Findings, Suggestions and Conclusion
CHAPTER VI
SUMMARY OF FINDINGS, SUGGESTIONS AND CONCLUSION

6.1. INTRODUCTION

In the modern times, paper has become a basic material and one of the essential daily used products in the world. Application of paper is varied and one cannot think of a life without paper. Paper is one of the significant discoveries that turned the history of the world around. India has emerged as one of the fastest growing paper markets in the world. The key social objective of the Government namely eradication of illiteracy through Right to Education Act, (RTE) supported by Sarva Shiksha Abhiyan (SSA), works is a major demand driver for the paper industry. Indian paper industry plays pivotal role in overall industrial growth and provides a essential vehicle needed to propel the knowledge based economy of the country in the new millennium. Therefore, the present study was undertaken to study the financial performance analysis of selected paper industry in India.

Finance is the nerve centre and lifeline of any economic activity and is, therefore, omnipresent in every sphere of economic and business life. It plays an extremely crucial role in the continuity and growth of a business. An enterprise, which commits itself to an activity, requires finance. No business firm can be promoted, established and expanded without adequate financial resources. Success and survival of a business firm depends on how well its finance function is managed. The firm may have abundant resources – human and physical – but if the available funds are not properly utilized for the benefit of the firm, it will come to an early end. Every effort should be made to render the finance function as effective as possible. Successful financial management of a business firm is manifested by certain benefits, like increased profitability, raising share prices, regular dividends to shareholders, attractive remuneration to employees and in
short, the all round progress of the company. Financial performance analysis constitutes the approach to judge the effectiveness of the function of the firm. In this context, the present study was undertaken to analyse the financial performance of selected paper industry to arrive findings and to offer some valuable suggestions for the betterment of its financial status.

Ten large scale paper companies have been undertaken for the study period of eleven years from 2001-02 to 2011-12. Mainly secondary database has been used for the study. The study has been divided into six chapters.

First chapter contains with the research methodology of the study in which its significance, objectives, frame work of analysis, list of hypothesis, limitation of the study etc., are given. Second chapter presents the previous study undertaken by other researchers. Third chapter represents the trend analysis and profile of the study units. The trend of production, sales, net working capital, fixed assets, inventory, total assets, total income and operating profit have been analysed.

Fourth chapter reveals the determinants profitability of selected paper companies in India. Various ratios have been analysed by using correlation, multiple regression, analysis of variance, factor loading and path analysis. Fifth chapter deals with the financial strength and health analysis of selected paper companies in India. Altman"s "Z" score model is applied to assess the financial health of the paper industry. The sixth chapter concludes with the findings and suggestions. Thus, the researcher has tried to fulfil the objectives of the research study.

6.2. FINDINGS

6.2.1. TREND ANALYSIS

1. BILT achieved the highest average production of paper 542701 tpa, followed by TNPL 223808 tpa, JKPL 215965 tpa and WCPML 186917 tpa. The remaining companies could produce only below the industry average for the study period 2001-02 to 2011-12. The CAGR of EPML (13.22 per cent)
which was the highest among all the companies and followed by BILT (12.25 per cent), WCPML (9.87 per cent) and TNPL (8.61 per cent) of production.

2. Liner Regression model indicates that there is significant difference between actual value and the trend value of production among different years of selected paper companies in India except SPBL, SPML and MPML. The trend movement of projection production of selected paper companies in India for the year 2016-17, the production units will be highest in BILT followed by TNPL and JKPL.

3. The sales trends of BILT, TNPL, JKPL and WCPML have recorded greater sales than the industrial average. The highest average recorded by BILT followed by TNPL. The remaining companies APPML, SPBL, EPML, SRPML, SPML and MPML could sales only below the industry average. Liner Regression model shows that there is a significant difference at 5 per cent level in respect to sales except APPML, SPBL, SPML and MPML.

4. The trend movement projection sales of selected paper companies in India for the year 2016-17, the sales units will be highest in BILT (1121666 tpa) followed by TNPL (387289 tpa) and JKPL (335589 tpa).

5. The industry average of trends in net working capital of BILT was Rs. 580.30 crores which was the highest among the study units and followed by JKPL, WCPML and TNPL which were Rs. 201.20 crores, Rs. 182.30 crores and Rs. 168.49 crores respectively. The CAGR of trends in net working capital reveals that the industry average was 8.43 per cent, where as CAGR of EPML was 21.54 per cent which was the highest growth rate among the units under the study period 2001-02 to 2011-12.

6. Liner Regression model was found that there is significant difference between actual value and the trend value of net working capital among
different years of paper companies in India except SRPML, MPML and BILT. The trend movement projection net working capital of selected paper companies in India for the year 2016-17, the net working capital units will be highest in BILT (Rs.1159.22 crores) followed by WCPML (Rs.539.512 crores) TNPL (Rs 316.596 Crores) and JKPL (Rs.312.596 crores).

7. The inventory trend ranged between Rs.148.39 crores in 2011-12 and Rs. 62.91 crores in 2001-02 and it was the highest in case of BILT followed by TNPL, WCPML, MPML, APPML and JKPL. The compound annual growth rate of industry average is 8.96 per cent and it was positive trend of all the units. The highest average of CAGR was EPML followed by WCPML, TNPL, JKPL, APPML, SPBL and SRPML. It is found to be significant at 5 per cent level in relation to inventory except SPML, MPML and BILT.

8. The trend movement projection inventory of selected paper companies in India for the year 2016-17, the inventory units will be highest in TNPL (Rs. 338.015 crores) followed by WCPML (Rs.311.058 crores) and APPML (Rs.204.948 crores).

