CHAPTER - II

REVIEW OF LITERATURE

It is mandatory to review the literature available with respect to the area of research study. Measuring the performance of the corporate sector has always been an area of controversies from the point of view of the Government, shareholders, prospective investors, creditors, employees and any other stake holders. Several studies have been undertaken to evaluate the financial performance in the corporate sector. The researcher has deeply gone through many journals and magazines and have collected lot of information related to the present study. The following are the brief reviews of literature which are relevant and appropriate for the study.

Ajit Benierji (1975)\textsuperscript{1} analyzed the “Capital Industry and Productivity in Indian Industries”, including Paper Industry. The relevant data was collected from Annual Survey of Industries for the period of 1946-1966. He used Cobb-Dougles production function and estimated capital and labour coefficient. His study revealed that the paper industry out of experience increases return to scale. However productivity of capital was decreasing over the period of 1946-1968 and the rate decline was 4.4 percent, therefore, he found that K/L ratio was high in paper industry.

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\textsuperscript{1} Ajit Benerji, “Capital Industry and Productivity in Indian Industry”, The Macmillan Company of India. Ltd, New Delhi, 1975, pp.84-86
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Gupta (1979)\(^2\) in his study on “Financial Ratios as Fore Warning Indicators of Sickness”, analysed 41 Indian Textile companies. Among the companies taken for the study, 20 were sick and 21 were non-sick. In testing the predictive power of 63 financial ratios, it was concluded that the two ratios, viz., earning before depreciation, interest taxes / sales and operating cash flow / sales were significant.

Kulshreshtha, N.K. (1980)\(^3\) has made a study on “Corporate Liquidity: X-rayed”. He has found from his study that excessive liquidity would reflect lower profitability and deterioration in managerial efficiency exhibited through inappropriate decision taken in the spheres of expansion, credit policies and dividend polices.

Singh, K.P. (1981)\(^4\) in his study "Capital Structure and Returns" has found that the size of the unit had a significant role in the capital structure of the cement industry. His study had revealed that the returns and profitability can be increased by increasing the size of the firm from small to big.

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Banerjee, B. (1982)\textsuperscript{5}, in his study on "Corporate Liquidity and Profitability in India" has analysed the trend of liquidity position and its relationship with the profitability, taking medium and large scale public limited companies in the corporate sector for the period 1970-71 to 1977-78. In his study, he has found that in India, in certain industry groups, a rise in liquidity had led to rise in profitability and vice versa. Whereas in other industry groups, the association between liquidity and profitability had been negative.

Brahamananda (1982)\textsuperscript{6} analyzed the "Productivity of Indian Industries including Paper Industry" during the period 1950-1951 to 1980-1981 on the basis of secondary data collected from central statistical organisation. He has concluded that in paper products, the capital productivity along with capital stock increased at nine times whereas the net domestic product increased five times.

Lata Arun Reddy (1983)\textsuperscript{7} analysed the "Profitability of Indian Paper Industry with reference to the Financial Statistics of Joint Stock Companies in India" during the period of 1950-51 to 1973-74. The major objectives of the study was to examine the relationship between growth and profitability. He


\textsuperscript{6} Brahamananda, “Productivity of Indian Industries including Paper Industry”- Productivity in Indian Economy, Himalaya Publishing House, Bombay, 1982, p. 120

concluded that the paper industries exhibited a strong positive correlation between growth and profitability by using regression models and compound growth rate.

**Maniklal (1983)** examined "Financial Structure and Long Term Solvency of Indian Jute Textile Industry" by making an intensive study of five selected companies in the industry. He concluded that the long run solvency depends on long-run profitability. The companies under his study, experienced difficulties through increased borrowings responsible for the decreasing trend in coverage ratio. The companies had sufficient scope to raise both the long term borrowings and share capital by new issue to broaden the base of long-term funds.

**Mahanti (1984)** in his study “Paper Industry’s Looming Crisis” has examined the Indian Paper Industry’s overall capacity utilization. He observed that capacity utilization of paper and paper board had gradually deteriorated. He had also found that capacity utilization had declined from 96.4% in 1951 to 74.6% in 1981 due to inadequate supply of power.

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Sathish Chandra Srivastava’s (1984)\textsuperscript{10} study on “Wages, Profits and Productivity in selected Paper and Paper Boards Industries of India” was based on econometric models. From the study, the following conclusions were derived. There was a strong correlation ($r=0.97$) between the total value added and the wages paid to workers. It was statistically significant at 5\% level. Average yearly earnings possess a parabolic trend with positive acceleration and trend, amounting to 0.31 and 0.25 per annum. There was a linear relationship between salaries and wages and the value added. The average yearly earnings of the paper industry, as a result of unit change in productivity indices was merely due to chance. Taken together, 84\% of variation in the average yearly earnings of paper and paper board industry ($y$) was explained by the consumer’s price index number ($x_1$) and productivity indices ($x_2$). The labour productivity and production bear a positive correlation to the size of establishment.

Nizam Mohammed (1985)\textsuperscript{11} in his study entitled “Indian Paper Industry : Headging for a Bright Future” has analysed the causes for low capacity utilization during 1970’s. He observed that the major problems which caused the relatively low capacity utilization included the shortage of raw materials, inadequate supply of power and coal and transport bottlenecks.


He had also observed that the capacity utilization in paper industry was influenced by several factors, such as cost of inputs, heavy overheads and obsolete technology etc.

**Rathinam (1985)**\(^{12}\) in his study, “An Economic Analysis of Cost of Production, Inventory and Capital Structure of Seshasayee Paper and Boards Limited” pointed out that there had been a sudden increase in wage cost due to upward pay revision that had resulted in the higher cost of production loading to erosion of profits.

**Sharma (1985)**\(^{13}\) analysed, “Industrialization and Regional Development of Punjab Paper Industries”, during 1970-1971 to 1982-83 and concluded that paper and paper products industries have a great scope for expansion. However, the growth of paper industry had taken place largely in unorganized sector and the paper and paper products showed a low degree of concentration in the organized sector compared to other industries.

