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# An analysis of cost and profitability trends in JK Cement Limited in India

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**Abstract**--The cement industry is the primary sector of Indian economy as it accounts for a significant portion of total industrial productivity. After China, India's cement sector ranks second in the world in terms of cement output. It produces quality cements but lacks in profitability and return on investment, which ultimately affects the trend and pattern of cost and profit of JK Cement Limited. Cost and profit is the key decision in financial affairs of a firm. The study considered a period of ten years data from 2010-11 to 2019-20. The cost, volume of turnover and profit are estimated. In conclusion, it was found that raw materials, power and fuel cost, employee cost, selling, administration and miscellaneous expenses, volume of sales and profitability of the firm are increased during the period.

**Keywords**--Trend and Pattern, Cost and Profit, Turnover, Employee Cost, Raw Material Cost.

**Introduction**

The cement manufacturing system in India has historically been capital-intensive. Increased automation of manufacturing processes, resulting in a considerable reduction in the number of employees and a shift in the company's composition. To address issues such as trade union activity and a lack of discipline in this industry, businesses have turned to automation. The justification of companies in connection with the rising desire to automate production capacity was that a process of labor concentration cannot always ensure the quality and uniformity of the end output. The Indian cement industry's technological production has shown adequate responsibility and adaptability in absorbing, adapting, and changing overseas innovations to suit Indian conditions. For a shorter length of time, this is evident in the fast evolution of technology. Because globalization has linked the

economies of all nations, big Indian cement companies are adopting global strategies to boost their competitiveness in the international markets.

Cement industry represents as the significant sector and plays an immense role in the social and economic progress of the country. Cement is a basic industry in a country and occupies the predominant place in infrastructure development. Cement is the second most used building material after steel, and it is the foundation of all contemporary construction. India's cement industry is the world's second biggest, accounting for approximately 7 percent of total global cement output, with China accounting for around 35 percent of total global cement production. Ordinary Portland Cement, Blended Cements, and Special Cements, such as white cement, sulphate resistant cement, quick hardening cement, and oil well cement, are among the cement kinds produced by the cement industry. At the moment, blended cements such as Portland Pozzolana Cement and Portland Blast Furnace Slag Cement account for around 75 percent of the market share, while Ordinary Portland Cement accounts for 25 percent. Cement companies are adopting aggressive policy to sell its products and increase its financial performance considerably. Therefore, the financial performance of cement industry is important for creditors, shareholders, potential investors and competing companies operating in the same sector.

The Indian cement industry has developed drastically during the late 1990s, going through all the stages of typical repeated development process. India is the second biggest manufacturer of quality cement in the globe. Owing to the strong economic development and infrastructure growth, the demand for cement is increased. During the period 2014-2019, the Indian cement industry is anticipated to develop at a compound annual growth rate of 8.96 percent. By 2025, cement demand is expected to reach 550-600 million tonnes per year. Housing projects are the primary demand driver for cement in the construction industry, accounting for around 67 percent of overall consumption. Infrastructure development accounts for 13 percent of cement consumption, commercial construction accounts for 11 percent and industrial unit building accounts for 9 percent. Cement businesses are anticipated to build 56 million tonnes (MT) of capacity over the next three years to meet growing demand. The capacity of cement in India may register a growth of 8percent by 2017 to 421 MT from the present level of 387 MT. This study has considered ten cement companies in India, which consists of UltraTech Cement, Ambuja Cements, ACC, India Cements, Shree Cements, Ramco Cements, J. K. Cement, Birla Corp, JK Lakshmi Cements, and Prism Cement.

Cost and profit is the key decision in financial affairs of a firm. It deals with how a corporate firm finance its various assets. The most popular source of financing to business firms includes, equity and debt, and mostly combination of both employed. If a business firm financed its assets through debt is believed to be a cheaper source of financing, it effects in elevation of a firm attributing to decrease financial flexibility, enhanced possibility of financial distress and possible reduction in credit rating among others. Moreover, need for collateral security, better liquidity and sustained coverage. The advantage of debt finance provides tax shelter, enhanced earning per share and better return on equity. Similarly, equity financing bears certain benefits as well. Equity finance does not bear fixed

financial cost; it allows freeing up more cash for reinvesting and increases value of the firm in the long standing. Sizable it consumes short-term gain of the investors. Therefore, capital structure decisions are highly important for firms and optimal capital structure is considered as perfect mix to raise value of the firm.