9. Total assets trend of BILT achieved the highest average of total assets of Rs.2557.23crores, followed by TNPL (Rs.1314.76 crores), JKPL (Rs.1062.74 crores) and WCPML (Rs.899.30 crores). The remaining companies total assets trend only below the industry average. The CAGR of WCPML (20.57 per cent) was the highest among all the companies followed by EPML (17.37 per cent), TNPL (13.05 per cent) and APPML (9.12 per cent).

10. Liner Regression model was found that there is significant difference between actual value and the trend value of total assets among different years of paper companies in India except BILT. The trend movement projection total assets of selected paper companies in India for the year
2016-17, the total assets units will be highest in TNPL (Rs. 3265.45 crores) followed by WCPML (Rs.2803.59 crores) and BILT (Rs.2621.17 crores).

11. The net fixed assets trend was the highest in case of BILT followed by TNPL and JKPL. The highest average of CAGR was WCPML followed by EPML, TNPL, APPML, SPBL and SRPML. Liner Regression model has been applied to test significant difference between actual value and the trend value of net fixed assets among different years of selected paper companies in India. Liner regression indicates that net fixed assets have significant at 5 per cent level except SPML.

12. The trend movement projection net fixed assets of selected paper companies in India for the year 2016-17, the fixed assets units will be highest in TNPL (Rs. 2588.50 crores) followed by WCPML (Rs.1700.70 crores) and APPML (Rs.1253.87 crores)

13. The average trends in total income of industry average were Rs. 620.29 crores during the study period and its maximum was Rs. 1512.76 crores got by BILT and its minimum was Rs. 229.50 obtained by SPML. The CAGR of trends in total income of total industry average was 6.88 per cent and its maximum 15 per cent was gained by EPML. Liner regression shows that total income has significant at 5 per cent level except MPML.

14. The trend movement projection total income of selected paper companies in India for the year 2016-17, the total income units will be highest in TNPL (Rs.1974.12 crores) followed by JKPL (Rs.1905.16 crores), WCPML (Rs. 1371.93 crores) and APPML (Rs.1036.66 crores).

15. The operating profit trends of BILT achieved the highest average operating profit of Rs. 346.47 crores, followed by TNPL Rs. 226.39 crores, JKPL Rs. 165.07 crores and WCPML Rs. 116.02 crores. The compound annual growth rate indicates a positive growth rate for all selected companies except
SPML and BILT. The overall average of CAGR 2.38 per cent shows positive growth rate. It is found to be significant at 5 per cent level in relation to operating profit except SRPML SPML, and MPML.

16. The trend movement projection operating profit of selected paper companies in India for the year 2016-17, the operating profit units will be highest in TNPL (Rs.451.84 crores) followed by WCPML (Rs.278.48 crores), JKPL (Rs. 271.52 crores) and APPML (Rs.192.40 crores).

6.2.2. CORRELATION ANALYSIS

1. In Andhra Pradesh Paper Mills Ltd (APPML) ten variables namely Return on capital employed, Return on networth, Capital employed turnover, Net fixed asset turnover, Total asset turnover, Dividend per share, Accumulated depreciation to gross fixed assets, Net Profit ratio, Interest coverage and total income to total assets have significant positive correlation with profitability and the co-efficients are 0.702, 0.989, 0.609, 0.810, 0.586, 0.742, 0.644, 0.785, 0.596, and 0.548 respectively.

2. It can be observed from the study of JK Paper Limited (JKPL) thirteen variables namely Return on capital employed, Return on networth, Capital employed turnover, Net fixed asset turnover, Total asset turnover, Dividend per share, Gross fixed assets to net fixed assets, Current assets turnover, Net current asset turnover, Net profit ratio, Interest coverage ratio, Total income to total assets and Debtors turnover ratio have significant positive correlation with profitability and the co-efficients are 0.886, 0.926, 0.819, 0.824, 0,822, 0.679, 0.550, 0.559, 0.638, 0.916, 0.857, 0.824, and 0.832 respectively.

3. It can be inferred that nine variables namely Return on capital employed, Return on networth, Capital employed turnover, Net fixed asset turnover, Total asset turnover, Accumulated depreciation to gross fixed assets, Gross fixed assets to net fixed assets, Current assets turnover and Total income to
total assets have significant positive correlation with profitability of West Coast Paper Mills Limited (WCPML).

4. It is found from the study of Seshasayee Paper and Boards Limited (SPBL) that four variables namely Return on networth, Accumulated depreciation to gross fixed assets, Gross fixed assets to net fixed assets, and Net profit ratio have significant positive correlation with profitability and the co-efficients are 0.967, 0.536, 0.555 and 0.824 respectively.

5. In Emami Paper Mills Limited (EPML), it can be seen from the study that six variables namely Return on capital employed, Return on networth, Net Profit ratio, Interest coverage, Working capital to total sales and Operating profit to total sales have significant positive correlation with profitability and the co-efficients are 0.615, 0.867, 0.877, 0.804, 0.593 and 0.887 respectively.

6. It is observed from the study of Sirpur Paper Mills Limited, (SRPML) that ten variables namely Return on networth, Net fixed asset turnover, Dividend payout ratio, Dividend per share, Accumulated depreciation to gross fixed assets, Gross fixed assets to net fixed assets, Current ratio, Liquid ratio, Net profit ratio and Interest coverage have significant positive correlation with profitability and the co-efficients are 0.973, 0.712, 0.576, 0.768, 0.827, 0.756, 0.611, 0.572, 0.942, and 0.909 respectively.

7. Star Paper Mills Limited (SPML) states that seven variables namely Return on capital employed, Return on networth, Dividend payout ratio, Dividend per share, Net profit ratio, Interest coverage ratio and Operating Profit to total sales have significant positive correlation with profitability and the co-efficients are 0.901, 0.985, 0.607, 0.690, 0.897, 0.780, and 0.791 respectively.