**Sivakumar (1985)**\(^{14}\) under the title “A study of Trends in Total Factor Productivity Exogenous and Endogenous Technical Change in Large Manufacturing Industries including Paper Industries in India” from 1973-74

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to 1979-80. He investigated that there existed a positive relations between value added per person and capital ratio in industries. The total factor productivity characterized a negative growth rate of 2.54% per annum in the paper products industry.

**Parameswari (1986)** studied “Wage differentials and Cost Structure of Large and Medium Public Limited Companies including Paper Companies” during the period 1975-76 to 1978-79, with the relevant data collected from RBI and concluded that paper industries were experiencing increasing returns to scale with reference to total cost function.

**Arun Ghosh (1987)** in his article entitled “Education and Environment Contribution of Paper Industry” has reported that the growth of paper Industry was impressive. The annual growth rate over the period 1951-1956 was 8.7% for capacity and that of production 7.4%. He had observed that the overall capacity utilization had declined from 96% in 1951 to 60% in 1956. He had also observed that the capacity utilization was not well in accordance with the growth rate of the paper industry.

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Balachandran (1987)\textsuperscript{17} in his study entitled “A Study of Cost of Production, Inventory and Value Added in Indian Paper Companies”, during the period 1975-76 to 1980-81. On the basis of various issues of RBI, he concluded that the depreciation cost ranged between 50% of GWC on the paper industry.

Chandra Mall, P. and Bala Shanmugam (1987)\textsuperscript{18} in their article on "Profitability and Capital Structure- A Case Study of Steel Authority of India Limited (SAIL)" highlighted the relationship between the debt-equity ratio and profitability. The correlation co-efficient between the two variables depicted a perfectly negative association (r = -1). It reduced inadequacy in equity and also had a favourable income effect. The SAIL seeked to improve its profit margins so that the reserve and surplus would become an important component of the capital structure. The units were suggested to design its own financial structure and make it certain that it was designed to be flexible enough to fit present and future needs. The capital mix decision should be with the management, and had to be an in-built flexibility to allow for changes, so as to take advantage of the changes in the cost of funds.

\textsuperscript{17} Balachandran, “A Study of Cost of Production, Inventory and Value Added in Indian Paper Companies”, Unpublished M.Phil Thesis, Bharathiar University, 1987.

\textsuperscript{18} Chandra Mall, P. and Bala Shanmugam, “Profitability and Capital Structure – A Case Study of SAIL”, IPE Journal, Vol.10, No.4, October-December 1987, pp.31-42.
Naidu (1987) analysed “Growth of Paper Industries in India” over the period 1959-60 to 1981-82 and found out that the growth of gross value addition which was 10.4% in paper and paper product industries during 1959-60 to 1965-66 had decreased to 7.2% in 1966-67 to 1979-80. A similar trend was witnessed in output also.

Thangavelu (1987) in his study entitled "A Study on Working Performance of Paper Industry with special reference to Sri Venkatesa Paper and Board Ltd, Udumalpet", has analyzed the cost efficiency and financial performance of Sri Venkatesa Paper and Board Limited, from the years 1977-1978 to 1985-1986. The relevant data were collected from the annual report of the mill and had been fitted to a regression model. He had concluded that the co-efficient of output and raw material was significant at 1% level. The study also revealed that the cost had increased by 2.67 times, the profit ratio had shown a declining trend and the operating cost had gone up ranging to 48% on sales.

Desai (1988) analyzed the "Capital and Profitability Position of 16 Large Scale Paper Industries in India". He concluded that return on capital employed was worked out at 6% in 1983-1984, when compared to 9.3% in

1982-1983. The net sales were improved by 9.8%. During the corresponding period, only 10 out of 16 companies had shown profits while the remaining had shown heavy losses.

**Tata (1988)**

Tata (1988) has examined in his article “Overall Performance of Paper and Paper Products Industries in India”. He suggested that the demands for paper and paper products can be easily met by improving the capacity utilization of the industries and hence there was no need for licencing more units. He had concluded that the small scale paper and paper products manufacturing units constitute nearly 50% of total capacity.

**Chandrasekar (1989)**

Chandrasekar (1989) analyzed “Aspect of Growth and Structural Change in Indian Paper Industry” from 1950-1951 to 1984-1985. The relevant data was collected form ASI. He concluded that the growth of value addition in paper and allied industries had shown a decreasing trend.

**Kulkarni (1989)**

Kulkarni (1989) in his article entitled “Paper and Paper Board” has examined the capacity utilization of the Indian Paper Industry for two decades. He has observed that the capacity utilization declined very sharply from 82.3% to 66.4% during the first decade and to 60.41% during the second decade of the study. He had further found out that the installed capacity was

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increased to 28.51 lakh tonnes per annum during the year 1988 as against the
installed capacity of 9.54 lakh tonnes in the year 1971. The production of
Paper & Paper Boards was also increased in a similar manner as from
7.75 lakh tonnes to 17.20 tonnes during the same period. Thus, it was noted
that the capacity utilization of the paper industry had an inverse relationship
with the installed capacity and production.

Sivaram Reddy and Mohan Reddy (1989)\textsuperscript{25} in their article “Indian
Paper Industry - Problems and Prospects” evaluated the capacity utilization of
the paper mills in India. They have observed that a fairly high degree of
capacity utilization was maintained in their earlier years. However, it had
declined every year from the year 1971 and the decline in the ratio of capacity
utilization was found to be severe during the five years from 1981 to 1986.
The researchers have concluded that the installed capacity of industry had
been gradually increasing and the capacity utilization had been coming down.

Khan, A.Q and Mohal Tufail Khan (1990)\textsuperscript{26} in their article, "Paper
Industry: An appraisal" pointed out that the paper industry is a highly capital
intensive industry. This industry had been unable to function vigorously due
to steady rise in the cost of inputs, heavy over heads, scarcity of power and
adverse impact of control orders. They have selected some of the important

\textsuperscript{26} Khan, A.Q., and Mohal Tufail Khan, “Paper Industry: An Appraisal”, Yojana, Vol.34, No.11,
companies for the analysis during the period 1980-81 to 1985-86. Their statistical analysis showed that the profitability of these companies during the period under review was not satisfactory, the profitability of these companies had been hampered because of control over prices and production of printing paper. The study was concluded that the control over price and production of printing paper should be removed.

