Chapter II
CHAPTER – II
THEORETICAL FRAMEWORK AND REVIEW OF LITERATURE

Theoretical analysis of financial performance, capital structure, cost of capital, growth, Indian software industry and review of related studies are presented in this chapter. For this purpose this chapter has been broadly grouped in to two parts. Part – I explains the theoretical perspectives of financial performance, capital structure, cost of capital, growth and Indian software industry. Part – II deals with a brief review of the previous research work done in financial performance, capital structure, cost of capital, growth and general studies related to software industry.

PART – I

2.1 FINANCIAL PERFORMANCE

The efficient functioning of any firm depends upon proper planning and control of its activities. Financial performance is the operating efficiency of a corporation in terms of the financial parameters. The financial efficiency of a corporation can be measured in terms of solvency, liquidity, capitalization, turnover ability, coverage ability, profitability, leverages, cost of capital etc. Much can be learnt about a firm from a careful examination of its financial statement as invaluable documents/ performance reports. It is a subjective measure of how well a firm can use assets from its primary mode of business and generate revenues.

The success of a country and its economy to a large extent depends on the performance of its corporations. So it is imperative to evaluate the performance of the corporate sector. The performance of a company can be analyzed in many ways. It can be judged in respect to market place, technology adoption, competitiveness, environmental protection and strategic positioning. The performance of a company in the above areas would be naturally reflected in the financial statements of a company. Financial
statements are organized summaries to provide information in convenient form. By analyzing the financial statements and evaluating the relationship between the components, a firm’s financial position and performance could be easily established. The success or failure of any firm is mainly linked with the quality of financial decisions. The focus of financial management is on efficient and judicious use of resources to attain the desired objective of the firm. Hence, efficient management of every business enterprise is closely linked with efficient management of its finances.

The first objective of the study is to evaluate the financial performance of the small, medium and large categories of software companies. Various financial ratios have been used to analyze the financial performance of three categories of software companies. Gross profit ratio, net profit ratio, return on investment, return on net worth and current ratio are calculated to analyze the financial performance of companies in three categories.

(i) **Gross Profit Ratio**

The gross profit ratio is also known as gross margin ratio. It is a very useful test of profitability and management efficiency. It indicates the relationship between production cost and selling price. It reflects the efficiency with which management produces each unit of product. It acts as an index of the ability of an enterprise to meet marketing expenses, administrative expenses, finance cost, taxes and appropriations like dividend. A high ratio highlights the margin of gross profit of the concern and on the other hand, low ratio indicates poor profitability. It can be calculated as

\[
\text{Gross Profit Margin} = \frac{\text{Gross Profit}}{\text{Sales}}
\]
(ii) **Net Profit Margin**

The net profit ratio indicates the overall profitability and efficiency of the business. This ratio shows the amount left to shareholders out of sales after meeting all expenses. This ratio helps in controlling the cost of production and assists in increasing the sales. If the ratio arrives at high, it indicates a good profitability position and provides high return to the shareholders. This ratio also indicates the firm’s capacity to withstand adverse economic conditions. This ratio is measured by

\[
\text{Net Profit Margin} = \frac{\text{Profit after tax}}{\text{Sales}}
\]

(iii) **Return on Investment**

This ratio is one of the most important ratios used for measuring the overall efficiency of a firm. As the primary objective of business is to maximize its earnings, this ratio indicates the extent to which this primary objective of business is being achieved. As this ratio reveals how well the resources of a firm are being used. Higher the ratio, better are the results. It can be computed as

\[
\text{Return on Investments} = \frac{\text{Earnings before interest and tax}}{\text{Total Assets}}
\]

(iv) **Return on Net Worth**

This ratio represents the ratio of net profit to proprietor’s fund. This ratio is very useful to measure the overall profitability of the concern. It is an index to the operational efficiency of the business as well as an indicator of profitability. The higher the ratio, the greater will be the return for owners and vice versa. It can be computed as

\[
\text{Return on Equity} = \frac{\text{Profit after tax}}{\text{Net worth}}
\]
(v) **Current Ratio**

Current ratio is the most common yardstick for measuring liquidity. It expresses the relationship between current assets and current liabilities. The basic point underlying the computation of this ratio is that it measures a firm's short-term solvency. The higher the current ratio, the larger is the amount of rupees available per rupee of current liability, and accordingly, the greater is the feeling of security. Thus through this ratio one can judge the ability of a business to meet its current obligations with a margin of safety. It can be calculated as

\[
\text{Current ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}
\]

#### 2.2 CAPITAL STRUCTURE

Estimation of capital requirements is necessary, but the formation of a capital structure is important. The capital structure is made up of debt and equity securities and refers to permanent financing of a firm. It is composed of long-term debt, preference share capital, equity share capital and shareholders funds. It is therefore necessary that correct estimate of the current and future need of capital be made to have an optimum capital structure, which shall help the organization to run its work smoothly and without any stress.

A prudential financial management policy underlines the need for establishing a balance between internal and external sources of capital. The relationship between debt and equity is important aspect related to the financing policy. Formulation of a suitable capital structure is more significant in the financing policy of a company.
2.2.1 Capital Structure and Financial Structure

Capital structure refers to the proportion of long-term sources of funds used by a firm to the equity capital. It is a mixture / combination of debt capital and equity capital and includes debenture, long term debt, preference share capital including reserves and surplus. Financial structure as distinguishes from capital structure refers to the various means of raising funds and includes net worth plus all liabilities (both long-term and short-term). Thus distinction between capital structure and financial structure depends on the treatment of short-term liabilities.

2.2.2 Factors Determining the Capital Structure

The capital structure of a concern depends upon many of factors such as leverage or trading on equity, growth of the company, nature and size of business, the idea of retaining control, flexibility of capital structure, requirements of investors, costs of flotation of new securities, timing of issue, corporate tax rate and the legal requirements. It is not possible to rank them because all such factors are of different importance and the influence of individual factors of a firm changes over a period of time. Every time the funds are needed, the financial manager has to study the pros and cons of the various sources of financé so as to select the most advantageous capital structure. The factors influencing the capital structure are discussed as follows:

(i) Capital Market Conditions

Capital market conditions do not remain the same forever. Sometimes there may be depression while at other times there may be boom in the market. The choice of the securities is also influenced by the market conditions. If the share market is depressed and there are pessimistic business conditions, the company should not issue equity shares, as investors would prefer safety. But in case there is boom period, it would be advisable to issue equity shares.
(ii) Cost of Capital

Every rupee invested in a firm has a cost. Cost of capital refers to the minimum return expected by its suppliers. The capital structure should provide for the minimum cost of capital. The main sources of finance for a firm are equity, preference share capital and debt capital. The return expected by the suppliers of capital depends upon the risk they have to undertake. Usually debt is a cheaper source of finance compared to preference and equity capital due to tax advantage. The rate of dividend is not fixed on equity capital. It is not a legal obligation to pay dividend and the equity shareholders undertake the highest risk as they cannot be paid back except at the winding up of the company and that too after paying all other obligations. Preference capital is cheaper than equity because of lesser risk involved and a fixed rate of dividend payable to preference shareholders. But debt is still a cheaper source of finance than even preference capital because of advantage due to tax deductibility of interest. While formulating a capital structure, an effort must be made to minimize the overall cost of capital.

(iii) Legal Requirements

The government has also issued certain guidelines for the issue of shares and debentures. The legal restrictions are very significant as these lay down a framework within which capital structure decision has to be made.

(iv) Corporate Tax

High rate of corporate taxes on profits compel the companies to prefer debt financing, because interest is allowed to be deducted while computing taxable profits. On the other hand, dividend on shares is not an allowable deduction for that purpose.
(V) Government Policy

Government policy is also an important factor in planning the company's capital structure. For example, a change in the lending policy of financial institutions may mean a complete change in the financial pattern.

In the present study, only long-term sources are considered in the analysis of capital structure. The capital structure is composed of owned funds and borrowed funds. The owned funds include the share capital and reserves and surplus, while the borrowed funds include long-term loans provided by various financial institutions. In addition to this long-term financial strength of the three categories of software companies is studied with the help of ratios. The ratios taken up for study are debt equity ratio, liability to asset ratio, and interest coverage ratio.

