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# "THE STUDY OF RELATIONSHIP BETWEEN CAPITAL STRUCTURE AND COST OF CAPITAL" WITH RESPECT TO INDUSTRIES FROM AHMEDNAGAR DISTRICT

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**ABSTRACT**

A business organization requires funds for various activities of the enterprise. Requirement of funds can be broadly categorized as Long-term requirement and Short-term requirement. The long-term requirements of funds are for the purposes of fixed assets creation, which is essential for improving the earning capacity of the business. Short-term funds are required for financing the day-to-day activities of the business. This is known as the working capital of the business.

It is fundamental principle of financial management that funds raised should be exactly as per the requirement of business and they should be neither surplus nor in-adequate from the requirement point of view.

The aim of this study is to study the meaning of capital structure and cost of capital. Some companies do not plan their capital structure, and it develops as a result of the financial decisions taken by the financial manager without any formal planning. These companies may prosper in the short-run, but ultimately they may face considerable difficulties in raising funds to finance their activities. With unplanned capital structure, these companies may also fail to economize the use of their funds. Consequently, it is being increasingly realized that a company should plan its capital structure to maximize the use of the funds and to be able to adapt more easily to the changing conditions.

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The study focuses on the study of relationship between capital structure planning and cost of capital of the companies from Ahmednagar district. It was found that the industries from Ahmednagar district are planning their capital structure optimally for the well-being of the organisation.

**Keywords: Capital Structure, Cost of Capital, Capital Structure Planning & Optimum Capital Structure etc.**

## 1) INTRODUCTION:

A business organization requires funds for various types of business activities. The requirement of funds can be broadly categorized as:

a) Long-term requirement of funds and

b) Short-term requirement of funds

The long-term requirements of funds are for the purpose of creation of fixed assets, which is essential for improving the earning capacity of the business organizations. Short-term funds are required for financing the day-to-day business activities. This is known as the working capital or circulating capital of the business.

Funds can be raised through various sources which are broadly classified into long-term sources of funds and short-term sources of funds. Long-term sources of funds include issue of shares and debentures and long-term loans while short-term sources of funds include bank credit, public deposits and short-term loans and so on.

### 1.1 Capital Structure:

**Meaning:**

“Capital Structure is the proportion of equity shares, preference shares and debentures on a firm’s balance sheet”.

“Capital Structure refers to the composition of capital that is the mix of sources from which the long term funds required by a business are raised”.

"Capital Structure is the makeup of a firm's capitalization that it represents the mix of different sources of long term funds in the total capitalization of the company". C. W. Gerstenberg

Theoretically, the capital structure of the company can be of the following four patterns:

a) Capital Structure with equity shares.

b) Capital Structure with equity shares and preference shares.

c) Capital structure with equity shares and debentures.

d) Capital Structure with equity shares, preference shares and debentures.

Capital structure is the permanent financing of the firm, represented primarily by long term debt, preferred stock and common equity but excluding all short term credit.

**Goals / Principles of Capital Structure Management:**

a) Cost Principle

b) Risk Principle

c) Control Principle

d) Flexibility Principle

e) Timing Principle

**Characteristics of an Ideal Capital Structure:**

a) Simplicity

b) Liquidity

c) Flexibility

d) Balance

e) Economical

f) Provision against contingencies

g) Business soundness and Consistent with objectives

**Factors Affecting Capital Structure:**

**Internal factors:**

a) Cost of Capital

b) Risk Factor

c) Control factor

d) Objects of Capital structure Planning

**External factors:**

a) General Economic Conditions

b) Level of Interest Rates

c) Policy of Lending Institutions

d) Taxation Policy

e) Statutory Restrictions

**General Factors:**

a) Constitution of Company

b) Characteristics of Company

c) Stability of Earnings

d) Attitude of Management

**Determinants of Capital Structure:**

a) The degree of business risk

b) Capital Market Conditions

c) Government Regulations

d) Attitude towards risk

e) Flexibility

f) Size of company

g) Trading on equity

**1.2**

**1.3 Cost of Capital:**

**Meaning:**

"It is simply the rate of return that the funds used should produce to justify their use within the firm in light of the wealth maximization objective". - I M Pandey

"It is the minimum return that a firm must earn on its investment for the market value of the firm to remains unchanged". - Khan and Jain

In view of the above discussion, the cost of capital can be stated as:

$K=K_0+K_1+K_2$,

Where,

K= Total cost of capital,

$K_0$= Riskless cost/ rate of return,

$K_1$, $K_2$= Premium for business risk.

