# BANK'S LENDING DECISION TO THE INDUSTRIAL SECTORS

Ms.Sangeeta Mohanty

Assistant Professor, Academy of Business Administration,

Industrial Estate (S1/25)

Angaragadia, Balasore, Orissa (756001)

## Abstract

*Nationalization gave a great impetus and also gave a new orientation to the banking system. The importance of the banking system as an intermediary for channelizing the savings of community and its pivotal role in the economy made it necessary, particularly in the context of overall usage of the resources in terms of money to the industrial sectors. The explosive growth economy and the favorable demographic profile continue to drive consumption pattern of the people and it automatically leads to a market for a wide range of manufactured goods. And there by, we invite the stepping up of the new industries to satisfy the growing needs. Already we are in a position where industries are operating at near peak capacities and sustained demand growth will require a rapid build up of production capacities and infrastructure. But the industrial sectors are facing problems in getting loans. This paper examines the process of sanctioning loans and finding the criteria of financing the industrial sectors by the banking sector .The purpose of the present paper is to provide a more comprehensive statistical*

*analysis with respect to the factors which influence the approval or denial of a business firm's loan application.*

**Key Words: Banking sector, credit, loan, lending decision, variables,**

## Introduction

One of the major areas of the economy that has received focus in recent times is the financial sector. And within the broad domain of the financial sector, it is the banking sector that has been the policymakers. Therefore, the banking sector in most emerging economies is passing through the challenges and India is not exception to this rule**.** When we consider financial matters, we think of banks as the primary financial entity. However, the continuing wave of bank mergers and acquisitions has raised concern about the availability of debt capital, especially to business firms. Now this issue is more hotly debated in Indian banking sector, where small firms dominate the business sector. In the light of the importance of financial intermediation and the difficulties that several countries have encountered in restructuring their fragile banking systems, it would be useful to examine the performance of the banking sector with respect to the procedure of giving loan in India during the twenties.

A loan is a legal contract between the lender and the debtors. The major business of banking company is to grant loans and advances to traders as well as commercial and industrial institutes. The most important use of banks money is lending. There are also some risks in lending. While lending loans the banks usually keep securities and assets as a supports so that lending may be safe and secured.

## Industrial loan

In the present changing scenario of banking industry it is the aim of all financial institutions and banks to provide all shorts of financial problems and needs to its clients. Therefore in the recent developments in the financial sector we have been witnessing the term lending institutions. The lending institutions are earlier aiming at providing long term credit requirement for industry but now they are providing working capital finance and also inland as well as foreign letter of credit. Banks have also started financing long term credit needs of the industry. With the advent of financial sector reforms ushered by govt. of India and RBI to provide liberalized environment in banking industry, it has become imperative to create environment to meet financial needs of a client, inland as well overseas by one institution only. In a nutshell "Universal Banking" is the need of the hour to survive. As a step in this direction some financial institution/banks have introduced the scheme of providing corporate loan.

## The Lending Decision

A bank's credit department will analyze a borrower and provide a credit rating used in the lending decision. Creditworthiness of borrowers determined by (5 C's) is listed below.

1. **Character**

   Bankers should continually emphasize the importance of the applicant's credit history. Character is the Prime determinant of a borrower's willingness to repay a loan. It is nothing but the honesty and the integrity of the person requiring loan.

2. **Capacity**

   It is the firm's ability to generate liquidity in the loan repayment process. Generating the cash flow and changing the capital structure are the primary source of capital repayment.

3. **Capital**

   This category refers to the loan applicant's ability to create income/cash flow**.** The "real" net worth of the firm is a good signal for repayment likelihood.

4. *Collateral*

   Bank lenders always run with the risk of repayment of the loan by the borrowers.

   Collateral provides security to loans made. As a part of repayment, accounts receivable, equipment, inventory, real estate and buildings are all potential sources of collateral.

5. *Conditions*

   This refers to the economic conditions, market conditions and the environment faced by the applicant. The lender should consider competitive conditions, supply/cost factors, changing technology and the business cycle comprising of booms, depression, recession and the recovery period.

The purpose of the present paper is to provide a more comprehensive statistical analysis with respect to the factors which influence the approval or denial of a business firm's loan application.

## Objectives

1. To know the criteria for granting bank loans to the industrial sectors
2. To identify the variable that the bank emphasizes before giving loans.
3. To find out the type of the business availing the loan most.
4. To find out the type of the preferable product to avail the loan most.
5. To find out which group (minority or majority) get   the loan easily.

