

Paper Industry in India: A Comparative Study

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Abstract

The Indian Paper Industry, 15th largest in the world, accounts for about 1.6% of the world's production of paper and paperboard with an estimated turnover of Rs 35,000 crore approximately. It is a priority sector for foreign collaboration and 100% FDI is approved on automatic route by Reserve Bank of India. Currently, there are about 515 paper companies engaged in the manufacture of paper and paperboards and newsprint in India. The present paper is an assessment of paper industry in India in general and comparative study of Ballarpur Industries Limited (BILT) & JK Paper Ltd in particular. The analysis has been done with the help of selected financial ratios for a period of 14 years (2000-2013) under four broad aspects i.e. profitability, liquidity, solvency and management efficiency. The study found that none has satisfactory liquidity position. JK paper is more efficient in respect profitability, solvency and management efficiency than BILT.

Keywords: Paper Industry, Profitability, Solvency, Liquidity, Efficiency

1. INTRODUCTION:

The Indian Paper Industry accounts for about 1.6% of the world's production of paper and paperboard. The estimated turnover of the industry is Rs 35,000 crores approximately. The Indian Paper Industry is the 15th largest paper industry in the world. It provides employment to nearly 15 lakhs people and contributes Rs 25 billion to the government. The domestic production of paper and paperboard is estimated to be 1.01 crores tons during this fiscal year. According to industry estimates, over all paper consumption (including newsprint) has now touched 1.12 crores tons and per capita consumption is pegged at 9.3 kg. The demand of paper has been hovering around 8% for some time. Till now, the growth in paper industry has mirrored the growth in GDP.

This era is the era of knowledge. So there will be an increase in demand for paper. The paper industry will have to perform well as it plays an important role for the society and also for the overall industrial growth. The Paper industry is a priority sector for foreign collaboration and 100% FDI is approved on automatic route by Reserve Bank of India. Currently, there are about 515 paper companies engaged in the manufacture of paper and paperboards and newsprint in India. Our country is almost self-sufficient in the manufacture of most varieties of paper and paperboards. But import is limited to certain specialty papers only. Indian paper industry has huge possibilities and prospects of growth in the coming years. The present study on the financial performance appraisal of paper industry in India has been undertaken in order to assess, analyze and compare the performance of two growing paper mills in India viz; Ballarpur Industries Limited (BILT) & JK Paper Ltd.

2. RESEARCH GAP:

While going through the related literatures, it has been observed that financial performance appraisal of various industries like Food Products, Banking Industry, Tea Industry, Cement Industry, Steel Industry, Pharmaceutical Industry, Automobile Industry and many more have been performed by different researchers while there are few studies analysing the performance of the Indian paper industry. Further, it is observed that a comparative study of two most leading paper companies is also absent.

3. OBJECTIVES:

The objective of the study is to analyze the financial performance of paper industry of India. This study seeks to examine the changes that have occurred in the performance of the two companies over the period of time from 2000 to 2013. The main objectives of this study are as under:

1. To review the development of Indian paper industry;
2. To examine the overall financial performance of selected paper companies in India;
3. To evaluate the liquidity, solvency and management efficiency of selected companies and
4. To offer some suggestions for improvement of the performance.

4. RESEARCH METHODOLOGY:

The present study is primarily based on the secondary and information has been collected from the related websites. Two among the top paper companies which are operating in India and listed in the Stock Exchanges of India constitute the universe of the study i.e. Ballarpur Industries Limited (BILT) & JK Paper Limited. The study covers the period of 14 years i.e. from 2000 to 2013. In order to analyze financial performance in terms of liquidity, solvency, profitability, and managerial efficiency, various accounting ratios have been calculated to make a comparison of the performances of selected paper mills. Statistical tools such as A.M., C.V, CAGR, Correlation and ANOVA has been used. Various software packages like Mintab15 and Microsoft Office Excel 2010 has been used for analysing the data. After going through a exhaustive study of related study, the following hypothesis have been formulated in the present research work:

1. There is no significant difference between the Current Ratios of paper companies.
2. There is no significant difference between Net Profit Ratios of paper companies.
3. There is no significant difference between the Return on Net Worth of paper companies.
4. There is no significant difference between the Debt Equity Ratio of paper mills.
5. There is no significant difference between the Earnings per Share of paper companies.