(a) Debt Equity Ratio

The relationship between borrowed funds and owner's funds is a popular measure of the long-term financial strength of a firm. This relationship is shown by debt-equity ratio. This ratio reflects the relative claims of creditors and shareholders against the assets of a firm. Alternatively, this ratio measures a firm's degree of indebtedness. The term equity refers to owned funds as represented by net worth. Net worth means total of preference share capital, equity share capital and reserve and surplus. There is no particular rule of thumb for this ratio. An acceptable norm for this ratio is considered to be 2:1. A higher debt equity ratio is allowed in the case of capital intensive industries; a norm of 4:1 is used for fertilizer and cement units and a norm of 6:1 is used for shipping units.

A high ratio shows that the claims of creditors are greater than those of owners. A low debt equity ratio implies a greater claim of owners than creditors. From the point of view of creditors, it represents a satisfactory capital structure of the business since a high proportion of equity provides a larger margin of safety for them.

\[
\text{Debt Equity ratio} = \frac{\text{Total debt}}{\text{Net worth}}
\]
(b) Liability to Asset Ratio

This ratio indicates the relationship between the total liabilities to outsiders to total assets of a firm. The lower the ratio, more satisfactory or stable is the long term solvency position of a firm.

\[
\text{Liability to Asset ratio} = \frac{\text{Total Liabilities}}{\text{Total Assets}}
\]

(c) Interest Coverage Ratio

The interest coverage ratio indicates the extent to which earnings may fall without causing an embarrassment to the firm regarding the payment of the interest charges. A higher ratio is desirable but if it is too high that indicates that the firm is very conservative in using debt. A lower ratio indicates excessive use of debt. The firm should make efforts to improve the operating efficiency, or to retire debt to have a comfortable coverage ratio.

\[
\text{Interest coverage} = \frac{\text{Profit before interest and tax}}{\text{Interest}}
\]

2.3 COST OF CAPITAL

The cost of capital of a firm is the minimum rate of return expected by its investors. It is the weighted average cost of various sources of finance used by a firm. The capital used by a firm may be in the form of debt, preference share capital, retained earnings and equity shares. The concept of cost of capital is very important in financial management. A decision to invest in a particular project depends upon the cost of capital of the firm or the cut off rate, which is the minimum rate of return expected by the investors. In case a firm is not able to achieve even the cut off rate, the market value of its
shares will fall. Infact, cost of capital is the minimum rate of return expected by its investors which will maintain the market value of shares at its present level.

Hence, to achieve the objective of wealth maximization, a firm must earn a rate of return more than its cost of capital. Further optimal capital structure maximizes the value of a firm and hence the wealth of its owners and minimizes the firm’s cost of capital. The cost of capital of a firm or the minimum rate of return expected by its investors has a direct relation with the risk involved in the firm. Generally, higher the risk involved in a firm, higher is the cost of capital.

2.3.1 Significance of Cost of Capital

The concept of cost of capital is very important in the financial management. It plays a crucial role in both capital budgeting as well as decisions relating to planning of capital structure. Cost of capital concept can also be used as basis for evaluating the performance of a firm and it further helps management in taking so many other financial decisions.

(i) As an Acceptance Criterion in Capital Budgeting

The concept of cost of capital has assumed growing importance largely because of the need to devise a rational mechanism for making the investment decisions of the firm. Capital budgeting decisions can be made by, considering the cost of capital. According to the present value method of capital budgeting, if the present value of expected returns from investment is greater than or equal to the cost of investment, the project may be accepted; otherwise; the project may be rejected. The present value of expected returns is calculated by discounting the expected cash inflows at cut off rate (which is the cost of capital). Hence the concept of cost of capital is very useful in capital budgeting decision.
(ii) As a determinant of Capital Mix in Capital Structure Decisions

Financing the firm's assets is a very crucial problem in every business and as a general rule there should be proper mix of debt and equity capital in financing a firm's assets. While designing an optimal capital structure, the management has to keep in mind the objective of maximizing the value of the firm and minimizing the cost of capital.

(iii) As a Basis for Evaluating the Financial Performance

The concept of cost of capital can be used to evaluate the financial performance of top management. The actual profitability of the project is compared to the projected overall cost of capital and the actual cost of capital of funds raised to finance the project. If the actual profitability of the project is more than the projected and the actual cost of capital, the performance may be said to be satisfactory.

(iv) As a Basis for taking other Financial Decisions

The cost of capital is also used in making other financial decisions such as dividend policy, capitalization of profits, making the rights issue and working capital.

2.3.2 Computation of Cost of Capital

(i) Cost of Equity

It is the return required to be earned to retain the existing equity capital in the capital structure. The cost of equity is calculated on the basis of earnings model. According to the earnings model, the cost of equity is measured as a ratio of expected earnings to price. Hence the cost of equity is calculated as

\[ K_e = \frac{E}{P} \]
Where

\[ K_e - \text{Cost of equity} \]
\[ E - \text{Earnings per share} \]
\[ P - \text{Market price per share} \]

(ii) Cost of Debt

The cost of debt is the rate at which the lenders would be satisfied. Payment of interest enjoys tax shelter, so it is the after tax cost which is more relevant. Cost of debt is important for investment decisions. It is computed as follows

\[ K_d = \frac{I}{NP} (1 - T) \]

Where

\[ K_d - \text{Cost of debt after tax} \]
\[ I - \text{Interest} \]
\[ NP - \text{Net proceeds of long term debts} \]
\[ T - \text{Tax rate} \]

Here tax rate is assumed as 50%

(iii) Weighted Average Cost of Capital

Overall cost of capital refers to the weighted average cost of capital from various long-term sources. When specific costs are combined to arrive at the overall cost of capital, it is called the ‘composite’ or ‘weighted average cost of capital’ the main purpose for the computation of the overall cost of capital is to use this rate in investment decision. In general, it may be stated that this cost of capital is usually taken to be the cut-off rate for determining the profitability.
Each firm has an optimal capital structure, defined as that mix of debt, preferred, and common equity that causes its stock price to be maximized. Therefore, a value-maximizing firm will establish a target (optimal) capital structure and then raise new capital in a manner that will keep the actual capital structure on target overtime. The target proportions of debt, preferred stock, and common equity, along with the component costs of capital, are used to calculate the firm’s weighted average cost of capital.

The combination of debt and equity should be such that it minimizes the overall cost of capital or maximizes the value of the firm. Increasing financial leverage leads to a reduction in the overall cost of capital. But due to the use of more and more debt capital, the financial risk increases, which leads to an increase in the cost of equity and debt. This has the effect of raising the weighted average cost of capital of the firm beyond a point or the range of debt-equity combination. Weighted average cost of capital is calculated in the following manner.

\[
\text{WACC} (K_w) = (\text{Proportion of equity} \times \text{Cost of equity}) + (\text{Proportion of debt} \times \text{Cost of debt})
\]

2.4 GROWTH

The financial executives perceive growth as the end force that gears up the productivity of every organization. Growth is the increase in the size and activities of a firm in the long run indicating the level of efficiency of performance of any business. However, rapid growth can cause a considerable strain on the resources of a corporate body, if not monitored. Likewise, slow growth also can result in crippling the financial stability of the organization. On a case-to-case basis, it has to be determined as to whether the growth of a company is sustainable and consistent with its resources. It is the sustainability and consistency of a firm’s growth that can assure sustainable returns and increase the shareholder’s value. The strategic objective of asset creation is attained with ensuring operating efficiency of every firm. The consistency of a company’s growth objective with its operating efficiency has to be confirmed at each stage of the promised growth.
Growth is often the central theme of corporate planning and is an important indicator of performance of any company. Long term and short term objectives ultimately aim at the growth of the firm. In the present day situation of globalization, expansion and increasing competition in business, growth of any business is considered to be a 'prerequisite' for its survival. Hence, the maximal value of growth has been attained through diversification both vertical and horizontal along with optimal operating economics and stability.

2.4.1 Factors Influencing Growth

Corporate growth is influenced by both internal and external factors prevailing in an economy. The internal factors relate to operating performance levels of the company. The government policies and regulations, competition and changing demand trends, as well as other external factors are divergent and complex to the corporate to tackle the outcome.

Growth may be internal or external. Internal growth is when a firm increases its sales and profits by expanding its own operations through purchase of new machinery to increase the firm's production capacity and related activities. Internal growth is funded from internal sources such as the retained earnings or from the external sources of debt or equity or both. External growth occurs when a firm takes over the operations of another firm through an acquisition or when it merges with that other firm. Growth (whether internal or external) causes the firms to attain maximum sustainability during the given period of time by maximizing the shareholder's value and by enhancing the value creation for the firms.
2.4.2 Measures of Growth

The concept of growth is definitive in terms of the measures adopted in weighing corporate growth through the different variable factors namely

- Increase in sales is a primary indicator of growth in a firm’s operating assets.

