criteria of loan approval.

Keywords: human capital, loan officer, MSMEs, MSME loan approval

1. Introduction

to International Finance Corporation (IFC), there are 29.8 million Micro Small and Medium Scale Enterprises (MSMEs) in India, out of which 1.8 million files their business information with District Industries Center (DICs), these MSMEs are called as Registered MSMEs the remaining MSMEs are classified as unregistered MSMEs. It means that only six percent of MSMEs are registered with the DICs and

the remaining 94 percent of MSMEs are unregistered MSMEs. The overall finance demand of the registered and unregistered MSMEs that can be addressed immediately by financial institutions was estimated 10.6 trillion Indian rupees out of which 9.9 trillion rupees can be addressed by debt and 0.67 trillion rupees can be addressed through equity. Hence it can be inferred that 93 percent of financial demand in MSMEs are being addressed through debt financing.

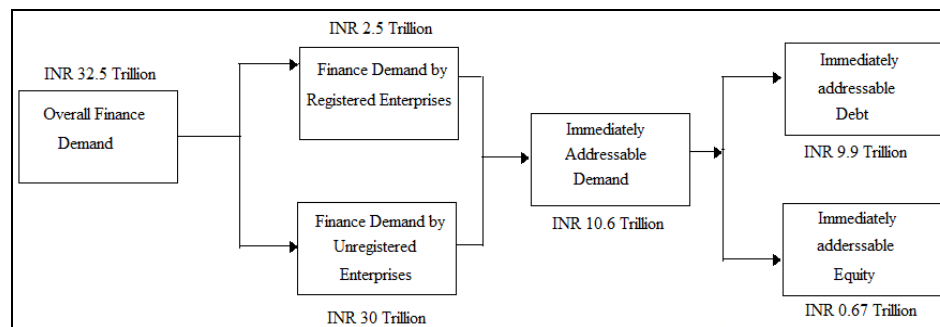


Fig 1: MSME Finance Demand Flow Chart

From the census report of Reserve Bank of India (RBI), Small Industries Development Bank of India (SIDBI) and IFC analysis it was found that only the entrepreneurs of MSMEs contribute 4.6 trillion rupees out of the total estimated demand

of 32.5 trillion rupees, which means the entrepreneurs of MSMEs are contributing only 14 percent of the total estimated financial demand of the MSMEs. Apart from entrepreneurs' contribution of 4.6 trillion rupees, the remaining 27.9 has to be

sourced from external financial institutions. In present scenario only 7 trillion rupees is supplied by financial institutions and other sources of finance. The remaining financial demand of the MSMEs has to be fulfilled in some ways. The International Finance Corporation (IFC) estimated that there is a massive debt gap of 19 trillion rupees and equity gap of 1.9 trillion rupees. This shows that there is a prospective chance for the banking and non-banking financial institutions to debt finance the MSMEs in the near future. Even though choice of financing the MSMEs is dependent on the credit worthiness of the organization, there is a general hunch that the loan officers has a significant impact on the choice criteria of approving loans. This research article examines the role of loan officers in predicting the MSMEs' business loan approval decision precisely.

2. Literature Review

Human capital is the combination of skills, knowledge and experience of an individual. The human capital of the employees in an organization is used as an asset in fulfilling objectives and vision of the concerned business organization. The previous literatures has suggested that the human capital of the employees' acts as antecedent to firms performance.

Berger (2002) ^[5] in the article titled "The institutional Memory Hypothesis and the procyclicality of bank lending behavior" found that the bank lending behavior is highly procyclical, which means the lending behavior is dependent on the loan officers decision making capacity and the decision making capacity of the loan officer will reduce over a period of time. The study was conducted for 12 years starting from 1988 to 2000 observing several parameters of loan approval.

Hitt, M.A *et al.*, (2001) ^[11] in the article titled "Direct and moderating effect of Human Capital on strategy and performance in professional service firms: A resource based perspective" identified that human capital has both direct effect and also moderating effect on the performance of professional service firms. Carpenter *et al.*,(2001) ^[9] in the article titled "Building Human Capital with organizational context: The impact of international assignment experience on multinational firm performance and CEO pay" suggested that the human capital of the CEOs will have a significant impact on the performance of Multinational corporations, hence it was expected that loan officers with enhanced human capital can indulge in better loan approval choice criteria. The education qualification of a loan officer is a major determinant of his human capital and it was expected that a well-educated loan officer can predict whether an MSME loan applicant is a good performer or a defaulter based on his instincts.

H1: Loan officers with developed human capital in terms of education qualification will be more likely to predict Micro Medium and Small Enterprises (MSMEs) business loans precisely.