6. To access the association in between the government approval of the firm and sanctioning the loan.
7. To know the legal structure of the firm helps in getting the loan.
8. Analysis of the relationship of the size of the company, Financial System, Business Experience with the chance of getting loan.

## Tools and techniques to be used

Tables' bar diagram and structures are used in explanations to bring out the point more clearly. Tabulation of the primary data was done. On the basis of these tables, trends came out more visibly. Other statistical techniques those are to be used are,

- **Chi-square** – it is used to test the independence of the attributes.
- **Ranking method**-its basic property is to arrange a number of attributes in a particular order.
- **Kolmogorov- Smirnov test** – it is used to test the relationship between the rank and the factors.
- **Large sample test (Z-test)** – it is used to test the equality of two-population proportion.
- **ANOVA** - it is used to test the significance of difference of the variability
- **Multiple regression**- It is used to find out the relation of a variable with a group of variables.

## Collection of Data

The wide variety of bank regulations along with the existing environmental condition suggests a number of factors that would influence to accept/reject commercial bank lending decision. Specifically, the database includes such information on banks who supplied the information about the strategy of getting

loan from a local commercial bank such as **PNB, UCO, AXIS, ANDHRA, SBI, HDFC** and their different branches. In order to achieve the identified objective pertaining to priorities and preferences and views, a sample of 100 bankers (Managers) have been selected in the city **Mumbai**, **Maharashtra** from the different branches of **PNB, UCO, AXIS, ANDHRA, SBI, HDFC** during **December, 2010**.A pre-tested questionnaire was administered to them, personal interviews with the help of the pre-tested interview schedule, designed for this purpose was taken. Besides, personal observation was done wherever necessarily applicable. A pilot survey was conducted in the cities and the questionnaire was improved in that light. A structured questionnaire was used as a data collection tool, and the statistical judgment sampling was resorted for the purpose of the study.

## Analysis and Interpretation

### 1. Structure wise analysis

It is important for the bankers to note down the legal structure of a firm; that is, whether it is a **sole proprietorship, partnership or corporation**. A one – way ANOVA is performed to test whether there is any differences in the structures while availing the loan.

**Null Hypothesis:**

$H_0$: There are no differences in the structure of the firm in getting the loan.

**ANOVA Table-1**

| Sources of variation | d.f. | Sum of | Mean Sum of | F |
|---|---|---|---|---|
| Column  (type  of  the | 2 | 86.79 | 43.395 | $F_1$=12.07 |
| Error | 12 | 73 | 6.08 | |
| **Total** | 14 | | | |

$F_{0.05}$ (2, 12) =3.88 **<** Cal. F ------ $H_0$ is rejected.

**Interpretation:** There exist differences in the structures of the firm in getting loan.

The following table shows the percentages of the responses obtained against to each category.

**Table-2**

| Type of the structure | Percentage |
|-----------------------|------------|
| Sole Proprietorship | 14% |
| Partnership | 0% |
| Big Corporation | 86% |

**Interpretation:** Hence, it is interpreted that all most all the bankers favor to the big corporation while giving the loan.

## 2. Ownership Wise Analysis

Considering the ownership of this firm, it is important to note down the nature of business such as **minority business** (that is, fifty percent or more minority owned) or **majority business.** For this purpose, we have performed the large sample test **(Z)** in order to know whether the proportion of minority business owner is more important than that of majority or not.

**Null hypothesis**: $H_0$: $P = 0.50$

**Test statistic**

$Z = p - P / \sqrt{\{PQ (1/ n)\}}$

P = Population Proportion of the bankers favoring to majority group

n = sample size = 100

**Calculation: $Z_{CAL} = p - P / \sqrt{\{PQ (1/ n)\}}$**    Where, P = 0.50, Q = 1- P

p = Sample proportion of the bankers favoring to majority group = (73 /100) = 0.73

**$Z_{CAL} = 0.73 - 0.50/\sqrt{\{0.50* 0.50 (1/100)\}} = 4.6$**

**$Z_{TAB}$** =1.645 at 5% level of significance.

As, **$Z_{CAL > } Z_{TAB}$** ,$H_0$ is rejected and $H_1$ is accepted.

**Interpretation:** Hence we can conclude that bank emphasizes the majority group while sanctioning the loan.

3. **Analysis of the relationship of the size of the company, Financial System, Business Experience with the chance of getting loan**

The chance of getting the loan is correlated with the size of the company, Financial System and Business Experience. Here the basic interest is to find out the weightage of the independent variables **(Size of the company, Financial System and Business Experience)** on the predictor, the chance of getting the loan by using the Multiple Regression technique.