8. It is highlighted that the Mysore Paper Mills Limited (MPML), that seven variables namely Return on capital employed, Return on networth, Current
ratio, Net profit ratio, Interest coverage ratio, Working capital to total sales and Operating profit to total sales have significant positive correlation with profitability and the co-efficient are 0.991, 0.791, 0.654, 0.978, 0.985, 0.796 and 0.989 respectively.

9. It can be noticed that the Tamil Nadu Newsprint and Papers Limited (TNPL) has eight variables namely Return on capital employed, Return on networth, Current assets turnover, Net current asset turnover, Net profit ratio, stock turnover ratio, Interest coverage and Debtors turnover ratio have significant positive correlation with profitability.

10. It is evident that the Ballarpur Industries Limited (BILT) that eight variables namely Return on capital employed, Return on networth, accumulated depreciation to gross fixed assets, Current ratio, Liquid ratio, Net Profit ratio, stock turnover ratio, and Operating Profit to total sales have significant positive correlation with profitability and the co-efficient are 0.751, 0.949, 0.549, 0.653, 0.577, 0.830, 0.543 and 0.793 respectively.

6.2.3 MULTIPLE REGRESSION ANALYSIS

1. In Andhra Pradesh Paper Mills Ltd, it is found that two variables are individually contribute significantly to variations in the ratio of return on total assets when influence of other variables are kept constant. The t and Sig (p) values give a rough indication of the impact of each predictor variable namely, Return on net worth (t 14.481, p 0.000, p<0.01) and Debt to capital employed (t -3.401, p- 0.009, p<0.001). In connection with this, the $R^2$ value in terms of these variables is 99.1 per cent. Overall ANOVA results, the p-value is less than the 0.00 (p<0.01). Hence, this model is statistically significant.

2. It is found from the study of JK Paper Ltd five variables are individually contribute significantly to variations in the ratio of return on total assets when
influence of other variables is kept constant. The $R^2$ value in terms of these variables is 99.98 per cent. The p-value is significant for the following variables when the other variables are kept constant namely, Return on networth (t 70.166, p-0.000, p< 0.01), Debt - Equity Ratio (t -33.977, p- 0.001,p<0.01), Liquid Ratio (t-4.522, p- 0.001, p< 0.01), Interest coverage ratio (t-2.881, p- 0.001, p< 0.01) and Raw material consumed to total sales (t 5.900, p- 0.001, p<0.01), respectively. Overall ANOVA results, the p-value is less than the 0.00 (p<0.01). Hence, this model is statistically significant.

3. It can be seen from the study of West Coast Paper Mills Ltd four variables are individually contribute significantly to variations in the ratio of return on total assets when influence of other variables are kept constant. The $R^2$ value in terms of these variables is 99.97 per cent. The p-value is significant for the following variables when the other variables are kept constant namely, Return on net worth (t 19.214, p-0.000, p<0.01), Debt to capital employed (t -17.868, p- 0.000, p<0.01), Dividend payout ratio (t -2.953, p- 0.000, p<0.01), and Dividend per share (t 5.95 p-0.000, p<0.01), respectively. Overall ANOVA results, the p-value is less than the 0.0 (p<0.01). Hence, this model is statistically significant.

4. It is clear from the study of Seshasayee Paper and Boards Ltd two variables are individually contribute significantly to variations in the ratio of return on total assets when influence of other variables are kept constant. The $R^2$ value in terms of these variables is 98.80 per cent. The p-value is significant for the following variables when the other variables are kept constant namely, Return on networth (t 19.885, p-0.000, p< 0.01) and Debt to capital employed (t -5.885, p-0.000, p< 0.01) respectively. Overall ANOVA results, the p-value is less than the 0.0 (p<0.01). Hence, this model is statistically significant.
5. In Emami Paper Mills Ltd, t and sig (p) values give a rough indication of the impact of each predictor variable like Return on net worth (t 15.9, p-0.000, p<0.01), Accumulated depreciation to gross fixed assets (t 4.385, p- 0.000, p< 0.01) and Interest coverage (t 10.085, p-0.000, p< 0.01) these three variables are significantly contributing to return on total assets. The co-efficient of determination R² value showed that the twenty four variables put together explained the variation of return on total assets to extend of 99.7 per cent. Overall ANOVA results, the p-value is less than the 0.01 (p<0.01). Hence, this model is statistically significant.

6. It is revealed from the study Sirpur Paper Mills Ltd that four variables are individually contribute significantly to variations in the ratio of return on total assets when influence of other variables are kept constant. The R² value in terms of these variables is 99.80 per cent. The p-value is significant for the following variables when the other variables are kept constant namely, Return on networth (t 50.315, p-0.000, p<0.01), Debt to capital employed (t 2.872, p-0.000, p<0.01), Debt to net fixed asset (t-2.659, p- 0.000, p< 0.01), Working Capital to Total Sales (t 6.276, p-0.000, p< 0.01) respectively. Overall ANOVA results, the p-value is less than the 0.0 (p<0.01). Hence, this model is statistically significant.

7. In Star Paper Mills Ltd, the following four variables are individually contribute significantly to variations in the ratio of return on total assets when influences of other variables are kept constant. The R² value in terms of these variables is 99.70 per cent. The p-value is significant for the following variables when the other variables are kept constant namely, Return on networth (t 18.500, p- 0.000, p< 0.01), Dividend payout ratio (t -2.440, p- 0.000, p< 0.01), Interest coverage ratio (t 5.413, p- 0.000, p< 0.01) and Operating profit to total sales (t -2.960 p 0.000, p< 0.01) respectively. Overall
ANOVA results, the p-value is less than the 0.0 (p<0.01). Hence, this model is statistically significant.