**Jaggi, Bikki (1992)** evaluated from his article “The Impact of Pollution Performance by Pulp and Paper Firms on their Economic and Market Performance”. Pollution Performance measurement is based and pollution index developed from pollution emission reports filed with the regional offices of the Environmental Protection Agency by Pulp and Paper firms for their individual plants. Economic Performance was measured by Net income, ROE, ROA, Cash flow/equity and Cash flow assets. Market Performance was measured by the PE ratio and Systematic risk. The association between the pollution index and economic and market performance variables was tested by the pearson correlation co-efficient. The results of this study indicated that, in the short run, pollution performance was negatively associated with economic performance and that the markets did not reward good pollution performance. Strict pollution standards may be

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desirable for forcing management to undertake pollution abatement activities to achieve a cleaner environment.

**Duraisamy (1993)** in his study on “Paper and Paper Board Industry with special reference to Tamilnadu” analysed various factors concerning the production of paper, degree of return to scale, elasticity of input, elasticity of substitution. Using production function, further he measured partial and factor productivity and analysed the price determinants. He had taken a time series data of 25 years (1959-1983) from the annual survey of industries and CMIE. He concluded that in the paper industry, constant returns to scale was operated during the study period.

**Jagan Mohan Rao, P. (1993)** wrote his article on "Financial Appraisal of Indian Automotive tyre Industry". The study was intended to probe into the financial condition-financial strength and weakness of the Indian Tyre industry. To this end, a modest attempt has been made to measure and evaluate the financial performance through intercompany and inter-sectoral analysis over a given period of time. The main finding are that fixed asset utilization in many of the tyre undertakings was not as productive as expected and inventory was managed fairly well. The tyre industry’s overall profit performance was subjected to inconsistency and ineffectiveness.

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Swathi (1994) in her study on “Paper Industry in Transition” highlighted that the changeover from a controlled to a free market economy envisaged by the new economic policy of the P.V. Narasimha Rao Government has opened up new opportunities for the century-old paper industry. It could become a major player in this part of the global market with its vast home market and export potential. Between 1951 and 1991 installed capacity went up to 3.3 million tonnes a year from 13,700 tonnes per annum. The capacity had increased further in the last two years to about 3.4 million tonnes per annum. Data on small units estimated at over 700, were not available but their production capacity was placed around five lakh tonnes with a probable 30% utilization of capacity. India, with 16% global population accounts barely for 1% of world consumption of paper. With per capita consumption of 3.1 kg against 14 kg in China, 61 kg in Malaysia, 27 kg in Thailand and 207 kg in Singapore. Even a modest increase to 4 kg by 2000 A.D offered immense opportunities for the industry in the coming years under the new environment which was aimed at integrating the Indian industry with global market in terms of competition and growth.

Industry in Tamilnadu" covering a period from 1982-83 to 1991-92. Correlation and regression analysis have been applied to measure the impact of working capital ratios on profitability. The study had revealed that liquid ratio, cash turnover ratio and receivable turnover ratio had positively influenced the profitability.

Srinivasa Rao.G and Indrasena Reddy.P (1995)\textsuperscript{32} in their study entitled "Financial Performance Appraisal of Paper Industry-A Case Study", stated that the financial position of the company has been improving from year to year. The company’s performance in relation to generating internal funds in the form of reserve and surplus was excellent and also sounded as it was revealed by current and quick ratios which were above the standard. The solvency ratios showed that the company had been following the policy of low capital gearing from 1990-91 as those ratios had been decreasing from this year. The performance of the company in relation to its profitability was not up to the expected level. The company’s ability to utilize the assets for generation of sales had not been improved much during the study period as it was revealed by its turnover ratios.

Indrasena Reddy and Someshwar Rao (1996)\textsuperscript{33} in their study on "Working Capital Management in Public Sector Undertaking - A Case Study" revealed that the liquidity position of HCL was satisfactory as its current ratio and quick ratio remained above the standard norms throughout the period of study. The turnover ratios of HCL showed that the company’s ability in managing current assets for generation of sales had not been improved much during the study period. Since 1991-92, a sign of improvement was noticed in respect of inventory management and ineffective control over debtors which indicated that the advantages accruing to working capital management from declining share of inventory had been off-set by the increasing share of debtors to the total current assets.

Jose (1996)\textsuperscript{34} in his article "Corporate returns and Cash Conversion Cycle of US Firms" examined the relationship between aggressive working capital management and profitability of the firms. Cash conversion cycle is a measure of working capital management whereas shorter cash conversion cycle represents the aggressiveness of working capital management. They concluded that exist significant negative relationship between cash conversion cycle and profitability which indicated that more aggressive working capital management was associated with higher profitability.


Desai (1997)\textsuperscript{35} in his study "Assessment of Liquidity - Interfirm Comparison - A Case Study of few Cotton Mills of Ahemedabad" has examined the liquidity performances, their relationship with the profitability, the pattern of financing of current assets and turnover of working capital. The selected firms were classified into three groups based on the size of the firms and it was statistically tested to determine how far the observations of the study can be taken as a valid useful measure for future policy framework. It was observed that liquidity and profitability of the firms were not influenced by the size.

Gopalaratnam (1997)\textsuperscript{36} has carried out a study entitled “Paper: Clean Production, a Major Issue”, and stated that “The environmental issues associated with Paper Industry are: large use of water and discharge of coloured effluent, presence of chlorinated by products in the effluent system, ador control, acid deposition and stack emission, solid water. In addition, the industry is also held uncharitably responsible for the denudation of forests. While Stern measures had been taken in the recent past by the Government to prevent the paper industry from depending on forests resources of the state, no positive steps had been initiated to encourage the industry to directly involve in the raising of wood. The industry, therefore, was at a loss to plan for its

current and future operations. The industry was often accused of indiscriminately discharging its coloured effluent creating aesthetic and chemical pollution. Certain innovative attempts have been made recently with success to use the treated effluent for raising agricultural produce, especially sugarcane.