Let **Y** be the dependent variable = the chances of getting Loan

**B** = the coefficient of determinant (a constant value)

**$X_1$** = Size of the company, **$X_2$** = Financial System, **$X_3$** = Business Experience

**$Y = B_0 + B_1 X_1 + B_2 X_2 + B_3 X_3$**

Step-by-Step Multiple Regression

**Table- 3: Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|------|----------|-------------------|----------------------------|
| 1 | .987 | .974 | .968 | 2.65705 |

*a Predictors: (Constant), X3, X1, X2*

Adjusted R Square value tells us that our model accounts for 96.8% of variance and it signifies the model as good one.

**Table-4: Correlations**

|    | Y | X1 | X2 | X3 |
|----|-------|-------|-------|-------|
| Y | 1.000 | .980 | .977 | .542 |
| X1 | .980 | 1.000 | .966 | .516 |
| X2 | .977 | .966 | 1.000 | .541 |
| X3 | .542 | .516 | .541 | 1.000 |

*\*\* Correlation is significant at 0.01 level (2-tailed)*

This table gives details of the correlation between each pair of variables. There is a very good correlation between the criterion and the predictor variables. The values here are acceptable.

**Table-5:** Coefficients

| | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| (Constant) | -24.118 | 11.318 | | -2.131 | .051 |
| X1 | 0.806 | .250 | .539 | 3.225 | .006 |
| X2 | 0.899 | .345 | .443 | 2.602 | .021 |
| X3 | 0.28003 | .077 | .025 | .478 | .640 |

*a Dependent Variable: Y*

The Standardized Beta Coefficients give a measure of the contribution of each variable to the model. A large value indicates that a unit change in this predictor variable has a large effect on the criterion variable. The t and Sig (p) values give a rough indication of the impact of each predictor variable – a big absolute t value and small p value suggests that a predictor variables having a large impact on the criterion variable.

Financial System has the highest beta value (0.899), Size of the company and the Business Experience have the values of (0.899) and (0.28003).Error variance is explained by constant (11.318), followed by Financial System (0.345), Size of the company (0.250), Business Experience (0.077). Sample t-test correlates positively for Size of the company (3.225), Financial System (2.602) and Business Experience (0.478) with the chance of availing the loan.

$$Y = -24.118 + 0.806X_1 + 0.899X_2 + 0.28003X_3$$

It is evident that the bankers are giving more importance on the financial system, size of the firm and less importance on business experience while giving the loan.

4. **Analysis of the most important financial system of the firm to get the loan**

Firms employing a year-end compilation accounting method for tax purposes can provide little financial information to a prospective lender. Here the basic purpose is to find out the type of the financial record favorable to get the loan.

**Table-6**

| Financial System | Percentage |
|---|---|
| a) Keep documents which are compiled at the end of the year for tax purposes. | 2% |
| b) Maintain records which can provide information about the balance sheet along with tax information at the end of the year | 3% |
| c) Have a system which generates quarterly along with year-end financial statements and tax information | 10% |
| d) Utilize a system which provides monthly, quarterly and year –end financial statements and the tax information from the year. | 85% |

**Interpretation:** A majority i.e. 85% of the bankers are in favor of the fact that the firm should utilize a system which provides monthly, quarterly and year –end financial statements and the tax information from the year.

5. **Analysis of the factors influencing for sanctioning the loan.**

It is necessary to assess the important factors influencing to sanction the loan. There are so many factors, but we have included the following factors only. The data have been collected on 5-point likert type scale in all eight attributes. The statements were measurable on a likert scale of 1-5; where 5 indicates strongly agree and 1 indicates strongly disagree.

**Table 7: The summarized rank order**

**Rank**

| Features | 1 | 2 | 3 | 4 | 5 | Rank Sum | Rank |
|---|---|---|---|---|---|---|---|
| Taxes | 6 | 19 | 20 | 26 | 29 | 353 | 4 |
| Poor Sales | 2 | 20 | 21 | 26 | 31 | 364 | 3 |
| Financing and Interest Rates | 2 | 10 | 12 | 35 | 41 | 403 | 2 |
| Operating and Production Cost | 0 | 4 | 20 | 23 | 53 | 425 | 1 |
| Government Regulations | 7 | 19 | 20 | 26 | 28 | 349 | 5 |
| Availability and Quality of Labor | 15 | 15 | 20 | 25 | 25 | 330 | 6 |
| Cost of Insurance | 20 | 15 | 25 | 20 | 20 | 305 | 7 |
| Personal recommendation | 17 | 20 | 25 | 18 | 20 | 304 | 8 |

**Interpretation:** From the above analysis we conclude that the Operating and Production Costs, Financing and Interest Rates, Poor Sales are the more influencing factors for the bankers to sanction the loan.