8. It is revealed from the study of The Mysore Paper Mills Ltd that three variables are individually contribute significantly to variations in the ratio of return on total assets when influence of other variables are kept constant. The R² value in terms of these variables is 99.80 per cent. The p-value is significant for the following variables when the other variables are kept constant namely, Return on Capital Employed (t 51.468, p- 0.000, p< 0.01), Total income to total assets (t -4.681 , p- 0.000, p< 0.01) and Debtors turnover ratio (t 3.962, p- 0.000, p< 0.01) respectively. Overall ANOVA results, the p-value is less than the 0.00 (p<0.01). Hence, this model is statistically significant.

9. It is noticed from the study of Tamil Nadu Newsprint and Papers Ltd that two variables are individually contribute significantly to variations in the ratio of return on total assets when influence of other variables are kept constant. The R² value in terms of these variables is 85.40 per cent. The p-value is significant for the following variables when the other variables are kept constant namely, Current assets turnover (t 2.602, p-0.000, p<0.01) and Stock turnover ratio (t 3.741, p- 0.000, p< 0.01) respectively. Overall ANOVA results, the p-value is less than the 0.00 (p<0.01). Hence, this model is statistically significant.

10. It is found from the study of Ballarpur Industries Ltd, that two variables are individually contribute significantly to variations in the ratio of return on total assets when influence of other variables are kept constant. The t and Sig (p) values give a rough indication of the impact of each predictor variable like Return on net worth (t 30.503, p-0.000, p< 0.01), Debt to capital employed (t -9.448, p-0.000, p<0.001). In connection with this, the R² value in terms of these variables is 99.2 per cent. Overall ANOVA results, the p-value is less than the 0.00 (p<0.01). Hence, this model is statistically significant.
6.2.4. FACTOR ANALYSIS

This shown that no individual factor can be solely responsible for the variations in the financial performance of the selected paper companies, it is the combination of different factors which are associated with the financial performance of these companies.

1. The factor loadings of Andhra Pradesh Paper Mills Ltd for the period from 2001-02 to 2011-12, it can be observed from the study that 98.20 per cent of total variation in Total income to total assets is accounted by Factor I. Similarly, it is clear that nearly 97.61 per cent, 85.93 per cent, 80.60 per cent, 72.93 per cent, 69.55 per cent, 66.91 per cent, 55.80 per cent and 44.62 per cent variations in Total asset turnover, Capital employed turnover, Net fixed asset turnover, Return on capital employed, Dividend per share, Accumulated depreciation to gross fixed assets, Debt to capital employed and Debt to net fixed asset respectively are explained by Factor I. The communality column of C^2, it is quite clear that except for one variable namely Current Ratio all the other variables, the derived factors explain the variations in the selected variables to the extent of more than 87 per cent. For this variable also the variations explained are quite moderate i.e., 72.6 per cent.

2. It is observed from study that 70.56 per cent of total variation in Total asset turnover is accounted by Factor I. Similarly, it is clear that nearly 68.06 per cent, 67.73 per cent, 67.07 per cent, 65.12 per cent, 57.15 per cent, 56.10 per cent, 49.70 per cent 43.41 per cent, 39.94 per cent and 27.87 per cent variations in Stock turnover ratio, Net fixed asset turnover, Total income to total assets, Capital employed turnover, Debtors turnover ratio, Current asset turnover, Return on capital employed, Working capital to total sales, Net current asset turnover and Dividend per share respectively are explained by Factor I. But all the six derived factors taken together explain 95.60 per cent variations in the profitability of JK Paper Ltd.
3. In first factor accounts for only 50.51 per cent of variation in the variable set, while second factor's contribution is 21.36 per cent. All the other factors taken together could explain as much as 93.70 per cent of variations in the variables associated with profitability. Accumulate depreciation to gross fixed asset has relatively high factor loading with Factor II, where it accounts for 90.82 per cent variations and next, Dividend payout ratio has relatively high factor loading with Factor III and all the five factors together could explain nearly 79.92 per cent of the variation in Dividend payout ratio. The variable Stock turnover ratio is the dominant variable in fourth factor as its factor loading is as high i.e., 63.20 per cent variations in Stock turnover ratio is associated with Factor IV, while all the five factors together account 63.52 per cent of the variations in Interest coverage ratio. Similarly, Interest coverage ratio is accounted predominant place in factor V of West Coast Paper Mills Ltd.

4. It can be observed from the study of Seshasayee Paper and Boards Ltd that 87.04 per cent of total variation in Liquid ratio is accounted by Factor I. Similarly, it is clear that nearly 79.21 per cent, 73.27 per cent, 71.91 per cent, 60.37 per cent variations in Current ratio, Stock turnover ratio, Working capital to total sales and Net current asset turnover respectively are explained by Factor I.

5. It can be found from the study of Emami Paper Mills Ltd that five distinct factors have emerged and these given factors explain 95.64 per cent total variation in Working capital to total sales are accounted by Factor I. Similarly, it is clear that nearly 90.44 per cent, 85.93 per cent, 76.91 per cent, 68.93 per cent, 67.89 per cent, 67.56 per cent, 63.68 per cent, 61.93 per cent, 57.30 per cent, 53.29 per cent, 51.26 per cent and 32.48 per cent variations in Debt to net fixed asset, Gross fixed assets to net fixed assets, Current assets turnover, Net current asset turnover, Total income to total assets, Capital
employed turnover, Total asset turnover, Net profit ratio, Liquid ratio, Return on networth, Debt to equity and current Ratio respectively are explained by Factor I.