**Uses of cost of capital:**

a) In capital budgeting decisions may be either accept or reject decisions.

b) In planning of the capital structure.

**Concepts of Cost of Capital:**

**a) Component Cost and Composite Cost:**

Component cost refers to the cost of individual components of cost of capital.

Composite cost of capital refers to the combined cost or weighted average cost of capital.

**b) Average Cost and Marginal Cost:**

The average cost refers to the weighted average cost of capital.

Marginal cost refers to the incremental cost.

**c) Explicit Cost and Implicit Cost:**

Explicit cost is the rate that the firm pays to procure financing.

Implicit cost is the rate of return associated with the best investment opportunity forgone.

**d) Opportunity Cost:**

The opportunity cost is the rate of return foregone on the next best alternative investment opportunity of comparable risk.

**Types of Cost of Capital:**

**a) Specific cost:**

The specific cost of capital is the cost of specific source of capital.

**b) Weighted average cost of capital:**

This cost of capital means, which is the aggregate cost of capital.

The following illustration will clarify the concept:

| Sources of capital | Book value | Weights on the basis of book value | Specific costs | Weighted average costs |
|---|---|---|---|---|
| **Equity** | 40000 | 0.40 | 0.16 | **0.064** |
| **Debt** | 60000 | 0.60 | 0.09 | **0.054** |
| | **100000** | **1** | | **0.118** |

Therefore, weighed average cost of capital is 11.8%.

**c) Historical Cost:**

The cost of funds raised in the past is the historical cost of capital.

**d) Future cost:**

The cost of funds that will be raised in future is the future cost of capital.

**Importance of Cost of Capital:**

a) The cost of capital is used as a tool of screening the investment proposals.

b) The cost of capital is used as the capitalization rate.

c) Provides useful guidelines for determining optimal capital structure.

d) Evaluating investment decisions and designing a firm's debt policy

e) Appraising the financial performance of top management

## 2) REVIEW OF LITERATURE:

Review of literature was done to have in-depth idea related to the field of study. It gives us background and research gap in earlier studies. It also enables to enhance the knowledge base and provides direction for further study. In this way it prepares the background for justification of present research plan. In this chapter an attempt has been made to review the studies related to different aspects of relationship between capital structure and cost of capital in India as well as abroad.

**a) A study entitled "Impact of Capital Structure on Profitability: A Study of Listed Companies in the Baltic Countries" by Irina Berzkalne, 2013.**

The aim of the present research was to evaluate the impact of capital structure on profitability and based on empirical results to formulate conclusions. In this research study, qualitative and quantitative methods of research were applied: the monographic method, correlation analysis and multiple regression analysis. The correlation and regression analysis were used to estimate the functions relating to the impact of profitability on the measures of capital structure.

The results of research revealed a significantly negative relationship between profitability and capital structure. This implies that an increase in the debt ratios was associated with a decrease in profitability. During the economic downturn, an increase in the debt levels was related to an even deeper fall in profitability. The results showed that the profitability increased with size and sales growth.

(Source: www.shodhganga.inflibnet.ac.in)

**b) A study entitled "Company Financing, Capital Structure and Ownership: A Survey and Implications for Developing Economies" by Sanjiva Prasad, Christopher J. Green and Victor Murinde, February 2001.**

This study critically surveyed the key literature on corporate financing policy, capital structure and firm ownership in order to identify the leading theoretical and empirical issues in this area. The theoretical component of the survey attempted to reconcile competing theories of capital structure and appraised recent models which use agency theory and asymmetric information to explore the impact of managerial shareholdings, corporate strategy and taxation on the firm's capital structure. The empirical component focused on univariate analyses as well as multivariate models of capital structure and makes a comparison between theoretical predictions and empirical results. The bulk of the empirical research that was surveyed concerned with the experience of a few western industrial countries and the implications of this research were assessed accordingly.

(Source: www.shodhganga.inflibnet.ac.in)

**c) A study entitled "Capital Structure and Debt structure" by Joshua D. Rauh, 2010.**

The researcher begins the study by showing the importance of recognizing debt heterogeneity in capital structure studies. Researcher classified debt into bank debt, straight bond, convertible bond, commercial study, mortgage debt and all other debt. The drawback of treating corporate debt as uniform was highlighted by the fact that different types of debt instruments have very different properties as far as their cash flow claims, their sensitivity to information and their incentive properties for managers. After demonstrating the importance of debt heterogeneity in corporate capital structure, researcher focused on how debt structure varies across the credit quality distribution.