### 6.  Product Wise Analysis

The type of the product such as **FMCG, Petroleum and gasoline products, Steel product,** and **Textile product** to be produced by the company is of prime consideration of getting loan.

The differences among the different products are analyzed statistically using one-way **ANOVA.**

**Null Hypothesis:**  $H_0$: There is no difference in the products of getting the loan.

**ANOVA Table-8**

| Sources of variation | d.f. | Sum of | Mean Sum of | F |
|---|---|---|---|---|
| Column  (type  of | 4 | 81.267 | 27.089 | $F_1=$ |
| Error | 12 | 77.2128 | 6.4344 | |
| **Total** | 15 | | | |

$F_{0.05}$ (4, 12) =3.26 **<** Cal. F ------ $H_0$ is rejected.

**Interpretation:** There exist differences in the products of getting the loan.

Let us proceed further to know that which product has the maximum weightage to get the loan.

**Table-9**

| Type of the Product | Percentage |
|---|---|
| FMCG | 18% |
| Petroleum and gasoline products | 55% |
| Steel Product | 12% |
| Textile Product | 15% |
| Others | 10% |

**Interpretation:** Majority bankers **(55%)** favored to Petroleum and gasoline products while sanctioning loan.

## 7. Analysis of having the government approval

In order to access whether the government approval is important for getting the loan or not we have performed chi-square test as follows.

**Null hypothesis $H_0$:** There is no significant association between the government approval of the firm and availing loan

**Statistical test:** Chi square test is the most appropriate test for this purpose.

**Test statistic:**

$x^2$ (Chi-square) = $\sum[(O-E)^2/E]$= 16.766 Tab. Val of $x^2_{(0.05)}$ at 3 d.f is 5.99

As, $x^2_{cal} > x^2_{tab}$, $H_0$ is rejected and $H_1$ is accepted

**Interpretation:** So, $H_0$ is rejected and $H_1$ is accepted. In other words, there is an association between the government approval of the firm and availing loan.

## 8. Business Wise Analysis

The nature of a firm's business, such as retail, manufacturing or construction could influence the probability of loan approval. The effect could be positive or negative.

The differences among the different products are analyzed statistically using one-way **ANOVA.**

**Null Hypothesis:**

$H_0$: There is no difference in the type of the business of getting the loan.

**ANOVA Table-10**

| Sources of variation | d.f. | Sum of squares | Mean Sum of squares | F |
|---|---|---|---|---|
| Column (type of product) | 4 | 81.267 | 27.089 | $F_1$=4.21 |
| Error | 12 | 77.2128 | 6.4344 | |
| **Total** | 15 | | | |

$F_{0.05}$ (4, 12) =3.26 **<** Cal. F ------ $H_{01}$ is rejected.

**Interpretation:** There exists difference in the type of the business of getting the loan

Let us proceed further to know that which type of the business has the maximum weightage to get the loan.

**Table-11**

| Type of the Product | Percentage |
|---|---|
| Retail | 20% |
| Manufacturing | 65% |
| Construction | 15% |

**Interpretation:** Maximum bankers **(65%)** favored to manufacturing unit business while sanctioning loan.

## Conclusion and Findings

Indian financial sector has undergone significant expansion during the last decade. A well developed infrastructure has been promoted to cater the needs of growing industries and expanding capital market of India. Commercial banks have traditionally played a significant role in providing debt financing to business. There is a deadly competition among the industries availing the bank loans. So, it

is felt essential to study the factors influencing the bank's lending decision. The research is just one component in this direction only. This Study provides the data to assess the role of financial information availability in the lending decision. In addition, a variety of other variables including the size of the firm, the type of business, the legal structure of the firm, and ethnicity of the owner are also included for the analysis. The major findings of the study are given below.

1. All most all the bankers favor to the big corporation while giving the loan.
2. The bank emphasizes the majority group while sanctioning the loan.
3. The bankers are giving more importance on the financial system, size of the firm and less importance on business experience while giving the loan.
4. A majority i.e. 85% of the bankers are in favor of the fact that the firm should utilize a system which provides monthly, quarterly and year –end financial statements and the tax information from the year.
5. The Operating and Production Costs, Financing and Interest Rates, Poor Sales are the more influencing factors for the bankers to sanction the loan.
6. The government approval of the firm and chance of availing the loan are associated.
7. Maximum bankers (55%) favored to Petroleum and gasoline products while sanctioning loan.
8. Maximum bankers (65%) favored to manufacturing unit business while sanctioning loan.

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