5. REVIEW OF LITERATURE:

Chirayil (2009), in his paper “Economic reform and Productivity Growth in Indian Paper and Paper Products Industry: A Nonparametric Analysis” had estimate total factor productivity growth and its components (efficiency change and technological progress) in Indian paper and paper products industry during pre and post-reform period with the help of the Malmquist Productivity Index. He concluded that the negative TFP change was decreased (from -8.6 per cent to -5.2 per cent) during the period at the aggregate level. It was found in the study that the technical efficiency change and the technical change was the deteriorating factor for productivity change in Indian paper and paper products industry. It was suggested that specific policies should be implemented in order to improve efficiency as well as technical progress, thus ultimately facilitating long-run productivity growth.

Ray (2011) in his paper “Financial Performance of Paper and Paper Product Companies in India in Post-Liberalization Period: An Exploratory Study” studied the financial performance of Indian paper and paper product companies using data from CMIE over the period, 2000-01 to 2008-09. He has analyzed from seven key financial dimensions, namely, financial profitability, capital structure, operational efficiency, fixed asset age, current asset efficiency and liquidity position. The study suggested that liquidity position and profitability of the industry as a whole were sound and strong ensuring good liquidity management and better profitability to both investors as well as entrepreneurs. The study revealed that high and gradually increasing current asset turnover has been a contributing factor responsible for ensuring current asset efficiency which means that resources like current assets of the firms of the industry were getting utilized more efficiently. But, dividend payment being lower, the companies need to improve the quantum of dividend payment in order to satisfy the investors without affecting the future expansion and modernization programmes of the sector. Moreover, companies should make a concerted effort in maximizing assets and minimizing liabilities so that overall financial position could be improved.

Fatima, Nadeem (2013) in their thesis entitled “Performance Appraisal of Paper Industry in India- A Case Study of Some Selected Paper Mills” had been undertaken with the object of analyzing and evaluating the financial performance of the paper industry in India. The study obtains an insight into the financial position of the four companies of paper industry, namely, Ballarpur Industries Limited, Tamil Nadu Newsprint and Papers Limited, Andhra Pradesh Paper Mills Limited, and West Coast Paper Mills Limited. The financial performance of these companies during the years from 2000-2001 to 2009-2010 has been thoroughly examined. They found that there is no high deviation in the operating profit ratio of paper mills under study, net profit differ significantly, there were no similarities in return on net worth ratio, current ratio differ significantly, BILT and WCPM are in much better position to meet its short term obligations, quick ratio differ significantly, all the paper mills have satisfactory debt equity ratio and earning per share does differ significantly.

6. INDIAN PAPER INDUSTRY: AN OVERVIEW

India first Machine-made paper was manufactured in 1812. Paper industry in India is mainly plantation based and is essential that more land must be brought under plantations of eucalyptus and other trees apposite for the making of papers. Indian paper industry is a vast industry comprising more than 157 paper-producing divisions all over India. These 157 functional units manufacture handmade paper worth around Rs.21 cores and provide employment to approximately 10,000 people. Sanganer village is the biggest center in western India humming on the rhythm of the sound of paper making activities.

There were 515 paper mills in India in 2000 which now went up 656 units, engaged in the manufacture of paper and paperboard. Due to old technology, capacity utilization of the industry is just 79 per cent. Moreover, 194 mills under the purview of the Board of Industrial and Financial Reconstruction (BIFR) and nearly 60 mills with a capacity of 1.3 million tones have been closed. Due to increasing regulation and raw material prices, the companies are increasingly using more non-wood based raw material over the years. Round about 70 per cent of the total production is based on non-wood raw material, in 2006.