6. In the Sirpur Paper Mills Ltd, it is observed from the study that 92.54 per cent of total variation in Net Profit ratio is accounted by Factor I. Similarly, it is clear that nearly 91.58 per cent, 91.39 per cent, 85 per cent, 68.22 per cent, 65.22 per cent, 63.04 per cent 52.56 and 26.73 per cent variations in Interest coverage, Return on networth, Accumulated depreciation to gross fixed asset, Gross fixed assets to net fixed assets, Net fixed asset turnover, Dividend per share, Dividend payout ratio and Net current assets turnover ratio respectively are explained by Factor I.

7. It is clear that the Star Paper Mills Ltd, that 90.44 per cent of total variation in Total assets turnover is accounted by Factor I, Similarly, Return on net worth has relatively high factor loading with Factor II. Next, Debt to equity has relatively high factor loading with Factor III and all the five factors together could explain nearly 68.72 per cent of the variation in Debt to equity and the variable Net current assets turnover is the dominant variable in fourth factor as its factor loading is as high i.e., 84.08 per cent variations in Net current assets turnover is associated with Factor IV.

8. It can be observed from the study of Mysore Paper Mills Ltd that five distinct factors have emerged and these given factors explain 91.39 per cent of total variations in Working capital to total sales are accounted by Factor I. Similarly, it is clear that nearly 90.82 per cent, 89.30 per cent, 86.86 per cent, 85.74 per cent, 76.73 per cent, 76.03 per cent, 53.72 per cent and 43.03 per cent, variations in Net current asset turnover, Interest coverage, Return on capital employed, Operating profit to total sales, Current ratio, Net profit ratio, Return on networth and Liquid ratio respectively are explained by Factor I.
9. It can be observed from Tamil Nadu Newsprint and Papers Ltd that 95.84 per cent of total variation in Debt to capital employed is accounted by Factor I. Similarly, it is clear that nearly 84.64 per cent, 83.35 per cent, 82.44 per cent, 81.72 per cent, 80.28 per cent 74.64 per cent, 69.95 per cent, 59.75 per cent, 53.72 per cent and 31.07 per cent variations in Debt to net fixed asset, Accumulated depreciation to gross fixed assets, Debt to equity, Total income to total assets, Total asset turnover, Capital employed turnover, Gross fixed assets to net fixed assets, Dividend per share, Operating profit to total sales and Return on capital employed respectively are explained by Factor I.

10. It can be found from Ballarpur Industries Ltd that twelve distinct factors have emerged and these given factors explain 81.18 per cent of total variations in Debt to capital employed are accounted by Factor I. Similarly, it is clear that nearly 78.12 per cent, 72.93 per cent, 70.08 per cent, 69.72 per cent, 61.46 per cent, 60.52 per cent, 58.82 per cent, 55.80 per cent, 55.35 per cent, 46.92 per cent variations in Debtors turnover ratio, Total income to total assets, Raw material consumed to total sales, Total asset turnover, Stock turnover ratio, Current assets turnover, Capital employed turnover, Debt to equity, Return on capital employed, Interest Coverage Ratio and Dividend per share respectively are explained by Factor I.

6.2.5. PATH ANALYSIS

1. It is found from the Andhra Pradesh Paper Mills Ltd for the period of 2001-02 to 2011-12, that the following independent variables have significant correlation co-efficient with the ratio of return on total assets; Return on networth (0.830), Debt to capital employed (-0.195). Finally, the variable Return on networth shows the increase in profitability position and Debt to capital employed indicates the decrease in profitability position of the company.
2. It is clear from the JK Paper Ltd, the following independent variables have significant correlation co-efficient with the ratio of return on total assets; Return on networth (0.877), Debt - Equity Ratio (-0.411), Liquid ratio (-0.037), Interest coverage (-0.048), and Raw material consumed to total sales (0.048). Further, the variables Return on networth and Dividend per share indicates the increase in profitability position and Debt to capital employed and Dividend payout ratio shows the decrease in profitability position of the company.

3. It can be known with the West Coast Paper Mills Ltd that the following independent variables have significant correlation co-efficient with the ratio of return on total assets; Return on networth (0.721), Debt to capital employed (-0.317), Dividend payout ratio (-0.130) and Dividend per share (0.148). Further, it reveals that the variables Return on networth and Dividend per share contribute towards increase in the profitability position and Debt to capital employed and Dividend payout ratio reduces the profitability position of the company.

4. It is evident that the Seshasayee Paper and Boards Ltd, the following independent variables have significant correlation co-efficient with the ratio of return on total assets, Return on networth (0.859) and Debt to capital employed (-0.254). Further, the variable Return on networth contributes the increase in profitability position and Debt to capital employed shows the decrease in profitability position of the company.

5. It is found from the Emami Paper Mills Ltd, that the following independent variables have significant correlation co-efficient with the ratio of return on total assets; Return on Networth (0.744), Accumulated depreciation to gross fixed assets (0.186) and Interest coverage (0.439). Finally, the variables Return on networth, Accumulated depreciation to gross fixed assets and Interest coverage ratio shows the increase in profitability position of the company.
6. It can be inferred from the Sirpur Paper Mills Ltd for the study period, the following independent variables have significant correlation co-efficient with the ratio of return on total assets; Return on networth (0.947), Debt to capital employed (0.052), Debt to net fixed asset (-0.067) and Working capital to total sales (0.163). Finally, it reveals that the variables Return on networth, Debt to capital employed and Working capital to total sales contribute towards increase in the profitability position and Debt to net fixed asset contribute towards reduce the profitability position of the company.