- Increase in profits is a measure that is frequently resorted to by the financial executives and the shareholders of a firm to assess the firm’s ability to convert growth in sales and operations in to increasing returns to the shareholders with an increased earnings per share.

- Increase in assets is a steady increase in a firm’s operating resources that can complement the increase in sales and the increase in profits. Though not an independent tool to measure growth, an increase in the assets has the ability to reflect the growth prospects of a firm.

Growth rate indicates the companies’ pattern of the growth. Growth rate of companies has been calculated by using annual compound growth rate in terms of key variables such as net sales, net worth, fixed assets, operating profit, gross profit and net profit. Therefore the above variables have been selected to measure the growth of companies in small, medium and large categories.

(i) Annual Compound Growth Rate

Growth is studied with reference to annual growth rates computed based on the compound interest rate formula adopted by the World Bank using the least square methods. The least squares growth rate ‘r’ is estimated by fitting a least squares linear regression trend line to the logarithmic annual values of the variable in the relevant period. The growth of three categories of software companies can be measured in terms of some key variables such as, net sales, net profit, net worth and total asset.
Growth ratios measure the rate at which a firm should grow. Growth in sales needs additional investment to support incremental sales both in terms of current assets (such as inventory and debtors) and productive capacity /long- term assets (such as plant and machinery). The rate at which a firm can grow depends on many factors. Included among these are investment in assets required for a given growth rate, net profit margin, retention ratio, and willingness and ability to raise finance. The firm's growth rate is higher when external finances are used. It is lower when it uses internally generated funds (retained earnings) only to finance its assets.

(iii) Sustainable Growth Rate (SGR)

The sustainable growth rate is the maximum rate at which the firm can grow by using internal sources (retained earnings) as well as additional external debt but without increasing its financial leverage. To determine the sustainable growth rate, the two additional assumptions are made: (i) the firm has a target capital structure (D/E ratio) which it wants to maintain and (ii) the firm does not intend to sell new equity shares as it is a costly source of finance. It can be calculated as

\[ \text{SGR} = \frac{P \times A \times A/E \times b}{1 - (P \times A \times A/E \times b)} \]

Where

- \( P \) - Profit margin
- \( b \) - Retention ratio
- \( A/E \) - Asset to equity ratio
- \( A \) - Sales to Asset ratio
Components of Sustainable Growth Rate: P, b, A and A/E

(a) Profit Margin

'P' in the model represents the net profit margin that defines the relative efficiency of the firm after taking into account all expenses and income taxes (except extraordinary charges). This ratio is particularly important to operating strategy and its ability to control operating costs. It indicates the firm’s capacity to face adverse economic conditions such as price competition, low demand, cost cutting etc. Obviously higher the ratio the better is the profitability. While interpreting the ratio, the performance of profits in relation to investment or capital of the firm should be analyzed along with the relationship of profits to sales.

\[
\text{Profit margin} = \frac{\text{PAT}}{\text{Sales}}
\]

(b) Retention Ratio

In the model 'b' denotes the fraction of retained earnings in the business, which is expressed as one minus the dividend payout ratio \((1 - d)\). Hence, higher the profits retained lower would be the dividend payout and vice versa. The Retention Rate 'b' reflects the management's attitude towards distribution of profits. It is a significant ratio as the profit ploughed back enables a company to grow and pay more dividends in future.

\[
b = (1 - \text{Dividend payout ratio})
\]

(c) Asset to equity ratio (Leverage Ratio)

A/E indicates the Leverage Ratio in the model. A company increases its financial leverage when it raises the proportion of debt relative to equity used to finance the business. The ratio indicates the proportionate claim of owners and the outsiders against
the firm's assets. Financial leverage is not something management necessarily wants to maximize. Instead, the challenge of financial leverage is to strike a prudent balance between the benefits and costs of debt financing. The nature of a company's business and its assets influence the financial leverage it can employ. In general, businesses with highly predictable and stable operating cash flows can safely undertake more financial leverage than the firms facing a high degree of market uncertainty. In addition, businesses, which have diversified portfolios of readily saleable liquid assets, can also safely use more financial leverage.

\[
\text{Assets} \\
\text{Asset to equity ratio} = \frac{\text{Assets}}{\text{Equity}}
\]

\[
\text{Equity}
\]

**(d) Asset Turnover Ratio**

'\( A \)' in the model is the Asset Turnover ratio. This ratio measures the sales generated per rupee of assets. It measures asset intensity, with a low asset turnover signifying an asset-intensive business and a high turnover the reverse. The nature of a company's products and its competitive strategy strongly influence asset turnover. Management diligence and creativity in controlling assets are also vital determinants of a company's asset turnover.

\[
\text{Sales} \\
\text{Asset turnover ratio} = \frac{\text{Sales}}{\text{Assets}}
\]

\[
\text{Assets}
\]

**2.6 INDIAN SOFTWARE INDUSTRY**

Computers were introduced in the early 1960s to help in the complex data processing work involved in formulating the country's five-year plans. This opened up a national debate on the ethics of computer use in a populous country with severe unemployment.
The fear that computers might displace workers held up their wider application until 1980 when the government decided in favour of economic and industrial liberalization and gave the green light to computer application in critical areas of production and research. Later the policy was extended to all areas in order to improve productivity and efficiency. Expectations are high that computer activity and exports will create more jobs, particularly for the educated unemployed. And even greater potential for absorbing this surplus labour is seen in the development of the software industry.

With the growth of computer industry in India, India is now emerging as an important destination for global business. The growth of computer industry in India has led to the growth of software industry, the hardware industry and the Internet in India. Service sectors in the Indian economy have resorted to computerization on a large scale to ensure availability of consistent information at the right time. Of late, both the Government of India and private sector have emerged as major end-users of computer systems and software.

The software sector plays an important role in every modern economy because software is nearly omnipresent. In modern economies everybody uses software several times a day. The fields of application reach from a radio alarm clock to an automated production process. Today the software industry has become the backbone of companies around the world. With technology advancing in leaps and bounds, there is no stopping of IT professionals around the world to bridge the gap between huge untapped markets and its customers, as well as creating an opportunity for innovation.

The software industry is undergoing a far more profound and far-reaching change than just its distribution models. Integrated computing is changing the way business is conducted and forcing the software industry to rethink the way it produces, sells, distributes and supports products. In other words, it is forcing the software world to reinvent itself.
2.6.1 Evolution of Indian Software Industry

Though the Indian software industry has risen to prominence in the last decade, it has a history of well over thirty years. The process of evolution has been chronicled from multiple perspectives. The common factors that are widely perceived to have been positive influences on the evolution and growth of this industry are availability of skilled, English speaking manpower, export orientation, policy initiatives of the government and the wide network of expatriate Indians in the global customer organizations. In addition to these factors, there are a few contextual conditions that appear to have accelerated the process. Rapid advances in information technology and its convergence with communication technologies gave rise to a few growth accelerators. Some of these accelerators were in the form of new opportunities (Y2K and the Internet) and some were in the form of new business models (offshore development and remote services). A shortage of skilled manpower in the consuming markets has also positively contributed to the acceleration of this industry. The growth in the number of firms in any industry is a direct consequence of the perceived attractiveness of the industry. Low entry barriers, high profitability, a favourable regulatory regime and a buoyant high growth market encouraged entry of new players to the software industry at a rapid pace. Many of the new entrants were attracted primarily by the opportunity to ride the wave.

2.6.2 Software Technology Parks (STP)

The Software Technology Parks (STP) Scheme became operational in 1988. It comes under the Department of Electronics of the Government of India, but functions as an autonomous body. Its purpose is to encourage and support small software exporters, by giving 100 percent export-oriented firms a tax-free status for five years within the first eight years of operation. In addition, it provides them with office space and computer equipment, access to high-speed satellite links and an uninterrupted supply of electricity. The STP scheme also provides services such as import certification, software evaluation,
project approvals, market analysis, marketing support and training. Established firms that are 100 per cent export-oriented can also apply to become software technology parks to enjoy the benefits of the tax-free status and the duty-free import of hardware, in addition to access to telecommunications infrastructure.

Further advantages of the scheme include "single window clearance" for projects. For the smaller projects, i.e. less than Rs. 30 million only STP clearance is required. STPs are connected by an integrated network, Soft NET, whereby subscribers can lease a point to point digital 64 kbps channel, and have access to the Internet with their own TCP/IP number, which would give them e-mail, remote log in, and file-transfer services as well as access to the World Wide Web.