Since the opening of its economy in the '90s, India has become a frequent destination for multinational businesses. This was most evident when U.S.-based International Paper (IP) acquired a 53.5 percent stake in Andhra Pradesh Paper Mills (APPM) in March 2011. India's paper industry is expected to grow at 6 to 7 percent year over year, with the packaging industry poised to grow at 22 to 25 percent annually. Advances in education, a fast-growing middle class, strong growth in sectors like fast-moving consumer goods (FMCG) and organized retailing are the main drivers of demand for paper and packaging products. Today, the Indian exporters export nearly Rs.400 crores worth of paper products per annum to the developed nations

7. PROFILE OF SAMPLE COMPANIES:

Ballarpur Industries Ltd is India's largest paper company and the only Indian company to rank amongst the top 100 paper companies in the world. The company is India's largest manufacturer and exporter of paper, with a strong presence in all segments of the usage spectrum, including writing and printing (W&P) paper, industrial paper and specialty paper. In the year 1988, they entered into industrial paper segment and in the year 1989, BILT Tree Tech Ltd was formed by the company. During the year 2005-06, the company acquired APR Packaging Ltd which was merged with the company with effect from April 1, 2006.

J K Paper Ltd (formerly Central Pulp Mills), a member of HS Singhanian group is originally promoted by Parkhe Group of Pune to manufacture Paper and Paper products. JK Paper today has an combined installed capacity of 150000 tpa with two integrated Paper Mills at JK Paper Mills, Orissa (Inst. Cap 100000 tpa) and Central Pulp Mills, Gujarat (Inst. Cap 50000 tpa). The company is the first paper mill in India to have been accredited with ISO 14001. It has the distinction of being the Largest manufacturer of branded copier paper in India.; First to introduce surface sized maplitho in India.; First to introduce high quality bond paper 'Finesse' in A4 size consumer friendly retail packs of 100 sheets. ; First to introduce laser paper, MICR Cheque Paper and Cup-stock Board in India.

8. ANALYSIS & INTERPRETATION:

The performance appraisal of the companies is done on the basis of selected ratios divided into four categories like liquidity ratios, profitability ratios, solvency ratios and management efficiency ratios. Under liquidity ratio- current ratio (CR) and quick ratio (QR); under profitability ratio- gross profit ratio (GPR), operating profit ratio (OPR), net profit ratio (NPR), return on net worth (RONW), return on capital employed (ROCE); under solvency ratio- debt equity ratio (DER), interest coverage ratio (ICR); and under management efficiency ratio- inventory turnover ratio (ITR), debtors' turnover ratio (DTR), asset turnover ratio (ATR), earnings per share have been considered.

Table No. 1 Liquidity Ratios of BILT and JK Paper Ltd.

Liquidity Ratios				
Year\Ratios	BILT		JK PAPER LTD	
	CR	QR	CR	QR
Jun-00	0.45	1.00	0.85	1.30
Jun-01	0.90	1.19	0.99	1.94
Jun-02	0.81	0.89	1.42	1.49
Jun-03	0.73	0.67	1.34	0.97
Jun-04	1.05	1.28	0.96	1.33
Jun-05	0.99	1.11	1.08	1.19
Jun-06	1.54	1.83	1.34	1.22
Jun-07	1.84	1.48	0.77	0.98
Jun-08	3.22	2.90	0.73	1.08
Jun-09	2.89	2.60	0.88	1.15
Jun-10	1.47	1.17	0.85	0.86
Jun-11	1.50	1.05	0.86	0.93
Jun-12	0.97	1.10	0.90	0.99
Jun-13	0.73	0.80	0.95	0.89
Average	1.36	1.36	0.99	1.17
CV	59.70	48.11	22.19	24.83
CAGR	3.52	-1.58	0.80	-2.67

(Source: Compiled and computed from collected data)

From Table 1, it is observed that average current assets ratio of BILT is 1.36 while the same is only 0.99 for JK Paper. Similarly the average quick assets ratio of BILT is 1.36 whereas it is 1.17 for JK Paper. So far as variations over the year are concerned, BILT company's liquidity ratios are more fluctuating in terms of CV (59.70% & 48.11%) then JK Paper Company. Both the companies have registered a negative growth rate in respect of quick assets ratio which signifies that the company's liquidity position is approaching towards standard norms. No companies have current assets ratio at par or above the standard ratio i.e. 2:1 except by BILT in the year 2008 and 2009. From Figure-1 & 2, it can be observed that gap between the two companies in relation to current ratio and quick assets ratio has reduced to a great extent.