7. It can be depicted from the Star Paper Mills Ltd for the study period, the following independent variables have significant correlation co-efficient with the ratio of return on total assets; Return on networth (0.953), Dividend payout ratio (-0.084), Interest coverage (0.235) and Operating profit to total sales (-0.161). Further, the variables Return on networth and Interest coverage exhibits the increase in the profitability position and Dividend payout ratio and Operating profit to total sales contribute towards reduce the profitability position of the company.

8. It can be noted that with the Mysore Paper Mills Ltd for the period of 2001-02 to 2011-12, the following independent variables have significant correlation co-efficient with the ratio of return on total assets; Return on capital employed (0.992), Total income to total assets (-0.089), and Debtors turnover ratio (0.076). Finally, it reveals that the variables Return on capital employed and Debtors turnover ratio contribute towards increase the profitability position and Total income to total assets contribute reduces the profitability position of the company.

9. It is observed from the Tamil Nadu Newsprint and Papers Ltd for the period of 2001-02 to 2011-12; the following independent variables have significant correlation co-efficient with the ratio of return on total assets; Current assets turnover (0.427), and Stock turnover ratio (0.613). Further, an insight this reveals that the variables Current assets turnover and Stock
turnover ratio contribute towards increase the profitability position of the company.

10. It can be revealed from the Ballarpur Industries Ltd for the study period the following independent variables have significant correlation co-efficient with the ratio of return on total assets; Return on networth (.830), Debt to capital employed (-0.344). Finally, the variable Return on networth indicates the increase in profitability position and Debt to capital employed shows the decrease in profitability position of the company.

6.2.6. SHORT TERM FINANCIAL STRENGTH ANALYSIS

1. The average current ratio is high for EPML (5.37) followed by BILT (2.50), JKPL (2.48) and WCPML (2.24). The performance of JKPL, WCPML, EPML and BILT were satisfactory because their average current ratios are higher than the industry average and standard norm (2:1). The CAGR of SPBL (8.30 per cent) was the highest among all the companies followed by EPML (6.90 per cent) and WCPML (2.48 per cent).

2. The ANOVA result indicates that there is no significant difference among the years in current ratio. But there is significant difference for current ratio between the companies at 5 per cent level of significant.

3. The liquid ratio is highest in EPML (3.57) followed by BILT (1.96) and JKPL (1.82). The performance of JKPL, WCPML, SPBL, EPML, SRPML, TNPL and BILT were satisfactory because their average liquid ratios are more than the standard norm (1:1). APPML, WCPML, SPBL, EPML, TNPL and BILT witnessed the positive CAGR.

4. There is no significant difference among the years in liquid ratio. But there is significant difference for liquid ratio between the companies at 5 per cent level of significant.
5. The average working capital turnover ratio is highest in case of SPML (42.70 times) followed by BILT (35.77 times). The C.V. is high for SRPML followed by BILT and SPML and the CAGR is high for SPML (15.38 per cent).

6. Analysis of variance result indicates that there is no significant difference for working capital turnover ratio between the years and between the companies at 5 per cent level of significant.

7. Inventory to Working Capital Ratio is found to highest for BILT 6.38 times followed by SPML 5.27 times and APPML 2.08 times. The CAGR is high for SRPML (18.09 per cent). As a whole sample average of CAGR is 3.90 per cent. Analysis of variance result indicates that there is no significant difference for inventory to working capital ratio between the years and between the companies at 5 per cent level of significant.

8. The average debtors" turnover ratio and standard deviation for SPML (28.88 and 10.12) times is high. The CAGR has been computed and is found positive for APPML, JKPL, WCPML, SPML and MPML. On the whole industrial average is 11.94 times and CAGR is 2.96 per cent positive growth trend.

9. The analysis of variance result indicates that there is no significant difference among the years in debtor"s turnover ratio. But there is significant difference for debtor"s turnover ratio between the companies at 5 per cent level of significant.

10. The highest average collection period was (55.32 days) in TNPL followed by BILT (50.64 days), MPML (45.44 days) and JKPL (45.20 days). The C.V. of debtors" collection period all the selected companies show more consistency because their C.V. values are more than the industrial average of C.V. value. The CAGR of BILT (8.96 per cent) was the highest among all the companies followed by EPML (6.62 per cent) MPML (4.15 per cent) and APPML (1.19 per cent).
11. There is no significant difference among the years in average collection period. But there is significant difference for average collection period between the companies at 5 per cent level of significant.

6.2.7. LONG TERM FINANCIAL STRENGTH ANALYSIS

1. The debt equity ratio of selected paper companies showed from the study fluctuating trend during the study period. The average debt-equity ratio was highest in the case of MPML (5.78) followed by SPBL (2.90), WCPML (1.97), JKPL (1.87) and EPML (1.75). The compound annual growth rate of debt equity indicates a positive growth rate for WCPML, EPML, SRPML, MPML and TNPL.

2. The ANOVA result represents that there is no significant difference among the years in debt – equity ratio. But there is significant difference for debt – equity ratio between the companies at 5 per cent level of significant.

3. The average interest coverage ratio varied from company to company, the highest average was 9.04 times in EPML followed by 8.48 times WCPML, 4.84 times in TNPL and 3.87 times in SPBL. A low burden of debt servicing and lower utilization of borrowed funds are observed in EPML, WCPML, TNPL and SPBL as its average interest coverage ratios are higher than the industrial average.

4. Analysis of variance result indicates that there is no significant difference for interest coverage ratio between the years and between the companies at 5 per cent level of significant.

5. The debt to net fixed assets ratio is found to be high (1.55 times) for MPML followed by EPML (0.99 times) and SPBL (0.90 times). The CAGR of MPML (8.65 per cent) was the highest among all the companies followed by SRPML (7.18 per cent) and EPML (6.55 per cent).
6. The analysis of variance result indicates that there is no significant difference among the years in debt to net fixed assets ratio. But there is significant difference for debt to net fixed assets ratio between the companies at 5 per cent level of significant.