The STP facilities also provide video-conferencing services between Bangalore and the rest of the world. The export obligation amounts to "1.5 times the CIF values of the hardware imported including software + 1.5 times the annual wage bill. The obligation on the hardware part will be fulfilled over a period of four years". Approximately 400 software companies around India are involved in this scheme. STPs are currently located in Bangalore, Bhubaneswar, Delhi/Noida, Gandhinagar, Hyderabad, Pune and Thiruvanathapuram.

Since its inception in 1988, NASSCOM has played an important and active role in pursuing the interests of its members in the policy arena. NASSCOM is "an industry association representing the interest of computer software and service companies in India". Its members include companies "which are incorporated and/or registered in India, which have made and will make positive contribution to the computer software industry and a good track record in business operations, strong financial commitment and a significant local value added component in the products and services offered". It "maintains close interaction with the Government of India in formulating national IT policies with specific focus on computer software". One of the areas in which it has been
particularly active is intellectual property rights, and campaigning against software piracy. In 1994, the GOI enacted the Copyright Amendment Bill and Nasscom set up an anti-piracy telephone hotline.

2.6.3 Software Industry in Budget 2008

The Union Budget of India for the year 2008-2009 was announced on 29th February 2008. Information Technology - the sunshine industry of India, has been registering tremendous growth over the years. New budgetary allocation and new policies for the development of the Indian software industries and its allied sectors was a major focus area of budget 2008. The Indian Rupee appreciation factor and the rising wage issue have been taken in to account during the latest Union budget of India.

The apex body- NASSCOM and the IT-BPO industry of India have responded positively to the Union Budget 2008-2009. The Department of Information Technology (DIT), under the Ministry of Information Technology, Government of India has been allocated Rs 1,680 crores in 2008-2009. Further, three new schemes have been announced for the development of IT in India. Two schemes for the establishment of one lakh broadband Internet-enabled 'Common Service Centers' in rural areas and another scheme called 'State Wide Area Networks' (SWAN) have been announced. The former scheme is supposed to get assistance from the Central government. A third scheme for the 'State Data Centers' has been announced with a budgetary allocation of Rs 275 billion. The IT and ITES sector of India is expected to benefit from increased spending on education as allocated in the Indian Union Budget 2008-2009, since this is expected to add to the present talent pool of India. The tax regime for the Indian information technology sector has been broadened in the Indian Union Budget 2008-2009. Customized Software will attract 12% service tax from the financial year 2008-2009. Further, there has been an increment of Excise Duty from 8% to 12% for Packaged Software.
The Indian Union Budget suggests that there is huge potential for further growth of the Indian software industry, since its share in the global market is still quite low. India should leverage the knowledge extensive cheap labour force to the fullest. Outsourcing business is growing at a steady pace and huge growth opportunity still exists. Particularly, areas like consulting, package implementation and systems integration holds tremendous opportunity along with traditional areas like Software application development and maintenance. The main concern for the Government is too much dependence on US market, which imports around 60% to 65% of Indian Software Products. The backlash against outsourcing jobs to India has further lessened competitiveness amongst the clients. Further, high attrition rates due to dissatisfaction and higher salary expectation is reducing profit margin of companies. Talent crunch is also eating away profit, since a substantial amount of money is being invested in imparting basic training.

2.6.4 Growth of Indian Software Industry

Measured by the age of many industries, the computer software industry in India is still in its infancy. Yet, its growth and development has caught the attention of the world market so much so that India is being identified as the major powerhouse for incremental development of computer software. The reason for this attention is not the actual size of the industry but its rapid growth rate over the nineties and its projected growth rate in the decade of year 2000.

The Indian software industry has been growing steadily at over 40 per cent a year since 1990, reflecting a tremendous response to the changes in policy and to the opening up of the international market. Software exports accounted for 40 per cent of total electronics exports in between 1991 and 1995, up from 10 per cent in 1980 and 20 per cent in 1985. They accounted for 1.8 per cent of total Indian exports in 1994-95, up from 0.5 per cent in 1980. The Industry has grown from a mere US $ 150 million in 1991-92 to a staggering US $ 5.7 billion in 1999-2000. No other Indian industry has performed so well against the global competition.
Nasscom's survey indicates that the industry's total revenue (domestic as well as export sales) grew at 58 percent during 1998-99 from Rs 10,040 crore in 1997-98 to reach Rs 15,890 crore during 1998-99. During 1998-99, India exported software and service to 86 countries around the world.

The software sector only accounted for around 1 percent of national income and less than 0.5 percent of total urban employment. Exports accounted for over 75 percent of sales and around 7 percent of the total value of Indian merchandise exports in the year 2000. According to NASSCOM's study, in 2000-01 the Indian software and services industry grossed annual revenue of US$ 8.26 billion. The industry registered an overall growth of 55 percent during 2000-01, up from US$ 5.7 billion in 1999-2000. Software and services exports accounted for 14 percent of India's total export of US$ 44 billion during 2000-01. During 2000-01, India exported software and services to 102 countries around the world. Out of the total software exports of Rs 28,350 crore during 2000-01, almost 62% was to North America (USA and Canada); 24% to Europe; 4% to Japan; and 10% to Rest of the World. Further, export growth has remained strong at around 30 percent for 2002.

The total share of India's exports in the global market rose from 4.9 percent in 1997 to 20.4 percent in 2002-03. Software exports revenue, according to NASSCOM statistics, for the year 2003 has been US$ 9.875 billion. Software exports has major share in India's total exports. As of the year 2004-05, both software and services revenue grew by 32 percent to $ 22 billions and $ 28.5 billions in 2005-06. Nasscom’s annual survey of the Indian software and services sector found revenues for the financial year 2006 increased by more than 30 percent to US$ 40 billion, exceeding Nasscom’s forecast of 27 percent.

The importance of the software industry can be judged by the fact that its contribution to the country’s GDP will increase from 1.4 per cent in 2001 to about 7 per cent in 2008. More importantly, it is expected to contribute nearly 20 per cent of incremental GDP growth
between 2001 and 2008. The industry, which employed 0.8 million people in 2001, is expected to employ over 2 million people directly and create direct employment opportunities for at least an additional 2 million people by 2008. Opportunities in e-commerce software solutions are emerging as a major area of growth of the Indian IT software and services industry. The NASSCOM-McKinsey study 1999 has clearly predicted that India can earn revenues of US$10 billion from e-business solutions by 2008.

The software industry has become the backbone of companies around the world. With technology advancing in leaps and bounds, there is nothing to stop IT professionals from around the world to bridge the gap between huge untapped markets and its customers, as well as creating an opportunity for innovation. The Indian software and service industry has emerged as a key growth driver for the Indian economy, creating multiplier effects through employment generation and boosting forex reserves.

PART - II

2.5 REVIEW OF LITERATURE

The review of literature guides the researchers for getting better understanding of methodology used, limitations of various available estimation procedures and database, and logical interpretation and reconciliation of the conflicting results. Besides this, the review of empirical studies explores the avenues for future and present research efforts related to the subject matter. In case of conflicting and unexpected results, the researcher can take the advantage of knowledge of other researchers simply through the medium of their published works. A number of research studies have been carried out on different aspects of performance appraisal by the researchers, economists and academicians in India and abroad. A strong theoretical background is a definite advantage to any researcher. It is important for any research study to understand the pattern of previous studies so that any replication of mistakes could be avoided and yet some kind of continuity can be preserved.
Review of past research may also reveal some gaps, which may be filled up by an ensuing attempt. Different authors have analyzed performance, capital structure, cost of capital and growth of industries in different perspectives. A review of these analyses is important in order to develop an approach that can be employed in the context of the study of Indian software industry. Therefore, this part of the chapter reviews the empirical studies related with the different aspects of performance, capital structure, cost of capital and growth of industries.

This part has been divided into five sections. Section- I present the review of those studies that have been carried out in financial performance. Section- II, review of studies with the capital structure analysis has been presented. In Section- III, previous research works related to the cost of capital has been presented. Section- IV concentrates on researcher's observations about the research on growth of industries and finally in Section – V general studies related to software industry also presented.