Figure1: Current Ratio of BILT & JK Paper Ltd.

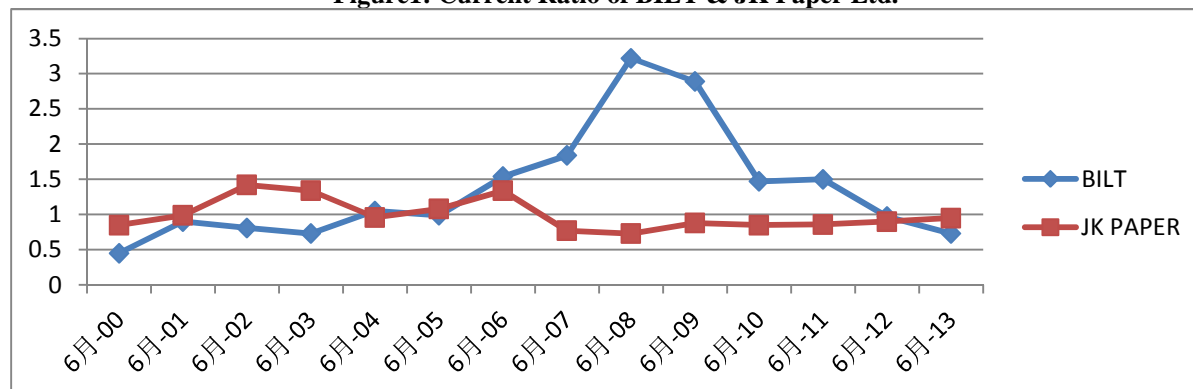


Figure 2: Quick Ratio of BILT & JK Paper Ltd.