Experience of the loan officer was anticipated to be the next important determinant in terms of his human capital. Experience of the loan officer will mold him in to a well-informed banker. From the empirical evidences it was explicit that human capital of a loan officer will be developed based on this lending experience. The lending choice of a loan officer will be directly or indirectly affected by his past

experience with the MSMEs loan applicants.

H2: Loan officers with developed human capital in terms of lending experience will be more likely to predict Micro Medium and Small Enterprises (MSMEs) business loans precisely.

The problem solving skills of a loan officer is considered to be the next important dimension of his human capital. The building blocks of problem solving skills includes identification of the problem, collecting relevant information, deciding the root cause of the problem, identifying set of possible solutions, selecting the best solution, plan for implementing the selected solution, implementing the solution and acting according to the feedback. The loan officers has a vital role in making or breaking the financial needs of the MSMEs, hence it was expected that they should possess specific problem solving skills to address the financial problems faced by MSMEs and offer them an optimal solution based on set of available alternatives.

H3: Loan officers with developed human capital in terms of problem solving skills will be more likely to predict Micro Medium and Small Enterprises (MSMEs) business loans precisely.

The relationship building capabilities of the loan officer is assumed to be a determinant in his choice criteria. Some of the loan officers can easily form networks and this relationship building affects the knowledge transfer between individuals. The structural, cognitive and relational dimensions of a loan officer will be affected by his ability to form networks and building relationships. Trust and commitment are the important dimensions of relationship building. Any kind of relationships such as business to business relationship, business to customer relationship or individual relationship can be operational and can be sustained over a foreseeable period through trust. Hence it was assumed that the loan officers' trust on MSMEs will be influential in his choice criteria.

H4: Loan officers with developed human capital in terms of relationship building capabilities will be more likely to predict Micro Medium and Small Enterprises (MSMEs) business loans precisely.

A basic understanding about the MSMEs is required for a loan officer to decide on loan approval. The knowledge about the business cycle of the MSMEs, their accounting procedure and details, the risk profile of the MSMEs, the risk return trade off of the MSMEs is essential for the loan officer before taking a call on loan approval decision. The strength weakness opportunities and threat (SWOT) analysis and Political, Economic, Social, Legal, Environmental, Technological, Environmental and Legal analysis (PESTEL) of MSMEs has to be done by the loan officers before deciding on the business loans for MSMEs.

H5: Loan officers with developed human capital in terms of exposure to MSMEs will be more likely to predict Micro Medium and Small Enterprises (MSMEs) business loans precisely.

The risk perception of the bank officers has a significant

influence on their decisions. Slovic, P., Fischhoff, B. and Lichtenstein, (1982) [15] in the article titled “Why Study Risk perception?” has analyzed the importance of risk perception in the choice criteria of individuals. The authors concluded that the risk perception of the individuals has a direct influence on their choices made. The risk perception of the individual is largely influenced by his risk taking behavior. In this article the loan officers were broadly classified in to risk averters and risk takers. The risk takers are the individuals with increased risk tolerance abilities and are willing to take risk. The risk averters will like to play safely and will avoid risks. Thus the hypothesis of this research was designed as

H6: Loan officers with specific risk behavior will be more likely to predict Micro Medium and Small Enterprises (MSMEs) business loans precisely.

3. Research Objectives

The research aims to have an in-depth understanding about the human capital of the Loan officers. The human capital of the loan officers includes their skills, knowledge and experience in the chosen field, these human capital adds value to the firm in which the loan officers are engaged with. The primary objective of the research are

- To analyze the impact of loan officer’s human capital in predicting MSMEs business loans precisely.
- To analyze the relative importance of the various components of human capital in case of bank loan Officers while deciding MSMEs business finance.
- To provide useful suggestions to MSMEs about the importance of Loan Officers’ human capital in approving or rejecting MSMEs business finance.

4. Research Methodology

Primary data required for the study was collected from banks in Namakkal District. The banks are the main source of debt finance in case of Micro Small and Medium Scale industries Descriptive research was followed in the research, the study population includes the loan officers working in banks of Namakkal district, India. A well designed questionnaire was adopted from previous literatures. Questionnaire interview method was followed in this research. The sampling method adopted for the research study was purposive non random sampling. The researchers met the loan officers in their respective offices with prior appointment and interviewed

them with the help of predetermined structured questionnaire, 162 usable samples from the data collected were subjected to further analysis. The questionnaire was designed in Likert Scale ranging from 1 to 7, in which 1 represents least likely choice and 7 represents most likely choice. The statistical tools used in the research are simple percentage analysis, stepwise linear regression. The validity of the model is established with the help of R Square value, Variance Inflation Factor (VIF) and R square change statistics.