Section – I

2.5.1 Studies Related to Financial Performance

Indra Doraiswamy (1972)¹ in her study, “Financial Performance in Boom and Recession – An inter firm comparison from 1977 to 1981”, has reviewed return on capital, profit per spindle and other related indices. The effect of boom and recession on high and low profit mills has been dealt with. The return on capital was used for ranking the performance of individual mills in different years. The study concluded that in high profit group, 12 % of mills showed consistent increase in profits, and the remaining mills showed varying degrees of profits. In above average and below average groups, 50 % of the mills showed varying degrees of profit. The study identified two major factors, increase in sales values every year and steady reduction in wages, power and interest, which enabled some mills to rise to higher profit group.
Paul George (1985) has studied the “Financial Performance of Diversified Companies in India: A Comparative Study of Diversified and Non-Diversified Companies”. The financial performance of 32 relatively matched pairs of diversifying and non-diversifying companies in five Indian industries were compared. The findings indicate that diversifiers generally outperform non-diversifiers on indicators of growth, profitability, safety and market evaluation. However, inter-industry differences in the benefits of diversification indicate that diversification is selectively useful.

Gopalan and Minraj (1987) in their study “Financial management of Co-operative sugar mills” studied financial management of co-operative sugar mills to analyze the financial performance in various ways. It revealed that the owned funds were more than borrowed funds. Borrowing was not abnormal, but surplus was getting reduced due to the establishment cost and other factors. It was a case study for a period of fourteen years.

Hemalata Rao (1988) in her study, “Financial Performance of Public Sector Enterprises”, had found that, public sector enterprises could not generate enough internal sources to finance further power development programmes in the state. As a result, the major portion of capital expenditure has to be financed by external sources like loan from the government and other public financial institutions, taken at varying rates of interest.

Shanker, Nandagopal and Mishra (1989) in their study “Performance and Development of State Level Public Enterprises in India”, observed that a three-tier system should be adopted to improve the performance of state level public enterprises in India. In the short-term, these enterprises would do well to initiate measures with regard to cost control and cost reduction. Medium-term measures would include restructuring of the organizational set up of state level public enterprises. Long-term measures would include the preparation of corporate plans, strengthening of top management and professionalisation.
Narayanan. R (1989)\(^6\) in his study, "Performance and Development of State Level Public Enterprises in India", concluded that the low profitability of state level public enterprises was due to labour unrest and management failure, lack of corporate culture, poor marketing approaches, financial crisis in the form of heavy interest payment on debts, and by and large, lack of professionalism in management.

Tilak. M.B.G. (1989)\(^7\) in the article, "Overview of Performance of Public enterprises of Government of Gujarat", he concluded that general measures like professionalisation of the board of management, strict vigil over the public enterprises performance by nodal agencies like the Bureau of public Enterprises would pave the way for the desired goal of public enterprises, namely reaching the commanding heights of the economy.

Mohanan Pillai. P. (1990)\(^8\) in his study, "The Performance of State Sector Enterprises in Kerala", concluded that among the profit making firms, the performance of the chemical industry appears to be relatively better. In the electrical and engineering industries, average material productivity registered a negative growth rate. A steeper decline was also registered in the case of engineering industry.

Sanithpal (1990)\(^9\) in his study "A study of Financial Management of Sick Cotton Textile Mills in the Northern Region", examined the causes of financial sickness of cotton textile mills and suggest ways and means to prevent and cure sickness, formulae to detect sickness at the earliest stage, efforts made by different financial institutions to rehabilitate these sick mills and suggested necessary modifications in this regard. The study revealed that imbalance in capital structure should be corrected and a high debt-equity ratio should be avoided. Skillful financial management during sickness is vital, wherever there is existence of unusable, fictitious, intangible and unproductive assets or huge debit balance in profit and loss account. Financial reconstruction should be made to set off loan burden of external liabilities not matched by existing productive...
assets. He concluded that since a considerable capacity is not utilized in the industry, it is desirable to freeze the manufacturing capacity to give more financial assistance for higher utilization of the installed capacity.

Raja Ravi Varma P.K. (1994) in his study “Financial management of Public Enterprises in Kerala”, pointed out that the net margin and operating margin variables are not in conformity with the functional parameters like capacity utilization, and turnover and financial parameter current ratio. He also stated that a change of these variables would not lead to a corresponding change in net profit or operating profit values.

Nataraja Iyer (1995) in his study, “An Evaluation of the Financial Performance of Public sector Enterprises of Kerala”, concluded that the performance of the reserve to paid-up capital ratio is quite unsatisfactory. The public sector units do not create positive reserves to paid-up capital. Reserves have turned in to accumulated losses. The position becomes serious especially in the case of industrial units. In the case of industrial units, these accumulated losses have exceeded even their paid up capital.

Anil Prasad. V, (2001) in his study, “Financial Management of Public Sector Undertakings in Kerala”, undertaken with a view to evaluating the financial management of public enterprises has concluded that the public enterprises have a vital role to play in the country in evolving and maintaining a price mechanism, in adding revenue to the exchequer, in creating employment opportunities, in neutralizing the competitive market and in providing basic needs to the society.

Hamsalakshmi (2004) in her study on “Financial Performance Analysis of Selected Software Companies”, focused on examining the structure of liquidity position, leverage and profitability. The study has revealed a favourable liquidity position and working capital position. The study has also pointed out that the companies rely more on internal financing and the overall profitability had been increasing at a moderate rate.
Veluswamy. S, (2004) in his study “A study on the performance of selected industries in the liberalized economic environment”, concluded that there is slow down in growth rate in turnover. Most of the industries selected have even declared negative net margins. But the decline in profitability has not led to major deterioration in the liquidity and leverage. The return to the shareholders has reduced in the liberalized economic environment. The analysis of performance through Economic value added indicates that excepting automobile industry, all the other industries have not added economic value to the shareholders. Thus it can be concluded that the performance of companies in the liberalized economic environment has not been encouraging.

Chalam and Prasad (2006) in their article, “Evaluation of Financial Performance through Scaling Technique”, attempted to evaluate financial performance of primary agricultural co-operative societies in Andhra Pradesh, through scaling technique. The study concluded that out of nine co-operative societies, four societies performance were poor.

Section - II

2.7.2 Studies Related to Capital Structure

Donaldson. G. (1961) in his study, “Corporate Debt Capacity - A Study of Corporate Debt Policy and Determination of Corporate Debt Capacity”, reported that practically corporates behaved as if they followed some sort of a pecking order while designing the capital structure of the companies. In a field survey of corporate debt policies, Donaldson met finance managers who acknowledged that, “it was their long-term objective to hold to a rate of growth which was consistent with their capacity to generate funds internally”.

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Bharathi Batra (1981) in her study, “Debt-Equity ratio in Indian corporate Sector”, made an attempt to study the trends in debt-equity ratio in various industries. A comparison was also made between the observed ratio of industries with the norms set by the controller of capital issues in the regard and identified the factors responsible for the difference. The data has been taken from 1970-71 to 1977-78. The conclusion derived that the overall debt-equity ratio for all 11 industries taken together is well below 1:1.

Chamoli (1985) in his study “A panorama of capital structure planning of Indian cement Industry”, reviewed the pattern of capital structure in the Indian cement industry both private and public and have identified the factors influencing the ratios of the debt and equity during the year 1972-1973 to 1980-1981. He concluded that an ideal financing mix of debt and equity would be 2:1. This has been fixed under the capital Issues (Control) Act 1949 to regulate capital structure of companies to make maximum use of favorable leverage ensuring flexibility, solvency and national growth of corporate sector in India.

Rao. M.P., (1989) conducted a research study on “Debt-equity in chemical industry”. He observed that there is significant negative correlation between age and debt-equity ratio with the indication that possibly younger chemical companies tended to be associated with a higher debt-equity ratio. The negative correlation between retained earnings and the debt-equity ratio indicated that a company with a higher volume of retained earnings had a low debt-equity ratio. He also observed that in case of high debt-equity ratio, the profitability declined due to large payment of interest. However, he noted a positive correlation between debt-equity ratio and the size measured in terms of total assets. Besides, he also examined the trends and patterns of the debt-equity ratio.
Paul & Ghosh (1996) in their study “Capital Structure and its effect on profitability; A case study of large Private sector companies in selected industries” pointed out that the increasing debt-equity ratio contributes to the increasing profitability. They made clear that there doesn’t exist any direct and positive relationship between debt-equity ratio and profitability. Other factors like age of the company, past track records, growth rate, risk perception, availability of debt, etc have greater impact on profitability.

Mohammed et al (1998) in their study “The Impact of ownership Structure on Corporate Debt Policy: A Time series cross sectional Analysis”, examined the influence of agency costs and ownership concentration on the capital structure of the firm. A model was constructed to test effect of ownership structure and corporate debt policy, taking debt ratio as the dependent variable, while the explanatory variable included ownership structure, dividend, payments, growth opportunities, firm size, asset structure, asset risk, profitability, tax rate, non-debt tax shield and uniqueness. The results showed that the tenets of agency theory appear to hold not only across firms, but also within firms across time. Managers act to adjust the capital structure of firms in response to variations in the agency cost structure in a dynamic manner. Further, it appears that the structure of equity ownership is important in explaining the overall capital structure of a firm. The result also suggested that capital structure models that do not include the impact of agency costs or their effect through time might be incomplete.