The industry practised an absolute shift in the expertise of manufacturing, from wet process to dry process. There is regional disparity in cement production in India because of the restrictions caused by raw material availability and energy sources and most of the units are situated in close proximity to the raw material availability places. In the perspective of judging operating efficiency of cement firms, an attempt is made to recognize the demand tendency, operating performance, operating efficiency of the cement companies during the study period.

### **Review of literature**

Krishnakumar et al. (2013) looked at the Indian cement industry's growth in terms of installed capacity, yearly turnover, output, exports, and value additions. According to the data, the Indian cement sector has grown significantly over the previous two decades, through all stages of the growth process. Egbide et al. (2013) reported that the excess current assets results an ineffective utilization of resources and ultimately disturb profitability. Sakthivel (2014) expressed that the financial performance assists the firms to boost their earning capacity and transforms the retained earnings process by altering various ratios. Naick and Patel (2014) analyzed the profitability position of cement companies by using the gross profit ratio, operating profit ratio, net profit ratio, net worth, return on capital employed and equity. Hoque et al. (2015) found that there is considerably positive correlation between profitability and working capital constituents in addition to impact of day sales outstanding on profitability ratios is in a subdued manner. Mohamed & Mohamed (2015) revealed that the financial and operating efficiency of cement firms is found at satisfactory level. Srinivasan and Narayanasamy (2015) disclosed that better operation of the resource can guide for augment profitability of the organization. Venkatacham and Kasthuri (2016) considered the financial performance of Indian cement industry and revealed that correct management, effectual control and cost reduction tactics are the most significant methods that requirement to be assumed to develop the profitability. According to Singh and Singh (2016), there is a substantial negative connection between debt and profitability, suggesting that firms with a greater debt ratio have lower profitability.

### **Objectives**

The study's objectives are as follows:

- To study the trends of direct and indirect expenses of JK Cement Limited.
- To analyse the growth rate of sales and net profit.

### **Methodology**

The research is based on secondary data from statistical reports on the costs of

raw materials, power, and gasoline, labor costs, sales and administrative expenditures, total cost, net sales, and benefits of JK Cement Limited. The research spans 10 years, from 2010-11 to 2019-20. The period was chosen depending on the availability of data. The researcher uses the tools like gathered data for statistical analysis, which should be evaluated using simple statistical techniques like sum, average, standard deviation, Co-efficient of Variation, Linear Growth Rate and Compound Average Growth Rate. Analytical research design has been used so as to formulate the present study.

### Analysis of the study

The cost of workers, materials, machinery and procedures utilized in the manufacture of cements are all connected with the cost of cement. As a result, the table-1 shows the trend and structure of production costs and profits, such as raw materials costs, energy and fuel costs, staff costs, sales and administrative expenditures, total cost, net sales and profits.

Table-1  
Trend Analysis of JK Cement Limited (Rs. in Crores)

Year	Raw Materials	Power & Fuel Cost	Employee Cost	Selling, Admin and Miscellaneous Expenses	Total Expenses	Net Sales	Reported Net Profit
2010-11	440.2	554.33	127.48	711.41	<b>1,833.42</b>	2,094.35	<b>64.05</b>
2011-12	496.69	654.74	140.44	745.17	<b>2,037.04</b>	2,546.79	<b>177.33</b>
2012-13	626.8	713.99	157.89	890.01	<b>2,388.69</b>	2,911.97	<b>233.55</b>
2013-14	674.7	673.9	167.79	943.12	<b>2,459.51</b>	2,795.85	<b>97.03</b>
2014-15	797.12	793.46	202.54	1,101.18	<b>2,894.30</b>	3,348.60	<b>156.92</b>
2015-16	913.68	740.79	231.45	1,147.12	<b>3,033.04</b>	3,560.32	<b>101.54</b>
2016-17	915.07	625.26	275.46	1,256.09	<b>3,071.88</b>	3,755.54	<b>210.78</b>
2017-18	1,046.81	889.69	325.46	1,526.59	<b>3,788.55</b>	4,591.22	<b>341.87</b>
2018-19	1,175.52	1,052.32	353.5	1,594.57	<b>4,175.91</b>	4,981.30	<b>324.9</b>
2019-20	1,248.83	1,009.14	390.9	1,699.89	<b>4,348.76</b>	5,463.77	<b>400.38</b>
<b>Sum</b>	8335.42	7707.62	2372.91	11615.15	30031.10	36049.71	2108.35
<b>Mean</b>	833.54	770.76	237.29	1161.52	3003.11	3604.97	210.84
<b>SD</b>	275.97	165.24	94.37	352.89	868.91	1102.98	114.06
<b>CV</b>	33.11	21.44	39.77	30.38	28.93	30.60	54.10
<b>LGR</b>	90.71*	45.796*	30.618*	115.211*	282.335*	356.687*	29.621*
<b>t-value</b>	28.658	4.363	14.851	18.453	15.508	13.615	3.599
<b>CAGR</b>	0.115	0.058	0.132	0.102	0.096	0.1	0.149
<b>CAGR</b>	12.187*	5.971*	14.111*	10.738*	10.076*	10.517*	16.067*
<b>t-value</b>	17.679	4.335	29.476	24.566	19.899	17.653	3.156