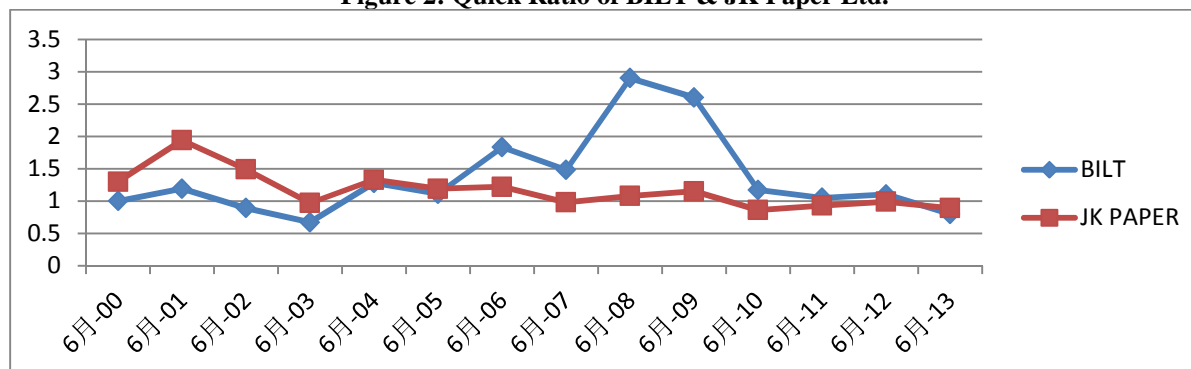


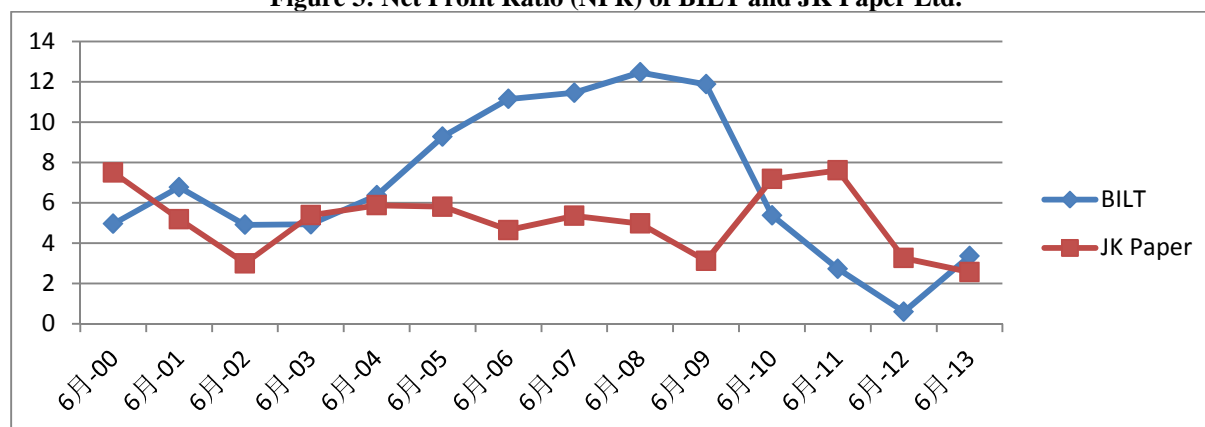
Table 2 shows the profitability ratios of both the companies and all ratios of both the companies have witnessed negative growth rate. The average gross profit ratio of both the companies are equal almost i.e. 13.62 for BILT and 13.29 for JK paper while the net profit ratio differ considerably i.e. 6.87 for BILT and 5.10 for JK paper. It clearly signifies that the operating cost of JK paper is higher than the BILT. So far return on net worth and return on capital employed is concerned, JK paper has an average ratio of 12.00 & 11.77 as compared to BILT whose average ratio is 7.70 and 9.13. It is an indication that the BILT Company is more depended on debt source of funds than equity funds. Similarly the variation in the ratios shows a similar pattern for both the companies except for net profit ratio which is quite clear from figure -3.

Table No. 2: Profitability Ratios of BILT and JK Paper Ltd.

Profitability Ratios										
Year\Ratios	BILT					JK PAPER LTD				
	GPR	OPR	NPR	RONW	ROCE	GPR	OPR	NPR	RONW	ROCE
Jun-00	9.65	17.83	4.95	8.15	10.58	17.33	18.99	7.5	28.67	21.61
Jun-01	13.74	21.44	6.77	11.17	12.49	16.81	24.8	5.18	9.4	11.59
Jun-02	14.03	21.59	4.9	6.86	11.09	15.06	20.68	2.99	5.17	9.89
Jun-03	14.57	21.12	4.93	7.94	12.17	17.48	21.95	5.38	9.8	12.32
Jun-04	15.95	21.57	6.36	9.44	11.72	22.12	21.65	5.87	11.85	17.37
Jun-05	20.69	26.16	9.27	11.25	12.14	12.81	18.25	5.8	15.63	9.58
Jun-06	21.89	26.56	11.14	12.98	11.6	13.69	18.15	4.64	8.71	9.69
Jun-07	19.17	26.31	11.45	12.61	12.71	14.4	18.33	5.35	12.33	10.25
Jun-08	17.14	24.39	12.46	10.25	11.19	9.26	15.94	4.97	9.05	6.68
Jun-09	15.45	22.98	11.87	9.31	8.36	9.26	15.04	3.12	9.45	10.86
Jun-10	10.05	17.91	5.37	3.52	4.97	14.2	19.77	7.17	19.36	18.31
Jun-11	7.48	15.14	2.72	1.86	3.58	13.75	18.91	7.6	18.21	18.02
Jun-12	3.06	11.26	0.59	0.41	1.76	5.82	10.7	3.25	6.04	5.76
Jun-13	7.78	16	3.35	2.07	3.46	4.08	9.08	2.56	4.3	2.88
Average	13.62	20.73	6.87	7.70	9.13	13.29	18.02	5.10	12.00	11.77
CV	39.87	22.18	54.81	54.16	43.02	36.33	23.51	32.64	54.85	45.15
CAGR	-1.53	-0.77	-2.75	-9.33	-7.67	-9.82	-5.13	-7.39	-12.67	-13.40

(Source: Compiled and computed from collected data)

Figure 3: Net Profit Ratio (NPR) of BILT and JK Paper Ltd.