Babu and Jain (1998) in their study “The Debt or Equity Route”, reported that the corporate firms in India are now showing an almost an equal preference for debt and equity in designing the capital structure. Freedom in paying dividends and easy-to-raise money are the reasons cited for equity preference. Moreover, due to increasing competition, returns have become uncertain. Hence, companies will not prefer debt to equity, though debt is a cheaper source of finance than any other owing to tax advantage.
Sureshbabu (1999) in his study on "Capital Structure Practices of Private Corporate Sector in India" analyzed the corporate debt practices using a sample of 527 corporate firms for a period of fifteen years (1980-94). His study indicated that the private corporate sector in India showed a marked preference for debt in designing their capital structure and there was a shift towards preference for long-term debt in lieu of the short-term debt. He observed that the nature of industry played an important role in the design of capital structure. While manufacturing industries namely cement, paper, electronics, textile and metal group of industries had a debt dominated capital structure, agro based industries (tea & coffee, plantations & sugar) showed equity oriented capital structure. His study revealed that financial risk, operating risk, debt service capacity and size of the firm were some of the important and major parameters in designing capital structure of the private corporate sector in India.

Kakani (1999) in his study, "The Determinants of Capital Structure – An Econometrical Analysis", attempted to find the determinants of the capital structure its maturity in India. He reported that the results of his study were found to be fairly different from the empirical findings done in the developed countries. A firm’s diversification strategy and size were found to be of no significance in deciding the leverage level of a firm. His study demonstrated that liberalization of the Indian economy appeared to have affected the determinants of capital structure and profitability capital intensity and non-debt tax shields seemed to be important determinants of capital structure of a firm.

Mohanty (2000) in his study, "Information Asymmetry and the Capital Structure: An Empirical Investigation in to the Capital Structure of the Indian Companies", made an attempt to see if the various theories of capital structure developed by Myers (1984), Myers & Majlit (1984) and Ross (1977) hold in the Indian conditions; that is, whether models based on asymmetric information approach explain capital
structure of Indian companies. It has been found that some of the predictions made by these theories appear to hold in the Indian context. Particularly it has been found that leverage is negatively related with profitability both within an industry, as well as, within the economy. However, contrary to the predictions made by these theories, it has been found that companies that spend a larger sum of money on advertisement and research and development expenditure are the least levered. Similarly, companies where the less rate of value to total tangible assets is found to be more levered.

Booth et al (2001) in their study, “Capital Structure in Developing Countries”, analyzed the capital structure choice of firms in 10 developing countries and provided evidence that these decisions were affected by the same variables as in developed countries. The three dependent variables identified by them were total debt ratio, long-term book-debt ratio and long-term market debt ratio. Business risk, asset tangibility, size, return on assets and markets, book ratio were the independent variable taken up for their study. A consistent result in both the counting and pooled data results shows that, the more profitable the firm was, the lower was the debt ratio, regardless of how the debt ratio was defined. However, there were persistent differences noted across countries, indicating that specific country factors were at work.

Vilasuso and Minkler (2001) in their study, “Agency Costs, Assets Specificity and the Capital Structure of the firm”, linked the capital structure decision to agency theory and to asset structure, where the latter is measured in terms of assets specificity. They argue that a project that requires highly specific assets will initially be financed by equity. However as the debt to equity ratio decreases, in line with agency theory, the cost of debt falls, while the cost of equity rises. These agency cost effect become increasingly more important until debt finance becomes the preferred form of financing. A crucial point in Vilasuso and Minkler study is that when assets are highly specialized it takes longer for agency cost considerations to dominate. Thus, while minimization of total
agency costs ensures that in the long-term firms will move towards their optimal financing mix for those with highly specific assets this optimal mix contains more equity.

Rachel Nancy Philip (2002)\textsuperscript{28} in her study on “Capital structure & shareholder value: An empirical study of corporate firms in India” reported that the debt-equity ratio and Economic Value Added (EVA) were inversely related due to higher average cost of equity for Indian firms. Further, risk and growth factors had significant discriminating influence on capital structure.

Section - III
2.7.3 Studies Related to Cost of Capital

Modigliani, Franco and Merton H. Miller (1958)\textsuperscript{29} in their study, “The Cost of Capital, Corporation Finance and the Theory of Investment”, laid the theoretical foundations for many of the subsequent developments on the weighted average cost of capital. They have combined the firms having the same operating risk. They assumed that the shares of different companies give rise to different probability distribution of earnings. They have set three propositions:

Proposition One: According to this proposition, the market value of any firm is independent of its capital structure. The weighted average cost of capital has nothing to do with capital structure or financing mix of any firm.

Proposition Two: According to this proposition, the expected rate of return on the stock of any company is a linear function of leverage.

Proposition Three: This proposition explains that the firm will exploit an investment opportunity if the rate of return on the investment is larger than the cut-off rate for the investment in the firm. The cut-off point will be completely unaffected by the type of security used to finance the investment. They assumed that there are no taxes and transaction costs. Information is available at no costs. Securities are completely divisible. They also assumed that all the firms are in the same risk class.
David Durand (1959)\textsuperscript{30} in his study, “The cost of capital, Corporation Finance, and the theory of Investment: comment”, criticized the assumptions made by Modigliani and Miller. He states that the assumptions of Modigliani and Miller are subtle and restrictive. According to him Modigliani and Miller theory is highly difficult to implement. He debates that Modigliani and Miller proof depends on the existence of the unique risk class, which is highly difficult to identify. Another criticism leveled against the assumptions of Modigliani and Miller is that the tax-free and perfect capital market seldom exists.

Ezra Solomon (1963)\textsuperscript{31} in his study, “Leverage and Cost of Capital”, criticized the propositions developed Modigliani and Miller and he advocated an alternative formulation for cost of capital. He developed the concept of weighted average cost of capital by analyzing the effect of a change in financial leverage on a company’s cost of capital. Ezra Solomon adopted a different approach to analyzing changes in leverage by keeping equity fixed. He differs from Modigliani and Miller (MM) view in this aspect. Modigliani and Miller altered the capital structure by substituting debt for equity. Under his assumed conditions he showed that the overall cost of capital of a more-levered company is lower than the cost of capital of a less-levered company. He also insisted that the homemade leverage is not a perfect substitute for corporate leverage. Solomon included the essence of the formulations, which gained wider acceptance of his theory.

Fred Weston (1963)\textsuperscript{32} in his article, “A test of Cost of Capital Propositions”, has taken electrical utility industry. He has analyzed data for 1959. He compared his findings with that of Modigliani and Miller findings for the period 1947-48. He has showed that the leverage is negatively correlated with growth. The growth lowers the cost of equity capital. Both Modigliani and Miller and Fred Weston have found that the cost of equity capital is a positive function of leverage. As leverage is increased, cost of capital is pushed up by the rising cost of equity, but is pulled down because the lower cost of debt is weighted more heavily.
Cherukuri V. Rao and Robert H. Litzenberger (1971) in their study, “Leverage and Cost of Capital in a Less Developed Capital Market”, presented a comparative study on the effects of capital structure on the cost of capital in Indian capital market and in a highly developed market like the United States. The effect of leverage on the cost of capital was tested on 28 Indian utilities and 77 American utilities. It was a five-year cross-sectional study from 1962-1966. Regression analysis was used to analyze the data. The results testified that the American utilities are consistent with the Modigliani-Miller thesis that, except for the tax advantage of debt financing, the cost of capital was independent of capital structure. The regression results for the Indian utilities were consistent with the traditional thesis that the judicious use of leverage would lower the firm's cost of capital. In a developing economy, like India, capital markets were not well organized and market imperfections were far greater than in a developed country like the United States.

S. Myers (1974) in his article, “Interactions of Corporate Financing and Investment Decisions Implications for Capital Budgeting”, developed a formulation to measure the cost of capital when there is a change in the leverage and the firm is able to forecast the exact quantum of debt. He has taken into account both the effect of investment decision and financial decision. He has specified in his formulation both levered and unlevered cash flows. His formulation is effective under his assumed conditions.

Haley Charles W. and Lawrence D. Schall (1978) in their article, “Problems with the Concept of Cost of Capital”, they concentrated on the problem of the concept of cost of capital. They have concluded that there is no useful purpose served by the term 'cost of capital' when referring to a minimum rate of return required on investment.