**Pandey, I.M. and Parera, K.L.W. (1997)** in their article analysed "Determinants of Effective Working Capital Management-Discriminate Analysis Approach" of the Private sector Paper Manufacturing Companies in Sri Lanka. They found that most of the paper companies in Sri Lanka have informal working capital policy. The firm size determined the overall working capital policy and working capital approach either conservative or aggressive. Further the profitability of the firm was also influenced by the methods of working capital planning and control.

**Pari, C.A. and Vijayakumar, A. (1997)** have carried out a study entitled “Productivity and Profitability of a Paper Industry : A Case Study of Seshasayee Paper and Boards Limited, Tamilnadu” analysed the growth in Production, Sales and Profit of the Company., for a period of 12 years from 1981-82 to 1993-94. They have also examined the factors determining the

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profitability of the company and have concluded that the ratio of debt to total assets, inventory turnover ratio, current ratio and operating expenditure ratio were the permanent variables in determining the profitability on Seshasayee Paper and Boards Limited.

Satya Sundaram (1997)\textsuperscript{39} article on “Market Survey – Paper cutting down costs Crucial” pointed out that the paper mills in India have been waging a relentless war to increase production so as to bridge the gap between demand and supply. Since demand had been growing at brick pace - particularly of papers of superior varieties – the country had to fall back on compulsory imports. However, the scaling down of import duties in the wake of economic reforms had put the indigenous mills in a position of disadvantage. They were then left with the only option of cutting down costs if they were to survive in the competitive war.

Smith and Beyemann (1997)\textsuperscript{40} have carried out a study entitled "Measuring Association Between Working Capital and Return On Investment of Cement Companies". He emphasized that profitability and liquidity were the important aspect of working capital management. While maximizing returns, care should be taken for liquidity. There should be a trade-off between liquidity and profitability. They evaluated the association between working


capital measures and Return On Investment (ROI). They have concluded that the traditional working capital leverage ratio and current liabilities divided by funds flow had more association with return on investment. The liquidity ratios like current and quick ratios were insignificant associations with ROI.

Gowri, R. (1998)\textsuperscript{41} in her study on “Financial Performance Appraisal of Seshasayee Paper and Boards Limited”, Pallipalayam, has analysed the liquidity, profitability and the fund flow analysis of the company for the period 1987-88 to 1996-97. In her study, she had found that the company can maintain better liquidity by reducing its investments in stocks and debtors. It could earn more profits by reducing its operating expenses. The net working capital to net worth was steeply declining and hence the company should arrest the trend by increasing net working capital.

Indrasena Reddy (1998)\textsuperscript{42} has analysed, "The Performance Appraisal in Public Enterprises through Value Added Approach" for the period from 1988-89 to 1992-1993. In his study, it was observed that the overall performance of Bharat Heavy Electrical Limited (BHEL) had been improving. The increase in value added was possible mainly because of reduction in material cost, which was again due to application of effective cost control techniques and minimization of material wastage.

N. Narayanan (1998)\textsuperscript{43} Chairman and Managing Director of TNPL reported that Major Tamilnadu Newsprint and Papers Ltd (TNPL) is planning to roll out glazed news print from its pugalur factory. Though the domestic market for glazed news print is very small and is presently met through imports. The company has received encouraging response from the market throughout the country.

Agarwal, R.N. (1999)\textsuperscript{44} has studied, "The Profitability and Growth in Indian Automobile Manufacturing Industry". The objective of this study was to examine whether firms had been making super normal profits, since 1975, when price controls were removed. It also evaluated the impact of policy changes since 1981-82 on profitability and growth of firms in the industry using Turban’s square as a measure of profitability. The study found no evidence to show that firms have made super normal profits. Profitability was found to be explained mainly by age of firms, vertical integration, diversification industry policy, dummy variables, gross retained profits and expansion of capacities.

Mc Donald and James Ted (1999)\textsuperscript{45} examined "The Determinants of the Profitability of Australian Paper Manufacturing Firms" by analysing a unique firm-level data of firms performance over a period 1984-93. The panel nature of data permitted to the estimation of dynamic profitability model over the business cycle to test both the persistence and cyclicality of firms profitability. Econometric results suggested that logged profitability was a significant determinant of current profit margins and that industry concentration was positively related to firm profit margins. Also, profit margins were to be pro cyclical in concentrated industries but counter cyclical in less concentrated industries.

Sakthivel Murugan, M. (1999)\textsuperscript{46} in his article on “Working Capital Management - A Case Analysis”, revealed that one of the several indicators of efficient management of working capital is to examine whether adequate liquidity is maintained. The ‘Z’ Score analysis revealed that the organization maintained the ‘Z’ score above 3 points for all the year taken for the study. This showed that the company was maintaining adequate working capital by investing sufficient funds in its current assets. With the help of adequate current asset, it was also able to meet the current obligation without inviting the risk of bankruptcy.


Sivaram Prasad (1999) studied on "Working Capital Management in Indian Paper Industry" laying emphasis on individual current assets like cash, receivables and inventory: The study revealed that the working capital formed 47.2% of the total net assets during 1984-93. The rate of return on current assets was negative or insignificant in all selected mills indicating inefficient management of working capital. The results of correlation analysis indicated a close relationship between profitability and working capital efficiency emphasizing the need to exercise better control over working capital.

Pandey, Chotigeat and Ranjeet (2000) have examined, "Capital Structure Choices in an Emerging Market: A Case of Thailand Firms". They have concluded that asset structure, growth, size and profitability were the significant determinants of leverage of firms in Thailand. Further, the firms prefer to raise funds from financial institutions than to raise funds from public by offering equity or debentures.

Rajeswari. N (2000) in her study on "Liquidity Management of Tamilnadu Cement Corporation Ltd., Alangulam-A Case Study", identified that the liquidity position of the Tamilnadu Cements Corporation Ltd

(TANCEM) was not satisfactory. She has concluded that necessary steps should be taken to improve the liquidity position of the company.