7. The total debt to capital employed ratio is high for MPML is 0.69 times followed by SPBL its mean value is 0.64 times, JKPL whose mean value is 0.60 times and WCPML whose mean value is 0.55 times. The highest average is 0.69 times in case of MPML and lowest average is 0.19 times in case of SRPML. The CAGR of EMPL (13.18 per cent) was the highest among all the selected companies followed by SRPML (9.11 per cent), TNPL (4.22 per cent) and APPML (0.49 per cent).

8. Analysis of variance result represents that there is no significant difference among the years in debt to capital employed ratio. But there is significant difference for debt to capital employed ratio between the companies at 5 per cent level of significant.

6.2.8. ASSESSMENT OF FINANCIAL HEALTH – ‘Z’ SCORE ANALYSIS

1. The financial health of the Andhra Pradesh Paper Mills Ltd was good in 2001-02 and 2002-03, whereas 2003-04, 2004-05 and 2011-12, the company was likely to be Healthy zone since the „Z“ scores are between 1.8 and 3.0.

2. The final „Z“ score indicates that the JK Paper Ltd was bankruptcy zone in 2001-02 to 2005-06 and 2007-08 as its „Z“ score values are less than 1.80, whereas in the remaining years, the financial health are noticed as likely to be Healthy zone since „Z“ score values are from 1.80 to 3.0 during the study period 2006-2007 and 2008-2009 to 2011-12.

3. The „Z“ scores for the West Coast Paper Mills Ltd, it has been in the Too Health zone in 2001-02, while it had been in Healthy zone for six years from
2002-03 to 2007-08 and it had been in Bankruptcy zone for four years from 2008-09 to 2011-12.

4. The financial health of the Seshasayee Paper and Boards Ltd was very sound in 2003-04 and 2004-05 whereas in the remaining years, the financial health of the company was likely to be Healthy Zone except in the year 2009-10.

5. The „Z" score analysis of Emami Paper Mills Ltd, It had been in the Too Health zone for six years (from 2001-02 to 2006-07), while it had been in the healthy zone for three years (from 2009-10 to 2011-12), and it had been Bankruptcy zone for two years (2007-08 and 2008-09).

6. The financial health of Sirpur Paper Mills Ltd, it had been in Healthy zone area for the first four years of the study period (2001-02 to 2004-05) and it had been in Bankruptcy zone for the remaining years (2005-06 to 2011-12).

7. The „Z" scores for the Star Paper Mills Ltd witnessed less than 1.80 during the study period 2001-2002 to 2003-2004 and 2011-12, which is a bankruptcy zone and the scores lies between 1.8 to 3.0 and it had been in Healthy zone for one year 2004-05. The financial health of the company was noticed as Too Healthy zone in 2005-06 to 2010-11.

8. Performance of Mysore Paper Mills Ltd witnessed less than 1.80 during the study period 2001-2002 to 2003-04 and 2010-11 to 2011-12 and lie in bankruptcy zone whereas in the remaining years, the financial health are noticed as likely to be Healthy zone since its z score values are from 1.8 to 3.0 during the study period 2004-05 to 2009-10.

9. The financial health of Tamil Nadu Newsprint and Papers Ltd, it had been in Healthy zone for ten years except (2006-07), and it had been in Too Healthy zone for only one year (2006-07). The financial health of the TNPL was satisfactory position during the study period (2001-02 to 2011-12).

10. It is obvious from the analysis that the „Z" scores for the Ballarpur Paper Industries Ltd bankruptcy zone witnessed less than 1.80 during the study

11. The financial health of APPML, JPML, SPBL, EPML, TNPL and BILT are noticed likely to be Healthy zone in 2011-12.

6.2.9. GENERAL FINDINGS

1. In India, the first paper mill was established in 1832 at Serampore in West Bengal. At present there are more than 850 paper mills in India. They produce many varieties of papers like, printing and writing paper, packaging paper, coated paper and speciality paper etc.

2. TNPL is built on the understanding that the environment must be protected for the benefit of succeeding generations. At a time when wood pulp was considered as the most acceptable raw material for manufacture of paper, TNPL introduced usage of bagasse, a sugarcane residue, as primary raw material for manufacture of newsprint and printing & writing paper and now has emerged as the largest bagasse based Paper Mill in the world consuming about one million tonnes of bagasse per annum.

3. All the paper companies declared dividend during 2011-12 except SRPML and MPML. Among all paper mills TNPL declared a higher dividend of fifty per cent during 2011-12.

4. Pulp and paper mills generate the revenue of $563.6 billion in revenue around the world during 2013. Paper mills being found in more than hundred countries, employing more than 3.5 million people. The major pulp and paper producing nations include the United States, Canada, Japan, China, Finland, Sweden, Germany, Brazil and France.

5. India has emerged as one of the fastest growing market for paper. Its per capita paper consumption has been growing at around ten per cent, from 7.5 Kg in 2007-08 to 8.3 Kg in 2008-09 and 9.18 Kg in 2009-10. Yet, the country's
per capita consumption of paper is very much low compared with 42 Kg in China and 350 Kg in developed countries.

6. There is a steady increase in the number of pulp and paper mills in India from fewer than twenty mills with a total annual capacity of one lakh tonnes at the time of independence to an annual installed capacity of nearly six million tonnes at present.

6.3. SUGGESTIONS

To improve the performance of paper industry the following suggestions may be adopted.

1. The performance of JKPL, WCPML, EPML and BILT were satisfactory as compared to other selected paper companies. So necessary steps may be taken by other companies to improve their current ratio.