The empirical results were most closely related to debt composition. However, research findings provide important new insights into capital structure decisions on a number of dimensions.
(Source: www.ssrn.com)

**d) A study entitled "Cost of Capital of Selected Indian Companies" by Sukhwinder Kaur, 2010.**

From the analytical study it was very interesting to note that there has been a wide variation in cost of debt, cost of preference share capital, cost of equity capital and overall cost of capital over a period of time but the basic trend has been of decline in respective costs during post-liberalization period. The cost of debt and cost of preference share capital have been observed to be less than cost of equity capital in maximum number of years in all the selected companies.
This has important implication for managerial decision making. The companies can no longer depend solely on equity or on extreme leverage as it will lead to increase in cost of capital. A balance in form of optimum financing mix was required to be maintained so that cost of capital was at minimum level.

(Source: www.shodhganga.inflibnet.ac.in)

**e) A study entitled "A Study on the Determinants of Capital Structure and Profitability: With Special Reference to Food Industries in India" by R. Deepa, 2011.**

The results of the overall analysis portrayed that profitability has significant positive correlation with leverage proving that the food industries depend more on external funds as their profitability increases. However, size has influenced the relation between profitability and leverage. The medium income size firms showed that profitability has positive coefficient with leverage while high income size firms show that profitability has significant negative coefficient with leverage, which fact proved that the firms depend on retained earnings as their income size increases. Therefore, these findings permitted constructive suggestions for enhancing the financial performance of food industries in India**.**

The analysis was carried out in two major parts viz., preliminary analysis which attempts to bring out the relation between profit before interest tax and depreciation and the different constituents of capital structure and the main analysis, which was further divided into two aspects. Two regression equations were developed to test the developed hypothesis. The first regression equation endeavours to found out the determinants of capital structure while the second regression equation attempts to found out the determinants of profitability.

(Source: www.shodhganga.inflibnet.ac.in)

**f) A study entitled "The Relationship between Financial Structure and Productivity of Selected Indian Firms" by Meetakshi Pant, 2012.**

The analysis of the capital structure of the selected cooperatives revealed that there was no set capital structure for the mills. The norm for debt-equity in early 1960's and 1970's was 2:1. It was revised to 1:1 in the beginning of the current decade. But this norm was not maintained in many of the mills. There were variations within the industries. Some mills had zero level of debt at some point of time whereas some have a debt proportion of more than 75 %. Some had found it difficult to bring down the proportion of debt and therefore the debt was floating at a high level. The estimation of cost of capital in cooperative was different from that in a private enterprise. Similarly, the formula to calculate the cost of debt capital cannot be applied to cooperative because cooperatives borrow from several sources, at different rates and on different terms and conditions.

(Source: www.shodhganga.inflibnet.ac.in)

## 3) RESEARCH METHODOLGY:

### 3.1. Topic of Research:

"The Study of Relationship between Capital Structure and Cost of Capital" with respect to Industries from Ahmednagar District.

**3.2. Aim of Research:**

The most important aim of research was to analyze the relationship between capital structure and cost of capital.

**3.3. Objectives of Research:**

a) To find out the relationship between capital structure and cost of capital of industries from Ahmednagar district.

b) To identify the problems in accomplishment of optimal capital structure of industries from Ahmednagar district.

**3.4. Scope of Research:**

The research was carried out in entire medium scale and large scale industries from 14 taluka's of Ahmednagar district.

- The scope of research study covered industrial units from Ahmednagar district.
- The scope of research study included medium scale and large scale industrial units from Ahmednagar district.

**3.5. Hypothesis of Research:**

a) There is no relationship between capital structure and cost of capital of industries from Ahmednagar district.

b) There is no difficulty's in attainment of an optimum capital structure of industries from Ahmednagar district.

**3.6. Research Design:**

The research design is as follows:

**A. Types of Data:**

A combination of both primary data as well as secondary data was used for this research study. Primary data was collected afresh and for the first time by the researcher. The secondary data was already exists in some or the other form and was collected already by someone else.

**B. Sources of Data:**

The data was collected from following sources:

**Primary Data:** The primary data was collected from General Managers, Assistant General Managers, Finance Managers, Assistant Finance Managers and Accounts Managers of finance department of medium scale and large scale industries in Ahmednagar district.