Raj. S. Dhanasekar and Ajit.S.Boora, (1996) in their article, “Cost of Capital, Optimal Capital Structure, and Value of Firm- An Empirical Study of Indian Companies”, the basic objective of the study was if there exist an optimal capital
structure either at the micro and or at the macro level in Indian private sector companies.
For conducting the study a sample of 26 widely held Indian private sector companies
from 300 large-scale companies was taken. The variables used in the study are capital
structure, market value of equity, value of firm, cost of capital, leverage and dividend
payout ratio. The empirical result revealed that there is no definite relationship between
change in the capital structure and the value of the firm. In general, changes in capital
structure and cost of capital are negatively related.

Chandra Sekar, (1997) 37 in his study, “Financial Leverage: Its Determinants and
its Impact on cost of Capital and Shareholders Return”, has attempted to test the impact
of financial leverage on cost of capital. Twenty companies from general engineering
industry have been taken up as the sample. The analysis of data has been carried out by
the technique of correlation and regression. Period covered in the study is from 1990-91
to 1994-95. He concluded that the debt capacity of a firm significantly influence cost of
capital in a negative manner. In this study an attempt has also been made to find out
whether the financial leverage has any influence on the cost of capital. The correlation
analysis reveals significant and negative relationship between two variables.

Mishra Chinmay Sahu (2000) 38 in his article, “A Study on the Preferred Debt-
Equity mix among Indian Industries”, determined that the level of debt, which according
to practice of Indian industry would maximize value of their respective firms, and
therefore being preferred by them. A simple attempt to study the debt-equity mix
preferred by Indian industry has been playing safe on the whole as suggested by the
presence of maximum number of sample firms in the lower debt-equity classes. In other
words, if wealth maximization is the objective being practiced by the corporates then they
believe that lower levels of debts will help them to achieve this objective.
Section - IV

2.7.4 Studies Related to Growth Rate

Anbumani (1985) in his study, “Growth and Structure of Small Scale Industries in Coimbatore District”, made an attempt to study the growth and structure of small-scale industries in Coimbatore district during the period of 1970-1980 with reference to District Industry Center data. He has concluded that the growth performance of six product groups viz., textiles, chemicals, non-metallic, basic metals, metal products and machine tools were highly impressive. The metal products industry has registered the overall growth rate of 16.67 percent in the eight economic indicators considered in this study.

Chinnannachimuthu (1996) in his study, “A Study of Growth, Productivity and Manufacturing Efficiency in Small Scale Coir and Coir Products Industries in Coimbatore District”, studied the growth potential, productivity trends and manufacturing efficiency in small-scale coir products industry in Coimbatore District. He found that the overall growth rate of coir industry is higher than the rate of growth recorded by the small-scale sector. The result presents a mixed scenario of declining capital productivity and increasing labour productivity.

Burange (1999) in his article, “Industrial Growth and Structure of Manufacturing Sector in Maharashtra”, has made an attempt to analyze industrial structure and growth of the manufacturing sector in Maharashtra over the period 1979-80 to 1994-95. The main data source is the Annual Survey of Maharashtra and monthly Bulletin of index numbers of wholesale prices in India. Using Kinked Exponential Model (Boyce, 1986) the growth rate had been estimated for pre and post liberalization periods. His study revealed that the state was experiencing significant changes in industrial composition, where in capital and intermediate goods were becoming dominant. Over the period 1979-80 to 1994-95, the state realized a high growth rate in fixed capital resulting
in decrease in employment. The rising capital intensity and thereby substitution of capital, low growth rates of output and value added did not indicate a satisfactory performance of the state economy. He concluded that there was a revival in the manufacturing sector in the post reform period.

Thirthankar Ray (1999) in his study, "Growth and Recession in Small-Scale Industry – A Study of Tamil Nadu Power Looms", reviewed the growth and recession in small-scale industry with special reference to Tamilnadu power looms, using the examples of an export oriented weaving region. This study described the origin and conditions of the power loom units, its major handicaps, how it tried to address its handicaps and what kind of policy initiative may he needed to deal with them. An export recession in 1996-98 showed that the growth had happened without basic changes in technological and organizational capability of the industry. The paper suggested that some change in organization and technology in the industry could be attempted to deal with the weakness of the industry.

Narayanan (2003) in his study, "Technology Acquisition and Growth of Firms under Changing Policy Regimes: A Study of the Indian Automobile Sector", he examined the determinants of the growth of firms in automobiles. It underwent rapid technological change and saw the entry of new firm in the liberalized era. His sample covered the period of 1980-86. The study identified two policy changes during the period, namely, partial deregulations introduced in 1985 and liberalization measures launched since 1991. Consequently, three sets of regressions were presented for three periods-licensing (1980-81 to 1984-85) deregulations (1985 -86 to 1990-91) and liberalization (1991-92 to 1995-96). Firms in the automobile industry witnessed a change in basic technology configuration of the production process during the sample period. The study used two way fixed effect estimation of the growth function. The results of estimated model support the hypothesis that inter-firm differences in growth were
determined mainly by variables capturing technology paradigms and trajectory shifts. Thus, he concluded that the growth was mainly technology paradigms and trajectory shifts. Thus he concluded that the growth was mainly technology driven.

Nagaraj (2005) in his study, “Industrial Growth in China and India: A Preliminary Comparison”, compared the performance of the manufacturing sector in China and India over the past half century at a disaggregated level. He found that China’s industrial growth rate is close to one and half times that of India over the entire period, with the gap widening gradually. But Indian growth has been more stable. China’s superior performance seems understandable in terms of its faster agricultural and exports growth. China’s impressive industrial edifice seems to be built on somewhat microeconomic and institutional foundations. In comparison, India’s relatively strong foundations and domestic entrepreneurial capital seem to have the potential to improve performance, with a sounder macroeconomic environment a step up in fixed investment to augment infrastructure supply and agricultural productivity, revival of long-term finance to boost industrialization, and easier credit delivery to small and medium enterprises.

Section – V

2.7.5 Studies Related to Software Industry

Lakha., Salim (1960), has made a study on “The growth of computer software Industry in India” in the early1960’s, concluded that the commercial computers were largely employed by the big companies as they only could afford the high cost of using such technology. Though the use of computers in the following decade was still limited, a pool of skilled programmers had emerged. By the late 1970s, the spread of microcomputers in India created conditions that were conducive for the further growth of computer technology. The growth of computer software in India was the part of the broader process of the development of computer industry. The New Computer Software Policy of 1986 provided encouragement to software exports. Long-term growth and competitive strength of
computer software industry will hinge on India's ability to achieve a rapid rate of technological progress. This will be possible with an adequate supply of scientific experts and sufficient investment of resources in to Research and Development.

Ghosh et al, (1996) in their study, "India's Software Exports: Prospects and Opportunities", analyzed the different aspects of software industry and found that there was an encouraging potential for the offshore services including setting up of offshore development centers for exclusive clients abroad. It was concluded that India has the right ingredients to make it big in the field of software development and exports. In order to make a judicious use of the ingredients to obtain the desired results, a shift to more sophisticated segments by resorting to strategic alliances was the need of the hour.

As per the report published by Nasscom, (2000) "Nature of Teleworking in Key sectors Case Studies of Financial, Media and Software sectors in Mumbai", it can be concluded that despite positive and phenomenal growth rates, the share of India in the world software market was very low. Yet India enjoyed an advantage over some of the other nations that were trying to promote software exports. These advantages were both of a technical and social nature. Hence India was increasingly emerging as a software development centre with more and more overseas companies setting up operations in India. At that time, the software industry in India employed more than 2,00,000 people and is one amongst the fastest growing sectors in the Indian economy.

Patibandla et al (2000) in their study, "Import Substitution with Free Trade: case of India's Software Industry", revealed that much of the total revenues was being generated through exports. This made them to characterize this industry as an island of competitiveness in exports. It was able to achieve export competitiveness with little or no domestic market base and with inefficient local support input industries such as hardware industry and telecommunications. Thus, the birth of this industry was a byproduct of import substitution and its growth and its export successes were caused by open trade policies.
targeted specifically at this sector. This, as a part of the growth dynamics, could result in creation of domestic market for higher services through technology and information externalities which could be significant as domestic market grows in response to the general reforms including opening up of the service sector to private capital.