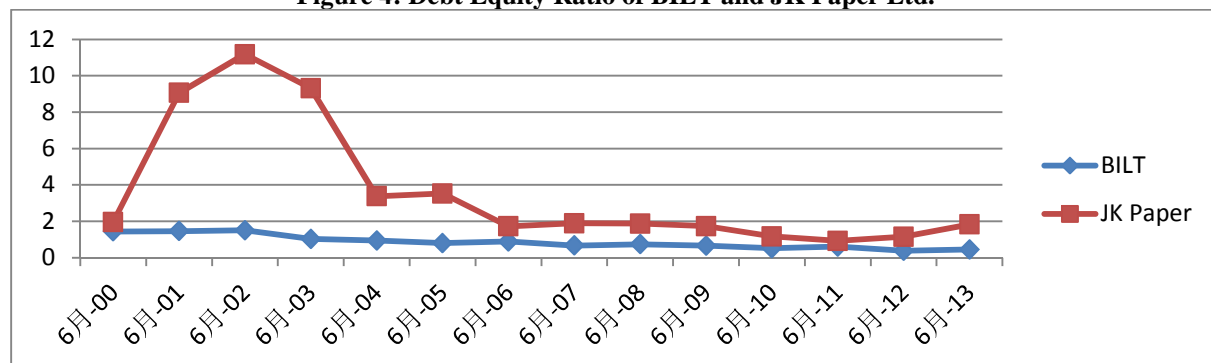
It is observed from table no. 3 that all average solvency ratios of BILT company is much more lower than JK paper. The average ratio of debt equity ratio is 0.86 whereas the same is 3.62 for JK Paper which signifies that BILT company uses less quantum of debt funds as compared to JK paper. Interest coverage ratio of JK paper is more than BILT which symbolizes that BILT is having higher debt burden. It is more consistent in case of BILT (CV 36.71%) as compared to JK Paper. It also registered a positive compounded growth at 1.48% in BILT as the same is negative in JK Paper at -9.84%. Figure-4 shows that the gap DER ratio between BILT and JK paper has reduced in 2006 and since then it is also most going in parallel.

Table 3: Solvency Ratios of BILT and JK Paper Ltd.

Year\Ratios	BILT		JK PAPER LTD.	
	DER	ICR	DER	ICR
Jun-00	1.44	1.53	1.96	6.1
1-Jun	1.46	1.94	9.06	2.06
2-Jun	1.5	1.96	11.18	2.31
3-Jun	1.03	2.1	9.31	3.14
4-Jun	0.94	2.5	3.38	4.07
5-Jun	0.8	3.09	3.53	2.02
6-Jun	0.89	3.45	1.72	2.4
7-Jun	0.67	4.39	1.89	2.79
8-Jun	0.74	2.4	1.87	1.95
9-Jun	0.66	4.24	1.73	1.84
10-Jun	0.52	2.91	1.17	3.54
11-Jun	0.61	2.02	0.92	4.04
12-Jun	0.38	1.46	1.15	2.21
13-Jun	0.45	1.88	1.83	1.43
Average	0.86	2.56	3.62	2.85
CV	43.24	36.51	96.2	43.62
CAGR	-7.97	1.48	-0.49	-9.84

(Source: Compiled and computed from collected data)

Figure 4: Debt Equity Ratio of BILT and JK Paper Ltd.