**Secondary Data:** The secondary data was collected from various Annual reports, Balance sheet, Reference Books, Magazines, Journals, Articles and Various Internet Media sources.

**C. Data Collection Methods:**

Survey and observation method was used to collect primary data. The primary data was collected from the finance department heads or managers of the industries in Ahmednagar district. The researcher has personally met the respondents along with the questionnaire and recorded the responses. The personal interviews of respondents are conducted and questionnaire was used to as research instrument to collect information.

**D. Research Instruments:**

Questionnaire was used as research instrument for data collection. The questionnaire consists of open ended and close ended 27 questions, out of which 25 questions are close end questions and 2 questions are open end questions.

**E. Sampling Design:**

The present research study was based on census method of sampling. The following table showed the population of large scale industries and medium scale industries in Ahmednagar district.

**Type of Industries:**

Enterprises engaged in the manufacture or production of goods as specified below:

**a) Large Scale Industries:**

A large scale enterprise is an enterprise where the investment in plant and machinery or equipment's is more than Rs.10 crores.

**b) Medium Scale Industries:**

A medium scale enterprise is an enterprise where the investment in plant and machinery or equipment's is more than Rs.5 crores but does not exceed Rs.10 crores.

| **Types of Industries** | **Large Scale** | **Medium Scale** |
|---|---|---|
| Total Population (147) | 43 | 104 |

The present research study was based on census method of sampling. The data was collected from all large scale and medium scale industries in Ahmednagar district.

**F. Tools for Data Presentation:**

The tools such as Graphs, Bar Diagram and Pie Chart were used for data analysis and presentations of primary data.

**G. Statistical Tools for Hypothesis Testing:**

The statistical tools such as Ratios, Proportions and Percentages and Weighted averages was used for hypothesis testing

**Weighted Average:**

The point about which items (answer) have a tendency to cluster measures of central tendency (or statistical averages) was used. Such a measures / points are considered as the most representative figure for the entire mass of data. Instead of calculating the simple mean, the weighted mean / average was used for a realistic average.

**H. Software used for analysis:**

Widely used Statistical Package for Social Sciences (SPSS) version 17.0 was used for analysis of the data.

**4) DATA ANALYSIS AND INTREPRETATION:**

**Weighted Average:**

The point about which items (answer) have a tendency to cluster measures of central tendency (or statistical averages) was used. Such a measures / points were considered as the most representative figure for the entire mass of data. Instead of calculating the simple mean, the weighted mean/average was calculated /used for a realistic average. The weighted mean/ average were worked out as follows:

$$\bar{x}_w = \frac{\sum w_i x_i}{\sum w_i}$$

Where-

$X_w$ bar = Weighted average

$W_i$= Weight of the $i^{th}$ item X

$X_i$= Value of the $i^{th}$ item X

**Note:** for 5 Answers 1 to 05 weights are given.

| Sr. No. | Ratio | Weighted Avg. | Result |
|---|---|---|---|
| 1 | Proportion of debt-equity ratio (Ans: X= 1:1, 2:1, 3:1, 4:1, Any other Weight: W= 1, 2, 3, 4, 5) | **1.89** | This group of industries fell into **2:1** proportion of debt-equity ratio |
| 2 | The rate of interest of debt funds | **2.80** | This group of industries |

| | | | |
|---|---|---|---|
| | (Ans: X= <5%, 5-10%, 10-15%, 15-20%, Any Other<br>Weight: W= 1, 2, 3, 4, 5) | | fell into **10-15%** rate of interest of debt funds |
| 3 | Capitalization rate of your organization<br>(Ans: X= <5%, 5-10%, 10-15%, 15-20%, 20%<br>Weight: W= 1, 2, 3, 4, 5) | **2.73** | This group of industries fell into **10-15%** rate of capitalization |
| 4 | The overall cost of capital of your organization<br>(Ans: X= <50L, 50L-1C, 1C-1.5C, 1.5C-2Cr, >2Cr.<br>Weight: W= 1, 2, 3, 4, 5) | **4.35** | This group of industries fell into **1.5 Cr to 2 Cr** overall cost of capital |
| 5 | The weighted average cost of capital of your organization.<br>(Ans: X= <5%, 5-10%, 10-15%, 15-20%, >20%<br>Weight: W= 1, 2, 3, 4, 5) | **2.81** | This group of industries fell into **10-15%** weighted average cost of capital |

**5) RESEARCH FINDINGS:**

Research findings mean the principal outcomes of a research; what the research suggested, revealed or indicated. This usually refers to the totality of outcomes, rather than the conclusions or recommendations drawn from research.