Kaul, Reeta (2000) 49 in his study, "Indian Software Industry", analyzed the growth of Indian Software Industry, in terms of domestic software market, software export, IT enabled services and Government incentives by using secondary data from 1991 – 92 to 1999 – 2000. It was pointed out that the industry needed to move further up the value chain and concentrate specifically on IT enabled services, which was poised to grow further. The growth so far achieved was attributed to elimination of import duty on software, increased enforcement of anti-piracy laws as well as increased maturity in end-user organizations. Simplification of procedures, deployment of additional resources for technical manpower development, new marketing channels, enhancing global brand equity and providing state-of-the-art infrastructure for software development would enhance the growth further, the author felt. Although India has been ranked as number one by US vendors, strategic policy instruments were required to consolidate its leadership in overseas market. The competitive edge which global software companies around the world have obtained by aligning with Indian software companies was increasing the pressure and expectations from India as a software destination. It must be remembered that investment in knowledge-based industries will determine dominance in the next century.

Syed Zahoor Hassan, (2000) 50 in his study, "Software Industry Evolution in a Developing Country: An in depth study", analyzed the evolution of software industry. This kind of analysis can be of benefit to researchers and policy makers that are interested in understanding how software industries could be fostered in developing countries. Software industry provides an opportunity to developing countries to improve governance, enhance competitiveness of their industries, create high value jobs, and
generate export revenues. Given the predominant role of governments in the education and telecommunication sectors in most developing countries, government policies and initiatives play an important role in shaping the evolution of software industry. Hence, governments have the most significant role to perform in development of software industry. Government actions and policies can both help and hinder development. Focus on short-term goals at the expense of developing institutions for long-term sustained development can adversely affect ability of software industry to grow.

Ashish Arora and Suma Athreye, (2001)\textsuperscript{51} in their study, "The Software Industry and India's Economic Development", assessed the contribution of software to India's economic development, paying particular attention to the role of software in the absorption of labour and the development of human capital in the economy. They concluded that it precisely presents the two facts- i.e. labour-intensive nature of the industry and an environment of global excess demand for such labour, which have altered the attitudes towards human capital formation at the firm level and in the national economy. It is in terms of this slow change in attitude towards education, entrepreneurship, and the value of human capital in the economy where the software industry has made its greatest contribution to India's economic development.

Ashish Arora et al, (2001)\textsuperscript{52} in their study, "The Indian Software Services Industry: Structure and Prospects", reported on the results of research on the Indian software industry. They used a variety of sources, including a questionnaire survey of Indian software firms, and field visits and interviews with industry participants, observers, and US based clients. Further, this industry has pioneered equity stakes and stock options for employees in India, and many of these companies are star performers on the Indian stock market. Thus, unlike in the past, the fruits of the success of the industry have been shared far more broadly. The implications of the success of this industry, at a time of slow but far ranging changes in the Indian economy, can be immense and far-reaching.
Chakraborty and Jayachandra (2001) in their article, "Indian Software Industry; Structure, trends and Constraints", examined the organization and size of the Indian software industry, by analyzing both primary and secondary data. To take advantage of the opportunities generated by the expanded markets, the authors suggested that the Indian Software developers would need to shift the thrust of their production from contractual programming and designing to indigenous prepackaged software products. Such shift however, precluded considerable reform in a variety of areas including infrastructure, planning and regulatory policies, risk management, marketing and distribution framework.

Richard Heeks & Brian Nicholson, (2002) in their study, "Software Export Success Factors and Strategies in Developing and Transitional Economies", concluded that the software export success model has proven useful as a way of understanding the experiences of developing and transitional economies. It offers a template against which to analyze national strengths and weaknesses. It also offers some more general guidance for countries seeking to increase their software exports. More important will be investment in specific locations. Ideally, this should follow the 'organic' rather than 'inorganic' model. That is, governments should seek to strengthen existing clusters and proto-clusters rather than create new, artificial clusters, some of which have a history of costly failure.

Saxenian, Ana Lee (2002), in his article, "Bangalore: The Silicon Valley of Asia", did an extensive research on the evolution of software industry in India. A detailed analysis was done on the ingredients of IT Action Plans of India and their vision. Here thorough investigation revealed the following: the IT industry has brought a wide range of important and tangible improvements to India. It has provided the confidence that India has a future in the new economy. And it has generated jobs, wealth and exports. The challenge today is twofold. First, there is a need to be very realistic about
the limits of software as a development strategy for India. Bangalore is not Silicon Valley, and IT is not going to solve all of India’s problems. IT is still a very small piece of the Indian output and exports, and even if it grows rapidly it will remain only one among many sectors that contribute to Indian development in coming decades.

Teubal, Morris, (2002) in his article, “The Indian Software Industry from an Israeli Perspective: A Micro Economic and Policy Analysis”, viewed the potential for graduation of the Indian IT industry to higher value-added product oriented activities and high-tech entrepreneurship as good. It was found that high-tech entrepreneurial start-up companies grew in the context of the various kinds of domestic policy support, horizontal or targeted, that were possible in the context of the globalization of asset markets, foreign direct investment and venture capital.

Manickavasagam and Karthikeyan, (2002) in their study “The Growth so far in Software Industry”, observed that the world was in the midst of a technological revolution based on IT. There was a vast potential for growth of India as even a small increase in the overall US market share could result in relatively high growth rate for Indian software and service exports. India possessed the world’s second largest pool of scientific manpower and produced high-quality software.

Ted Tschang, (2003) in his study, “China’s Software Industry and its Implications for India”, examined the broad characteristics of China’s software industry and its implications for India’s growth and strategy in the region. The implications of these Chinese characteristics for India can range quite widely. At one level, India can see China as a competitor, and at another, as a partner. This is made more complicated when it is realized that the relative competitive advantages of the two countries’ industries may change over time. Thus, co-operative or competitive situations may remain as such, or a co-operative situation can turn competitive. Whatever the case, the chances are that India will have to partner with Chinese firms in order to get access to the Chinese market. It is
clear that the Chinese domestic market (and therefore the industry) has some advantages, such as the large and growing manufacturing, business and consumer markets. The world market orientation of many manufacturing firms makes them demanding users. Domestic market competition is keen, however, to the point where, as standards, technologies and markets mature, there is likely to be a major shakeout of firms in the coming years.

Suma S. Athreye, (2003) 59 in his study, “The Indian software industry”, painted a picture of the evolution of the Indian software industry where the evolving strategies of firms lie at the heart of an unfolding dynamics of the sector’s growth. The specific capabilities that the successful firms developed were in process control, the management of teams of workers and in the profitable implementation of good organizational and human resource practices. This happened in response to the pressures that emanated from competition in the factor market just as new and viable business models had developed in response to competitive pressures and opportunities in the product market. It is however, the winning combination of particular organizational capabilities and a new business model that makes Indian software firms different from other software providers in the global marketplace and has allowed them to corner a fifth of the global market for custom software. The outsourced business services model can in principle be applied to a range of business processes: payroll management, data transcription, call services, technical support, R&D services, to name just a few such areas. If the organizational and managerial capabilities learnt in the process of software service outsourcing can be successfully applied to these different sectors the Indian economy may yet enjoy a great externality due to the development of the software boom, even if domestic demand for its written software is limited.

Su-Ying Lai et al, (2003) 60 in their article, “Uncertainty and Coordination in Global Software Projects: A UK/India-Centred Case Study”, presented a global software project case study, in which development work was divided between the UK and India.
It focuses on two issues: the uncertainties that arise because of differences between project locations, and the coordination activities undertaken in an effort to reduce those uncertainties. Uncertainty is an important problem for software projects, and this case supports the idea that uncertainty creates significant issues for global software development projects. The project is a reminder of the two-way relationship between uncertainty and coordination. High levels of uncertainty demand the use of coordination mechanisms. Those mechanisms – if effective – can reduce uncertainty and improve project performance. Yet those mechanisms are themselves liable to being undermined by uncertainty, as seen in the difficulties and delays encountered in project communication.

Ashish Arora and Alfonso Gambardella, (2004) in their study, “The Globalization of the Software Industry: Perspectives and Opportunities for Developed and Developing Countries’, indicated that the most important of all, the success of an export oriented software industry can show to potential entrepreneurs what is possible with talent, luck and hard work. In Ireland, the success of the software industry provided others with the confidence that Irish high tech firms can compete with any in the world. In India, software was virtually the first instance where wealth was created honestly and legally, and more important, visibly so. The growth of software and other high technology industries in these economies may raise other challenges. U.S. technological leadership rests in part upon the continued position of the U.S. as the primary destination for highly trained and skilled scientists and engineers from the world over. Though this is likely to persist for some time the increasing attractiveness of foreign emerging economy destinations is a long-term concern for continued U.S. technological leadership.
References