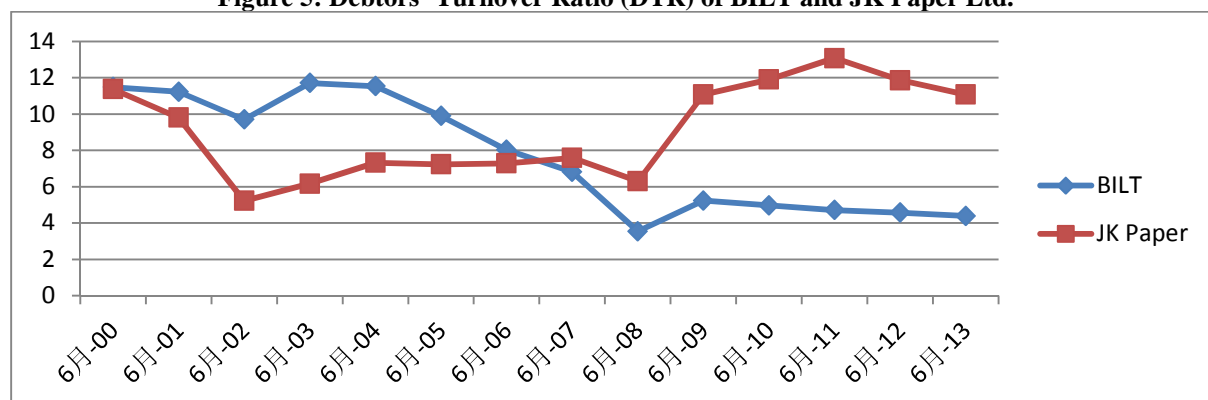
The table 4 depicts the average of inventory turnover ratio, debtors turnover ratio and assets turnover ratio of BILT company is much lower than JK paper which proofs that BILT company is unable to realize its merchandise as quick as JK paper and the same is also true regarding collection from debtors. Similarly, JK paper is able to generate sales quickly by using assets whereas BILT is not. But earning per share is more in BILT (6.48) as compared to JK paper (6.04) both having negative growth rate. BILT's EPS has reduced to 0.51% in 2013 from 10.58% in 2000 with higher variation (CV 80.62%) whereas the same ratio reduced from 3.65% to 2.76% for the same period for JK paper with as less variation of CV 57.50%. This shows that JK paper adopts a more consistent dividend and capital structure policy then BILT. From figure-5, we can observe that JK paper has effectively managed the collection from debtors since 2008 whereas the BILT extends more credit period to their customers and lower the frequency of collection.

Table No 4: Management Efficiency Ratios of BILT and JK Paper Ltd.

Year\Ratios	Management Efficiency Ratios							
	BILT				JK PAPER LTD			
	ITR	DTR	ATR	EPS	ITR	DTR	ATR	EPS
Jun-00	10.38	11.48	0.77	10.58	7.69	11.37	1.17	3.65
Jun-01	8.89	11.22	0.73	13.09	7.8	9.8	1.15	11
Jun-02	7.9	9.7	0.69	9.07	10.15	5.22	0.66	3.4
Jun-03	7.03	11.71	0.87	6.53	8.79	6.17	0.76	5.16
Jun-04	8.42	11.53	0.81	8.12	10.92	7.32	0.79	3.67
Jun-05	6.47	9.89	0.66	10.31	9.14	7.23	0.75	6.59
Jun-06	6.25	8.02	0.65	12.96	8.54	7.28	0.82	4.26
Jun-07	10.45	6.81	0.68	13.5	8.89	7.58	0.83	5.86
Jun-08	10.85	3.54	0.34	2.33	9.01	6.3	0.63	4.43
Jun-09	12.14	5.23	0.46	2.26	16.82	11.07	1.09	4.86
Jun-10	9.09	4.97	0.45	0.89	14.76	11.9	1.18	11.64
Jun-11	6.33	4.71	0.43	0.46	19.84	13.07	1.29	13.62
Jun-12	4.36	4.57	0.46	0.1	12.51	11.86	1.01	3.61
Jun-13	3.77	4.39	0.44	0.51	6.76	11.07	0.68	2.76
Average	8.02	7.70	0.60	6.48	10.83	9.09	0.92	6.04
CV	30.79	40.71	27.87	80.62	35.37	28.69	24.54	57.50
CAGR	-6.98	-6.64	-3.92	-19.47	-0.92	-0.19	-3.80	-1.98

(Source: Compiled and computed from collected data)

Figure 5: Debtors' Turnover Ratio (DTR) of BILT and JK Paper Ltd.



9. HYPOTHESIS TESTING:

Hypothesis means a mere assumption or some supposition to be proved or disproved. Research hypothesis is a predictive statement, capable of being tested by appropriate scientific methods. In the present study we have applied one way anova test to test the various hypothesis that are framed from literature review.

(a) **Null Hypothesis:** There is no significant difference in the current ratio of paper companies under study.