**1) Proportion of debt-equity ratio:**

The calculated weighted average was **1.89** for the proportion of debt-equity ratio. As per the weight given to parameters of result and value of calculated weighted average, the industries from Ahmednagar district fell into second group of answer; it means this group of industries having **2.1** proportion of debt-equity ratio.

**2) The rate of interest of debt funds:**

The calculated weighted average was **2.80** for the rate of interest of debt funds. As per the weight given to parameters of result and value of calculated weighted average, the industries from

Ahmednagar district fell into third group of answer; it means this group of industries fell into **10-15%** rate of interest of debt funds.

**3) Capitalization rate of your organization:**

The calculated weighted average was **2.73** for the capitalization rate of organization. As per the weight given to parameters of result and value of calculated weighted average, the industries from Ahmednagar district fell into third group of answer; it means this group of industries fell into **10-15%** capitalization rate of organization.

**4) The overall cost of capital of your organization:**

The calculated weighted average was **4.35** for the overall cost of capital of organization. As per the weight given to parameters of result and value of calculated weighted average, the industries from Ahmednagar district fell into fourth group of answer; it means this group of industries fell into **1.5 Cr to 2 Cr** overall cost of capital of organization.

**5) The weighted average cost of capital of your organization:**

The calculated weighted average was **2.81** for the weighted average cost of capital of the organization. As per the weight given to parameters of result and value of calculated weighted average, the industries from Ahmednagar district fell into third group of answer, it means this group of industries fell into **10-15%** weighted average cost of capital of the organization.

**6) PROBLEMS IN ACHEIVING OPTIMUM CAPITAL STRUCTURE:**

1) While making a choice of the capital structure the future cash flow position was not kept in mind by the industries from Ahmednagar district.

2) Debt capital should be used only if the cash flow position was really good because a lot of cash needed in order to make payment of interest and refund of capital was forgotten by industries.

3) The capacity of a company to take debt depends on the cost of debt. In case the rate of interest on the debt capital was more, more interest to be paid on debt capital.

4) Cost of equity capital was affected by the use of debt capital because of high expectations of the equity shareholders from the company.

5) It's very difficult to maintain capital structure fairly flexible and transparent by the industries.

6) Capital structure planning was highly difficult because of new rules and regulations by the government and companies act.

7) Capital structure planning decisions were highly influenced by unstable returns from business activities.
8) It's very difficult to minimize the cost of financing and maximize earning per equity shares in the organization.
9) The capital structure decision involves high risk of loss of control in the long run of the company.
10) Many of the times debt content in the capital structure exceeds the limit which the company can bear.
11) The attitude of the lenders may not be positive in giving/sanctioning debts for industries.
12) The judgemental decisions of the capital structure planner results into failure of financial planning and ultimately industry.
13) While planning capital structure the industries are not keeping in mind the transparency and flexibility.

**7) CONCLUSION:**

A detailed study of the research work carried out in respect of 'The study of relationship between capital structure and cost of capital with respect to industries from Ahmednagar district' has been analyzed and reported in the preceding chapters.

The point about which items (answer) have a tendency to cluster measures of central tendency (or statistical averages) was used. Such a measures / points are considered as the most representative figure for the entire mass of data. Instead of calculating the simple mean, the weighted mean / average was used for a realistic average. A widely used Statistical Package for Social Sciences (SPSS) version 17.0 was used for analysis of data.

The industries from Ahmednagar district had fell into the capitalization rate 10%-15%, debt-equity ratio 2:1 and overall cost of capital 1.5 Cr. to 2 Cr. More than 50% industries have an optimum combination of debt and equity in their respective organizations. In different circumstances some industries prefer equity funds and some industries prefer debt funds under. industries are also taking into consideration the EBIT-EPS analysis, Cost of capital, Leverage, Cash flow analysis, Interests of the equity shareholders and the financial requirements while planning capital structure. The industries are also aware that the debt capital was a cheaper source of capital as compared to the owned capital. The industries are also alert about the changes in capital structure will affect the performance of company.

It is concluded that the objectives, purpose and scope of the study titled 'The study of relationship between capital structure and cost of capital with respect to industries from Ahmednagar district' has successfully proved and achieved the objectives of the above research study.

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