5. Analysis and Results

Multiple regression analysis is used in this research to estimate the relationship between the variables. The regression analysis reveal the relationship between the dependent variables and the predictor variables. The predictor variables are otherwise called as independent variables. In this research study, the probability of predicting loan approval or rejection precisely was considered to be the dependent variable and the human capital of the loan officers like educational qualification, relationship building capabilities, exposure to MSMEs, risk behavior, lending experience, problem solving capabilities were considered to be the independent variables or predictor variables.

Stepwise regression method was followed in this research to identify the predictor variables and their importance in estimating the dependent variable. In each step a variable is added to the model from the set of explanatory variables. These variables are selected based on a pre specified criteria with respect to the results of adjusted R Square and F tests.

Initially a basic model was created with one predictor variable and one dependent variable. In the basic model the lending experience of the Loan officer was considered to be the predictor variable and the probability of predicting the loan approval or rejection precisely was considered to be the dependent variable. The results of the simple regression analysis with one predictor variable and one constant is shown in the below table. The standardized coefficient of the predictor variable was found to be 0.728 and it was significant at 1% level. The R square value for single predictor variable lending experience was found to be 0.530 which means the lending experience of the loan officer can explain 53 percent of changes in the dependent variable probability of predicting the loan approval or rejection.

Table 1: Table showing single independent variable model for MSME business loan prediction.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	Constant	2.036	.128	15.95	.000	1.784	2.288		
	Lendexp	.426	.032	.728	13.44	.000	.363	.488	1.000

In the next step of analysis, two predictor variables and one dependent variable was considered for regression analysis. The lending experience of the loan officer and risk behavior of the loan officer was considered to be the predictor variables and the probability of selecting loan was designed to be the dependent variable. The standardized beta coefficients of the

lending experience and the risk taking behavior was found to be 0.55 and 0.45 respectively. The predictor variables was found to be significant at 1% level and the variance inflation factor was found to be less than 1. Hence it can be inferred that there is no multicollinearity between the predictor variables.

Table 2: Table showing two independent variables model for MSME business loan prediction.

Model	Unstandardized Coefficients		Standardize Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics		
	B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF	
2	(Constant)	1.451	.116		12.483	.000	1.221	1.680		
	Lendexp	.324	.027	.555	12.075	.000	.271	.378	.858	1.165
	Riskbehav	.282	.028	.459	9.991	.000	.227	.338	.858	1.165

In the final model all the variables collected for the research such as lending experience, risk behavior, education qualification, problem solving abilities, exposure to MSMEs, Relationship building capabilities were considered to be the independent variables and the probability of predicting the loan approval or rejection precisely was considered to be the

dependent variable. From the results of multiple regression it was clear that all the predictor variables significantly influence the prediction of dependent variable. The variance inflation factor was found to be less than 2 for all the predictor variables and hence there is no collinearity issue in the multiple regression model.

Table 3: Table showing proposed model for predicting MSMEs business loan prediction.

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B		Collinearity Statistics		
	B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF	
6	(Constant)	.167	.042		3.967	.000	.084	.250		
	Lendexp	.188	.009	.321	21.823	.000	.171	.205	.596	1.678
	Riskbehav	.200	.008	.325	24.027	.000	.183	.216	.706	1.417
	Education	.206	.009	.309	23.871	.000	.189	.223	.769	1.301
	Problem solving	.101	.005	.229	20.103	.000	.091	.111	.991	1.010
	Expos MSME	.125	.007	.234	19.056	.000	.112	.138	.858	1.166
	Relationship	.136	.010	.202	13.200	.000	.116	.157	.552	1.813

The below table explains the change in R square and change in F statistics for addition of every single predictor variable. The first model consist of lending experience as the predictor variable, the R square change for the simple regression model with lending experience as predictor variable when compared to the dumb model with just the constant was found to be 0.53 and the change is highly significant. Similarly in the second model another predictor variable risk behavior was added and the R Square value was found to be 0.712, the change in R square was found to be significant for the two factor model. In the third model lending experience, risk behavior and the education qualification of the loan officer was considered to be the predictor variables and the significant change in R square and F statistic value was identified. In the fourth model four factors namely lending experience, risk behavior, education qualification and problem solving capabilities of the

loan officer was designed to be the predictor variables and the change in R square and F Statistic was found to be significant. In the fifth model five predictor variables namely lending experience, risk behavior, education qualification, problem solving capabilities and Exposure to SME of the loan officer were intended to be the predictor variables and the change in R square was found to be statistically significant. In the sixth model six predictor variables was used namely lending experience, risk behavior, education qualification, problem solving capabilities, exposure to MSMEs and Relationship building capabilities. A multiple regression with the six predictor variables reveals that the model is statistically significant at 1 percent level. The change in R Square value when compared to the previous five factor model was also found to be statistically significant at one percent level.