2. The performance of APPML, SPML, and MPML were not satisfactory because their average liquid ratios are below to the industry average and standard norm. These companies can improve its liquidity position by raising the quantum of working capital.

3. In analysis of the working capital turnover ratio, SPML and BILT perform well than the other selected companies. It happens because of proper maintenance of working capital. So steps may be taken by the other companies increase to the current assets position to maintain their working capital.

4. The inventory to working capital ratio was not satisfactory due to high value inventory. The working capital was not adequate in companies like BILT, SPML, APPML and WCPML. It is suggested to reduce the volume of inventory by the selected companies.

5. The working capital may be maintained according to the sales trend. Working capital need not be excessive or inadequate. If it is excessive, invest
in trade securities or repay the borrowings. If it is inadequate, reduce the inventory and provisions.

6. The credit and collection policy of the business must be monitored continuously. The debtor's turnover ratio measures how rapidly debtors are collected. The debtor's turnover ratio of APPML, WCPML and SPML shows good performance of receivable management. The remaining companies may adopt proper receivable control technique to improve the receivable management.

7. A comparative study of the average collection period in all the companies reveals that the recovery and collection policy of SPML, APPML, WCPML and SPBL were better than other companies. Hence, other companies can overcome the payment delay and bad debts by offering cash discounts to the debtors of the organization and to maintain good liquidity position of the company.

8. The debt equity ratio in the capital structure of SPBML and MPML is very high. So the debt capital may be replaced by the equity capital.

9. The selected companies are suggested to concentrate on liquidity, solvency and its profitability position. So as strengthen their financial position.

10. The management of selected paper companies are suggested to adopt cost reduction techniques in their companies to get over this critical situation.

11. The management of selected paper companies should try to utilize their production capacity and fixed assets to the maximum in order to reduce factory overheads.

12. The burden of interest has produced a deteriorating effect and reduced the percentage of net profit. It is suggested to reduce the interest burden gradually by increasing the owner's fund.

13. The study reveals that the cost of raising finance was one of the important factors which cause weakness to sample units. The interest rate charged by the banks and financial institutions are very high when compared to
international rate of interest. To augment the competitiveness of exports and to provide financial assistance for the both working capital and fixed capital on par with international rates of interest will help the paper industry to get adequate assistance at reduced interest rates.

14. It is suggested that, Indian paper industry can be more competitive by adding improvements of key ports, roads, railways and communication facilities. Degraded forest land should be made available to the industry for raising plantations. Import duty on waste paper should be reduced, duty free imports of new & second hand machinery/equipment can be allowed for technology up gradation.

15. It is suggested that the government can take measures for providing infrastructural facilities to the industry, which in turn will increase the production performance of the industry. An effective and integrated policy of the government as restriction on the import and export of paper and paper products, lower excise duties on the paper products and regular supply of raw materials may further enhance the production performance of the industry. Application of latest technology, which makes the industrial relations cordial, congenial to increase the capacity of utilization and moves fast research and development.

16. It is suggested that there is need for paper industry to adopt with producing and selling wide range of products and to adopt better market strategy, by reducing costs and revising selling prices to enhance the volume of turnover so as to go ahead in the era of competitions.

17. A systematic, regular flow of information and its analysis are important for improving productivity, profitability and liquidity. A suitable management information system need to be evolved which will take care of the data requirements as well as other units like factory etc., for internal management
and control. Appropriate organizational arrangements should be made for the successful implementation of management information system in Indian paper industry.

18. A modified product mix is the other way of improving profitability of the mills. For instance, mills instead of selling paper can make them into other paper products like notebooks so that marketability will be more effective. In other words, mills should make changes not only in production but also in their product mix to tune with the changing demand pattern of paper products in the market. Necessary steps to be taken for expanding the existing markets to include new areas and regions of the country.

19. The financial commitments of the paper units are adversely affected by the lack of financial performance. Hence, the government and commercial banks may resort to various policy options to extend sufficient finance assistance at reasonable cost.

20. To increase export and to improve economic condition, the following strategies can be recommended (1) Quality improvement through different types of research and development programmes. (2) Cost reduction in every segment of operation. (3) Infrastructural development and improvement in service levels. Above all Indian Government need to nourish it with proper care and attention to recover the paper industry from fall.

6.4. SCOPE OF FURTHER STUDY

Any research study can explore only a limited field of knowledge. There are many aspects that need to be researched further. So, in the present case also there is a scope for further research in the same paper industry.

The researcher suggests the following areas for further research

1. This study was restricted only to a few companies of paper industry alone. Hence, studies could be under taken in other paper companies and a comparative across companies can also be attempted.
2. For further studies, other profitability ratios can also be considered other than the variables considered in this study may also be taken to account for predictor variables.

3. Determinants of corporate capital structure, cost of capital, risk return analysis, shareholders value added, dividend practices followed, leverage analysis and identify sick and healthy units separately.

4. Regional wise comparative study among sectors in paper industry in the study area can also be considered for further study.

6.5. CONCLUSION

As human being and other living things cannot survive without air and water and it is not possible to even imagine the business without paper. To conclude the study it may be said that the adoption of the above measures will undoubtedly help the selected units to improve their overall performance. Short term and Long Term solvency position to be maintained properly which will ultimately enhance the liquidity and profitability of the select companies. The industry will be able to generate funds from internal sources, thus breaking the various circles of financial stringencies. It is known that the maximum utilization of fixed assets as well as current assets will result in better financial performance. Hence, all the selected companies can follow the similar strategy to improve themselves. The technological development need to be updated in all the companies. Thus, the dream of our planners to accelerate the economic growth of the country by effectively increasing the paper industry production at reasonable cost.