Sahu, R.K. (2000)\(^{50}\) has attempted an “Analysis of Corporate Profitability-A Multivariate Approach” of Public Limited Companies in Eastern India for a span of ten years and the composite profitability of a firm by a single index, thereby facilitating case of comparison and ranking. The main objectives of the study were to analyse the degree of relationship between the ratios. In order to identify the ratios which overlap the information and to integrate the selected ratios into a single profitability ratios.

Mohammed Rafiqul Islam (2001)\(^{51}\) in his article has studied the “Cash Management in the Public Sector Paper Mills of Bangladesh”. In his study, he examined the adequacy and control of cash of public sector paper mills in Bangladesh. Findings of the study indicated that the selected units cannot be considered as satisfactorily liquid and solvent. As a result, they do face difficulties in meeting their current obligations. The adequacy of cash of NBPM (North Bengal Paper Mills) was worst among all the units and KPM (Karnaphuli Paper Mills) had slightly better position in this regard. The study


also revealed that all the units have failed to manage their cash resources properly. Some suggestions are given to improve the situation.

Murmo Ville (2001)\textsuperscript{52}, wrote an article on “Future trends of HRD in the Finnish Pulp and Paper Industry”. The recent two decades have introduced several major changes into this field of industry. Technical break through, have led to drastic change in the competence requirements of the personnel. On the other hand, the boom of mergers and acquisitions in this industry segment had cut down the humor of corporations with worldwide operations. Globalization challenges the European labour market, social policy, vocational education as well as HRD practices to develop high value jobs and competencies essential for survival in his labour cost competition.

Prasad (2001)\textsuperscript{53} conducted a research study on the "Working Capital Management of Paper Industry". His sample consisted of 21 paper mills from large, medium and small scale for a period of 10 years. He found that the chief executives properly recognized the role of efficient use of working capital on liquidity and profitability but in practice they could not achieve it. The study also revealed that 50 percent of the executives followed budgetary method in planning the working capital and working capital management was in efficient due to sub-optimum utilization of resources.


Gosavi, P.G. (2002)\textsuperscript{54} in his article entitled, “Intermediate Technology of Indian Handmade Paper” pointed out that the systematic manufacture of paper and substantial scale started around the third century B.C in India. Until the middle of the 19\textsuperscript{th} century, paper was made throughout the world by hand. Paper making technology continues to make progress commensurate with the advances in other fields. Yet, the most modern paper leaves much to be desired. The handmade paper in India tries to remedy these short comings. India and Japan have continued the manufacture of handmade paper even though many paper mills were operating. The study concluded that in the development of small undertakings like handmade paper units, there was bound to be ups and downs. However sound difficulties can be overcome and progress continued unbridled.

Mansur Mulia, A (2002)\textsuperscript{55} in his article “Use of 'Z' Score Analysis for Evaluation of Financial Health of Textile Mill - A Case Study” has found that the textile mill just on the verge of financial collapse. The financial health of the mill was unhealthy zone during the period of the study. The position on its performance front was very unviable and apprehensions and the total failure of the mill were inevitable and certain. The mill had faced the problem of over trading owing to the inadequate level of working capital.


Sahu, R.R. (2002)\textsuperscript{56} in his article titled “A Simplified Model for Liquidity Analysis of Paper Industry” has examined the liquidity of paper Industry. The model developed by him had been based on the assumption that the liquidity management of a company in a particular year was effective if its’ earnings before depreciation was positive and not effective if its earnings before depreciation was negative. The findings had revealed a very high predictive ability of the estimated discriminant function.

Anandha Selvi, S. (2003)\textsuperscript{57} has made a study on “Working capital Management of Tamilnadu Newsprint and Papers Limited”, Kagithapuram, for a study period of ten years from 1992-93 to 2001-2002 with the objective to analyse the financial stability, liquidity and profitability of the concern through financial ratio analysis, to evaluate the future long term and short term working capital needs of the concern through working capital budget. It was found that the inventories, sundry debtors, cash and bank balance, loans and advances, current liabilities and provisions had been increasing throughout the study period.

Pesendorfer Martin (2003)\textsuperscript{58} through his article “Horizontal Mergers in the Paper Industry” has concentrated on Mergers and Acquisition in the


U.S. Paper and Paper Board Industry which experienced a wave of horizontal mergers during the mid-1980’s. He described how the mergers affected investment decisions, cost and consumers, finding that merged firms lost market share and were more likely to scrap capacity subsequent to an acquisition. He estimated cost function for individual firms based on an investment model, finding that the efficiency of the majority of acquiring firms increased following an acquisition. Using the estimated cost function, he quantified welfare effects and found evidence of total welfare increase in some paper products as a result of the mergers.

Prabhakara Sharma (2003) in his article entitled, “Small Scale Paper Mills and Economics Reforms” discussed the viability and advantages of small-scale paper mills via-a-vis the government’s economic policies which have adversely affected the paper industry. The small paper mills from the problems of high cost of old imported machines, increased the cost of inputs, import duty, cost of rebuilding, lower yield, low productivity, dependence on agricultural residues and secondary fibrous raw materials like waste paper and waste gunny. Agricultural residues being seasonal collection, handling transportation and storage pose difficulties. The non-availability of straw in large quantities at centrally located places was yet another disadvantage to small paper mills. Hence, considerable amount of labour as

well as money had to be diverted in the collection of raw material. The study concluded that the small scale mills had to go for expansion and modernisation to widen their base and strengthen profitability.

Through the article “Highest Production by Seshasayee Paper” (2003), it was very clear that Seshasayee Paper and Board Limited had achieved a production of 61,441 tonnes” at an average basis weight of 82 gsm, in the existing paper machines and 52,243 tonnes at an average basis weight 63 gsm in the new paper machine. The total production of 1,13,684 tonnes, was the highest achieved by the company so far. The gross turnover was Rs.39,124 lakhs for the year 2002-03 compared to Rs.36,220 lakhs during the previous year. The gross profit before interest, depreciation and tax was Rs.6,961 lakhs as compared to Rs.4,121 lakhs in the previous year. The profit before tax for the year was Rs.2,782 lakhs as compared to Rs.472 lakhs in the previous year.