Table No. 5 Current Ratio (One Way Anova Test)

Source of Variation	Degree of Freedom	Sum of Square	Mean Square	F	P-value	F Critical Value
Between Samples	1	0.955	0.955	2.68	0.113	4.22
Within Samples	26	9.248	0.356			
Total	27	10.203				

Since the calculated value of $F=2.68$ is less than the critical value i.e. 4.22, null hypothesis is accepted. So there is no significant difference in the current ratio of BILT and JK Paper.

(b) **Null Hypothesis:** There is no significant difference in the net profit ratio of paper companies under study.

Table No. 6 Net Profit Ratio (One Way Anova Test)

Source of Variation	Degree of Freedom	Sum of Square	Mean Square	F	P-value	F Critical Value
Between Samples	1	21.88	21.88	2.58	0.120	4.22
Within Samples	26	220.12	8.47			
Total	27	242.00				

Since the calculated value of $F 2.58$ is less than the critical value of $F 4.22$, null hypothesis is accepted. So there is no significant difference in the net ratio of BILT and JK Paper.

(c) **Null Hypothesis:** There is no significant difference in the return on net worth ratio of paper companies under study.

Table No. 7 Return On Net Worth Ratio (One Way Anova Test)

Source of Variation	Degree of Freedom	Sum of Square	Mean Square	F	P-value	F Critical Value
Between Samples	1	129.2	129.2	4.26	0.049	4.22
Within Samples	26	789.2	30.4			
Total	27	918.4				

Since calculated value of F 4.26 is greater than critical value of F 4.22 thus, null hypothesis is rejected and the alternative hypothesis is accepted and hence it is concluded that return on net worth differs significantly.

- (d) **Null Hypothesis:** There is no significant difference in the debt equity ratio of paper companies under study.

Table No. 8 Debt Equity Ratio (One Way Anova Test)

Source of Variation	Degree of Freedom	Sum of Square	Mean Square	F	P-value	F Critical Value
Between Samples	1	53.24	53.24	8.67	0.007	4.22
Within Samples	26	159.59	6.14			
Total	27	212.83				

Since calculated value of F 8.67 is greater than critical value of F 4.22, null hypothesis is rejected and the alternative hypothesis is accepted and hence it is concluded that debt equity ratio differs significantly.

- (e) **Null Hypothesis:** There is no significant difference in the earning per share of paper companies under study.

Table No.9 Earnings Per Share (One Way Anova Test)

Source of Variation	Degree of Freedom	Sum of Square	Mean Square	F	P-value	F Critical Value
Between Samples	1	1.4	1.4	0.07	0.794	4.22
Within Samples	26	511.3	19.7			
Total	27	512.7				

Since the calculated value of F 0.07 is less than the critical value of F 4.22, null hypothesis is accepted and alternative hypothesis is rejected. So it can be concluded that the earning per share of BILT and JK Paper does not differ significantly.

10. CONCLUSION:

The present paper is all about the financial performance of paper industry in general and comparative study of BILT and JK paper in general. The performance has been judged from four different angles i.e. profitability, liquidity, solvency and management efficiency. From liquidity position aspect, BILT Company is ahead from JK paper but none of them has satisfactory standard. JK paper is more efficient in respect of net profit and return on capital employed on an average then BILT during period under study. So far solvency position is concerned, BILT Company is suffering from high debt burden and as a result, it operates in high degree of leverage. Similarly, JK paper's management is more efficient in terms of collection from debtors, earning per share, assets utilisation and inventory turnover then BILT Company.

11. SUGGESTIONS:

After a thorough analysis of the performance of the two companies, it is apparent that there is immense opportunity for cost reduction and performance improvement and advancement. Some of the constructive suggestions are as under:

1. The company should try to maintain the current and quick ratio at least of minimum standard either by expediting the revenue collection or enhancing the credit terms from creditors.
2. In order to increase the profitability of the companies, it is suggested that the cost of goods sold and operating expenses should be controlled.
3. The management should try to utilize their production capacity fully in order to reduce factory overheads and to utilize their fixed assets properly.
4. It is suggested that the companies should try to reduce the interest burden gradually by increasing the owner's fund.
5. To strengthen the financial efficiency, long-term funds have to be used to finance core current assets.
6. The managements should put in sincere and committed efforts to improve the profitability of the companies in order to restore their financial health.

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