Table 4: Table showing R Square change statistics for addition of each predictor variable in proposed model.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.728 ^a	.530	.527	.27098	.530	180.720	1	160	.000
2	.844 ^b	.712	.708	.21306	.181	99.822	1	159	.000
3	.922 ^c	.849	.847	.15441	.138	144.711	1	158	.000
4	.953 ^d	.908	.905	.12129	.058	99.054	1	157	.000
5	.979 ^e	.958	.956	.08254	.050	183.059	1	156	.000
6	.990 ^f	.980	.979	.05681	.022	174.250	1	155	.000

- a. Predictors: (Constant), Lendexp
- b. Predictors: (Constant), Lendexp, Riskbehav
- c. Predictors: (Constant), Lendexp, Riskbehav, Education
- d. Predictors: (Constant), Lendexp, Riskbehav, Education, Problemsolvin
- e. Predictors: (Constant), Lendexp, Riskbehav, Education, ExposMSME
- f. Predictors: (Constant), Lendexp, Riskbehav, Education, Problemsolvin, ExposMSME, Relationshipbuil
- g. Dependent Variable: ProbLoanPred

6. Discussion

To analyze the relative importance of each factors affecting the choice criteria of the loan officers a simple linear regression of each of the factors was conducted separately. The R Square value of simple linear regression with the factors lending experience, risk taking behavior, education qualification, problem solving abilities, exposure to MSMEs, relationship building capabilities were found to be 0.530, 0.447 0.422, 0.388, 0.287 and 0.259 respectively. Hence it can be inferred that the lending experience and the risk behavior of the Loan officers were considered to be the important factors in determining the choice criteria for predicting business loan decisions.

The loan officers' choice criteria is highly influenced by their human capital. There is heterogeneity across banks towards MSMEs business loans and its approval, this heterogeneity in banks is due to different loan policies followed by the banks. Since there is heterogeneity in the banks' loan policies there is a variation in decisions of the loan officers in case of MSMEs business loans. The policy makers should formulate loan policies that are common across banks and can be adopted by a majority of the banks. This homogeneity in loan policies will avoid confusion among the loan officers and the MSMEs in their MSMEs business loan decisions.

Table 5: Table showing the t statistics value and significance value of proposed hypothesis

Hypothesis	t Statistics	P value	Supported/ Not Supported
H1	23.871	0.000***	Supported
H2	21.283	0.000***	Supported
H3	20.103	0.000***	Supported
H4	13.2	0.000***	Supported
H5	19.056	0.000***	Supported
H6	24.027	0.000***	Supported

***- significant at 0.001 level.

The predominant finding in the study is that the human capital of the loan officer is significantly influencing the choice criteria of MSMEs business loans. The determinants of the human capital like education qualification, lending experience, Risk behavior, Problem solving skills, relationship building and exposure to MSMEs have a direct positive impact on the prediction of MSME business loan decision of MSMEs. The above table summarizes the stated hypothesis and their statistical significance value. All the six hypothesis stated in the literature review were found to be statistically significant and are supported. Hence it can be inferred that loan officers loan officers with developed human capital will be more likely to predict Micro Medium and Small Enterprises (MSMEs) business loans precisely.

7. Limitations and Further Research

The research study involved sample collection from the loan officers in the Namakkal district, India, hence the results of the research study has geographic limitations. The research study was conducted in Namakkal district from April 2017 to September 2017, a longitudinal study of the same kind will reveal more research findings. The research was carried for understanding the human capital of loan officers hence the results of the research cannot be generalized to other

industries. In future the research can be extended to other geographic locations and a comparative analysis of the results can be conducted to explore the choice behavior of loan officers. The research can also be extended to other services industries like insurance, credit rating agencies and venture capitalists.

8. Conclusion

The Micro, small and medium scale industries primarily faces liquidity crisis and it is important to pump in money based on the requirements of the MSMEs. Banks serves as a major source of funds for the MSMEs and can help the MSMEs to run their business successfully. The loan officers acts as bridge between the banks and MSMEs. The decisions made by the loan officers can determine the progress of the small business. Hence it is important to know the decision making process of the loan officers. While loan officers follow loan policies of the banks and are rational in their decision making process, they are also equally influenced by their own human capital. The human capital of a loan officer will be dependent on his knowledge, skills and experience. This study has revealed the importance of human capital of a loan officer in his choice criteria for predicting the business loans precisely. Hence it is important for the banks to understand the human capital of their loan officers and formulate strategies to improve them. The banks can also invest in the human capital of the loan officers and consider them to be the assets of the organization. The banks can also indulge in periodical training for the loan officers for improving their human capital. The loan officers with enhanced human capital can make well informed and risk adjusted financial decision which will be mutually beneficial for the banks as well as the MSMEs.

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