Sukhdev Singh and Gill (2003) undertook a study entitled “Status and Growth of Paper and Pulp Board Industry in Northern India - A Case Study”. The study has revealed that due to the availability of raw materials and Labour, 80% of the mills were running with the optimum capacity utilization. The authors have observed that more than 3000 people have got

employment in 10 Paper and Paper Board mills with a proportion of 1800 skilled workers and 1200 unskilled labours. The authors have found that the major problem faced by the industry was frequent breakdown of paper production especially during the summer season due to scarcity of power supply.

**Sundarsana Reddy. G, et al. (2003)** under took a study entitled "Debtors Management - A Case Study of Andhra Pradesh Paper Industry". They found that the debtors occupy an important position in the structure of current assets of a firm. They were the outcome of rapid growth of trade credit granted by the firm to their customers. That was why the study aimed at evaluating the performance of the Debtors management in Andhra Pradesh Paper Industry. The analysis revealed that the sample mill adopted liberal credit policy, which had a favourable effort on sale. The size of trade debtors as a percentage of current assets had shown declining trend. But the collection period of the debtors slowly increased. The increasing debtor’s collection period was an indication of slackness in collection efforts of the mill.

Analysing a news write up from “The Hindu Business Line” (2004), it was noted that a new class has emerged among large domestic Paper Mills taking advantage of their access to modern production technology. This class

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of mills, primarily virgin fibre-based, had started showing their strength by revising the price of their products even during the current “Loan Season” in the domestic paper market. Incidentally, those mills not many in numbers, had the capability of producing high quality writing and printing maplitho papers and duplex board. Ballapur Industries Ltd (BILT) of the L.M.Thapar group being a leader of their class of mills, revised prices a fortnight ago. The domestic paper market in general was not bullish at that time, except for the newsprint sector. The Newsprint market had been buoyant for the last couple of months because of higher prices ruling in the international market. The favourable market situation, domestic newsprint manufactures at that time increased prices on an average by Rs.1000 a tonne.

**Lund Mark Robert and Soderholm Patrick (2004)**64 wrote their paper on "Estimating and Decomposing the Rate of Technical Change in the Swedish Pulp and Paper Industry: A General Index Approach". The analysis is made with in a Trans log cost function model, which was estimated using a panel data set with observations across individual paper and board mill over the time period 1974-94. The result indicated that the highest rates of technical change had generally occurred during the latter part of that period. Pure technical change was the primary component that had directed technical change over the entire time period. They found evidence of non-neutral

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technical change. Energy use had been stimulated by technical improvements while labour use had been discouraged. However, the magnitudes of these latter impacts were relatively small implying that the increase in waste paper use during the last decades had mainly been stimulated by relative price change.

**Rama Chandran, S. (2004)** in his paper has analysed, "Indian Paper Mills Improve Capacity". He stated that the Indian Paper Industry had an important Social, Cultural and Economic role to play in the development of the country. The Indian Paper Industry which is more than 100 years old, is one of the 35 high priority industries in India. The industry contributes over Rs.2000 crores annually to the exchequer. It provided employment to more than 2,00,000 people directly and about 10,00,000 indirectly.

**Adolphus (2005)** has studied, "Empirical Survey of Corporate Liquidity Management Practices of Nigerian Paper Manufacturing Companies". This study has intended to investigate and subsequently improve the capability of corporate finance executing in handling acute liquidity shortages through optimal cash flow management within a risk return framework. This study was based on three models viz, operating cycle, cash flow cycle, and design of marketable securities portfolio. This study had

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revealed that the finance managers in paper manufacturing companies have to redefine their strategy for managing anticipated and unanticipated financing gaps.

**Biggs Stephen (2005)** in his article entitled “Social Responsibility in the Growing Handmade Paper Industry of Nepal” examines that handmade paper industry was sustainable from social responsibility as well as natural resources and economic perspectives. Five principle sources of socially responsible practices were identified as (i) Traditional commitment to community, (ii) Fair trade codes of conduct, (iii) Corporate social responsibility, (iv) the industry’s business service organization, (v) the general policy and legal frame work. The paper concluded as a case study of “Positive deviance” and with lessons for contemporary innovation systems theory and for development policy and practice.

**Bardia, S.C.(2006)** in his paper has analysed "Liquidity Management : A Case Study of Steel Authority of India Limited". He has studied the overall quantum of liquidity maintained by steel sector and also to analyze the amount tied up in various components of working capital. This study had examined the liquidity position of the company by applying Mottal’s comprehensive test. The result of a study mostly affected liquidity for overall

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ranking in the year 1995-96. There was a positive association between liquidity and profitability.

**Geethanjali Chaturvedi, et al (2006)** carried out a study on "Indian Paper Industry: Growth and Prospects" and highlighted the existing status of the Indian Paper Industry with respect to the key market indicator. They have discussed the basic issues and challenges confronting the industry with possible strategy to address the same. The authors have revealed that issues and concern of the industry included scale of operation and environmental challenges.

**Parameswari, C. (2006)** in her conclusion under the topic "A Study on Inventory Management on TNPL, Kagitapuram" enlightened on the methods of inventory management followed by the company. Too much of inventory causes idle funds in TNPL due to storage, obsolescence problem and marketing problems. She emphasized the need for scientific inventory management to improve the efficiency of the inventory management.

**Rehman (2006)** had studied "Working Capital Management and Profitability - A Case Study of Pakistani Paper Companies". He examined the

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impact of working capital management on the profitability of 94 Pakistani firms listed at Islamabad Stock Exchange (ISE) during the period 1999-2004. He analysed the impact of the various variables of working capital management including average collection period, inventory turnover in days, average payment period and cash conversion cycle on the net operating profitability of firms. He concluded that there was a strong negative relationship between working capital ratios and profitability of firms.

Sudarsana Reddy et al. (2006)\(^{72}\) in their topic entitled, "Financing Factor and Utilisation of Fixed Assets in Large Scale Paper Industry in Andhra Pradesh - A Study" examined the internal funds availability for financing fixed assets in Paper Industry of Andhra Pradesh. The study found that the owners funds were insufficient to finance fixed assets and observed that fixed asset do not have significant relationship with the sales.

Amalendu Bhunia (2007)\(^{73}\) in his study on “Liquidity Management of Sponge Iron India: A Case Study” attempted to examine and evaluated the liquidity management of the public enterprise as a factor responsible for poor performance in the iron and steel industry in India, covering a period from 1991-92 to 2002-03. In this study, accounting tools and statistical techniques such as ratio analysis, arithmetic mean, standard deviation and co-efficient of


variation had been used. To examine the pros and cons of the management of short term liquidity of the company, he compared the various liquidity ratios with that of the industry average being considered as standard one. The study had identified that current ratio, liquid ratio and cash position ratio was more than the industry average during 12 years under the period of study. Hence it could be concluded that the liquidity management of sample companies were good and satisfactory.

Jain, Singh and Roy (2007)\textsuperscript{74} have conducted a study on “Indian Paper Industry Raw Material Scenario, Growth Prospects and Pathways” have made an attempt to analyse the issues before the industry particularly with reference to raw materials and the response of the papers sector in addressing the same. The authors have concluded that the efforts were required to develop the available waste lands to be wood banks for the Indian Paper Industry, so as to tide over the inevitable high demand of quality raw material in the times to come.

In RBI Bulletin (2007)\textsuperscript{75}, article that was published in a journal on a topic study "Finance of Large Public Limited Companies" (each had paid up capital of Rs.1 crore and above) analysed the performance of 1064 non government public limited companies during 2005-06 based on their audited


annual account closed during April 2005 to March 2006. The consolidated results of the study revealed continuous improvement in the performance of the companies viewed from the growth in sales, value of production, gross profits, profits after tax, profits retained and networth in 2005-06 when compared to 2004-05. The profitability and profit allocation ratios like profit margin and profit after tax to networth also increased during the year under review. External sources of funds played an important role in financing the assets formation during the year 2005-06.

**Tervel and Solano (2007)**\(^{76}\) analysed "Effects of Working Capital Management on SME Profitability" in relevant to the paper industry, Spain. They collected data from small to medium sized paper companies covering the period of 1996-2002. They tested the effects of working capital management on the profitability. They concluded that the profitability of firms can be improved by reducing inventories and by reducing the collection period and the cash conversion cycle.

**Van Dijk Michiel and Bell Martin (2007)**\(^{77}\) analyzed the "Rapid Growth with Limited Learning: Industrial Policy of Indonesia's Pulp and Paper Industry". The analysis indicated that industry and trade policies had a

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positive influence on growth and capital accumulation but Indonesian pulp and paper companies gave few incentives to create or deepen their technological capabilities resulting in fragmented and limited technology assimilation. The finding also raised questions about common interpretations of total factor productivity growth in Indonesia in terms of inspiration versus perspiration.

**Saravanakumar, P. (2008)** made "A Study on Inventory Management of Tamilnadu Newsprint and Papers Limited". The main objective of the study was to examine the various inventory management practices followed by the paper industry in respect of management of each component of inventory. The study concluded that the company followed various inventory control techniques for the improvement of its overall performance.

**Subramaniam, R. (2008)** in his conclusion of the thesis entitled "A Study on Working Capital Management of Seshasayee Paper and Boards Ltd" revealed the financial performance of the company for a period of 10 years from 1997-98 to 2006-07. He concluded that the capital management was the primary means of achieving the financial performance of paper

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industry. Therefore, the management of working capital required a number of actions for proper liquidity.

**Dheenadhayalan.V and Devianbarasi (2009)** made "A Study on Financial Health of Co-operative Sugar Mills - A Case of NPKRR Co-Operative Sugar Mills Ltd". In this study they have used ‘Z’ score model. They have concluded that the financial health of co-operative sugar mills remained sick and was not healthy. They had suggested that those mills should take proactive approach in order to improve their financial performance in future.

**Indranarain Ramlall (2009)** conducted a study on "Determinants of Capital Structure and Non-Quoted Mauritian Firms under Specificity of Leverage: Looking for a Modified Packing Order Theory". He found that liquidity and size entail a negative impact on leverage, while tangibility of assets triggered a positive effect on leverage, profitability, non-debt tax shield and growth are found to be important. Investment is found to be positively related with leverage and age of the company is also found to affect some of the various components of leverage.

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Mulwa M.R. Emrouznejad A., Murthi F.M(2009) have analysed "Impact of Liquidity and Solvency on the Profitability of Sugar Industry in Kenya". They have concluded that the liquidity position and solvency position of these units was found to be not satisfactory. They have also found that those units had not tapped debt capital to desired level. They had suggested that proper debt-equity mix was the need for sugar units in Kenya in order to withstand in market competition.

Sari and Jalil (2009) in their article titled, "Financial Ratios, Discriminate Analysis and the Prediction of Comparate Distress" developed a failure prediction model for Singapore Paper Manufacturing companies with sample size of 17 paired samples of failed and non-failed companies from 1990-2000. Out of 64 ratios, the study identified only two variables called cash flow to assets and square root data sales in receivable which were very significant variables to identifying distress of the Singapore Paper Companies with accuracy rate of 80%.

Jothi (2010) conducted a study "Significant Level of Financial Risk on Capital Structure Decisions". This study used 59 companies out of which

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10 each from cement, pharmaceutical, steel, textile, paper industry and 9 from information technology for the sample period of 10 years from 1997-98 to 2006-07. She used various tools viz., descriptive statistics, t-test, f-test, linear growth rates, Anova for analysis. She found that the financial risk variables, particularly interest risk followed by volatility in ROE has significant effect on determining the additional variation in use of debt financing in business through long-term sources among firms under all selected sectors. With regard to financial risk, the risk arising out of degree of financial leverage, it was well understood that proportion of debt fund provided by the long term as well as short term was significantly related to the level of financial risk of the firms.

**Gurtuz Osman (2010)** have evaluated "the Impact of Corporate Governance on Financial Performance with a Perspective on Institutional Ownership; Empirical Evidence from Turkey Firms". The prime objective of the study was to explore how the financial performance of the companies which were listed in the corporate governance index was affected by institutional ownership, distinguishing between domestic and foreign ownership. It employed panel data analysis on a sample of 164 firm-year observations for real sector firms on the Istanbul Stock Exchange (ISE).

covering the four year time span from 2005-2008. The results of the analysis demonstrated the positive influence of corporate governance and institutional ownership on the financial performance. Additionally, the impact of institutional investors had been found to be more strongly pronounced on firms listed on the corporate governance index.

Maheswari, S. (2010)\textsuperscript{86} carried out a study on “Financial Performance of Paper Industry in India” for the period of ten years from 1997-98 to 2006-07. Financial analysis techniques like Ratio analysis, Trend analysis were used. The correlation analysis revealed that there was a negative correlation relationship between the Inventory turnover ratio and the Debtors turnover ratio. The analysis of financial health of the firm, using Altman’s Z score model revealed that the financial health of the selected paper companies fall in unhealthy zone.

Yimin Zhang and Tianmu Wang (2010)\textsuperscript{87} have examined "Profitability and Productivity of the Chinese Paper Industry" and estimated the impact of RMB appreciation on this industry for 1999-2006. It was found that the industry had suffered from very low profit margins and return on capital. Because the input prices had been increasing, particularly since 2001, generating profits had become more difficult task for the industry.

Nevertheless, the industry achieved substantial productivity growth during the period. Although at an inadequate level, the profitability of the industry did show some signs of improvement. As long as this trend continued, the industry could have obtained a decent level of profitability since 2005, the Industry has faced a new challenge, the appreciation of the RMB. Based on 2006 data, it estimated the maximum rate of RMB appreciation that the industry would be able to sustain to be approximately 5 percent a year.

Mine Aysen Doyran and Juan Delacruz (2011) 88 examined the "Lesson for Latin America from the Asian Textile Industry Experience", comparing data on textile exports from the top 10 suppliers between 1995 and 2003. It evaluate the initial effects of the agreement on textiles and clothing (ATC) of 1995, which provided for a 10-year quota phase – out process for World Trade Organisation (WTO), member countries. A brief comparison with other international experience of emerging economies was provided in order to elucidate the relevance of the textile industry in the region and world economy. This empirical work can be the starting point for policy makers to design long-term policies that were very much needed for Latin America to compete successfully in the US market.

Neha Mittal (2011)\textsuperscript{89} has studied "The Determination of the Capital Structure Choice of the Selected Indian Paper Companies". The main objective was to investigate whether and to what extent the main structure theories could explain the capital structure choice of Indian paper companies. It has applied multiple regression models on the selected industries by taking data for the period 2001-2008. The study concluded that the main variables determining capital structure of industries in India were agency cost, assets structure, non-debt tax shield and size. The co-efficients of these variables were significant at one percent and five percent levels.

Palanisamy, T (2011)\textsuperscript{90} analysed "Working Capital Management of Select Paper Mills in Tamil Nadu". The study was related to two paper mills. For a meaningful conclusion, the essential data for 10 years (1990-2000 to 2008-2009) were used. The result of correlation analysis indicated that there was a close relationship between profitability and working capital. The study revealed that the debt servicing capacity was found to be sick and the firms were not able to service their debts properly which resulted in cash shortage of the working capital.

Ramachandran and Gopinathan (2012)\textsuperscript{91} analysed the relationship between, "Working Capital Management and Profitability of Sugar Industry in India". There was a significant positive co-efficient between current ratio and Return On Investment (5.263), Inventory Turnover Ratio and Return On Investment (1.110) at 5% level. Also there was a significant negative co-efficient between Quick ratio and Return On Investment (-10.582), Working Capital Turnover Ratio and Return On Investment (-0.036) at 5% level. Debtors Turnover Ratio recorded highly significant negative co-efficient (-0.020) at 1% level with Return On Investment. Creditors Turnover Ratio registered insignificant positive co-efficient 0.014 with profitability. The overall regression model fit, which was represented by $R^2$ was above 50% (0.51) which indicated that the sugar industry in India was poised to reap a rich harvest in the season beginning Oct 2010. The Sugar Corporate firm were over burdened with surplus inventories that most of them do not have adequate storage facilities, capacities and cash flow which have led them to resort to distress sale of sugar which only brought down the prices.

Sheela Christina (2012)\textsuperscript{92} carried out "A study on Financial Performance of Wheels India Limited, Chennai". The study had an analytical type of research design supplemented by secondary data resources. The researcher took the past five years data and also checked out for the validity and reliability before conducting for study. The researcher applied the financial tools namely ratios analysis, comparative balance sheet and du point analysis and also statistical tools such as trend analysis and correlation. Profitability ratios indicated that there was a decrease in the profit level, due to improper utilization of fixed assets and working capital in the last financial year. Thus, the company could take necessary steps to improve sales and profit. Finally, the study revealed that the financial performance was satisfactory.

Dr. A. Sivanandam and R. Angamuthu (2012)\textsuperscript{93} examined the "Financial Healthiness of Select Cement Industrial Units in Tamilnadu". The present study covered a period of 10 years from 2000-01 to 2009-10. The modified Altman's Z Score model was used. The 'Z' value in all the years were negative (2001-10). Madras Cement were financially health where as Chettinad and Dalmia Cements were neither in distress nor healthy, while India cement was in financial distress during the period. Due to presence of

TANCENT, the financial healthiness of the select cement companies was found to be in financially distress for most of the years but become unpredictable overall during the period. Financial healthiness of Madras Cement was better among units considered for the study.

**Dr. A. Selvaraj and H. Chandra (2013)** examined "Financial Health of the Indian Steel Companies". Financial health of selected steel companies with reference to liquidity, leverage, activity and profitability was identified with 'Z' score. On the basis of above analysis, it was clear that the financial health of small size steel companies were not satisfactory during the study period (Mean Z score = 1.65, in between 1.23 & 2.99). On the other hand, the medium and large size steel companies were in distress zone on an average over the period. It reveals that the financial health of selected steel companies was not in the safe zone during the study period. It was found that this may be due to failure to earn adequate surplus to meet non-operating activities and increase in EBIT did not match total assets and increased debt equity mix.

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