Source: Annual Report / Computed

\* Significant at 1% level; \*\* Significant at 5% level;

SD: Standard Division; CV: Co-efficient of Variation; LGR: Linear Growth Rate; CAGR: Compound Average Growth Rate

Data concerning raw materials of JK Cement Limited have increased during the research period, from Rs.440.2crores on raw material costs in 2010-11 to 1248.83 crores in 2019-20.The mean raw material expenses were Rs.833.54

crores during the period with the standard deviation of Rs.275.97 crores. LGR and CAGR are used to analyse the growth pattern. During the research period, the LGR shows an average annual growth rate of 90.71 percent. The CAGR, which represents the total growth attained during the research period, shows a 12.187 percent increase. The use of raw materials in the period is increased due to the growth of JK Cement Limited.

The power and fuel cost were found at Rs.554.33 crores in 2010-11 and 1009.14 crores in 2019-20. The mean power and fuel cost were Rs.770.76 crores during the period with the standard deviation of Rs.165.24 crores. LGR and CAGR are used to analyse the growth pattern. During the research period, the LGR showed an average annual growth rate of 45.796 percent. The CAGR, which represents the total growth attained during the research period, shows a 5.971 percent increase. The use of power and fuel cost in the period is increased due to the growth of JK Cement Limited.

The employee cost was found at Rs.127.48 crores in 2010-11 and 390.9 crores in 2019-20. The mean employee cost was Rs.237.29 crores during the period with the standard deviation of Rs.94.37 crores. LGR and CAGR are used to analyse the growth pattern. During the research period, the LGR shows an average annual growth rate of 30.618 percent. The CAGR, which represents the total growth attained during the research period, shows a 14.111 percent increase. The use of employee cost in the period is increased due to the growth of JK Cement Limited.

The selling, administration and miscellaneous expenses were found at Rs.711.41 crores in 2010-11 and 1699.89 crores in 2019-20. The mean selling, administration and miscellaneous expenses were Rs.1161.52 crores during the period with the standard deviation of Rs.352.89 crores. LGR and CAGR are used to analyse the growth pattern. During the research period, the LGR shows an average annual growth rate of 115.211 percent. The CAGR, which represents the total growth attained during the research period, shows a 10.738 percent increase. The use of selling, administration and miscellaneous expenses in the period is increased due to the growth of JK Cement Limited.

Therefore, the total cost was found at Rs.1,833.42crores in 2010-11 and 4,348.76 crores in 2019-20. The mean total cost was Rs.3,003.11crores during the period with the standard deviation of Rs.868.91 crores. LGR and CAGR are used to analyse the growth pattern. During the research period, the LGR showed an average annual growth rate of 282.335 percent. The CAGR, which represents the total growth attained during the research period, shows a 10.076 percent increase. The use of total cost in the period is increased due to the growth of JK Cement Limited.

The estimated net sales during the period was found at Rs.2,094.35 crores in 2010-11 and 5,463.77 crores in 2019-20. The mean net sales were Rs.3604.97 crores during the period with the standard deviation of Rs. 1102.98 crores. LGR and CAGR are used to analyse the growth pattern. During the research period, the LGR shows an average annual growth rate of 356.687 percent. The CAGR, which represents the total growth attained during the research period, shows a 10.517 percent increase. The use of net sales in the period is increased due to the

growth of JK Cement Limited.

The reported net profit for the year was found at Rs.64.05 crores in 2010-11 and 400.38 crores in 2019-20. The mean net profit was Rs.210.84 crores during the period with the standard deviation of Rs. 114.06 crores. LGR and CAGR are used to analyse the growth pattern. During the research period, the LGR has an average annual growth rate of 29.621%. The CAGR, which represents the total growth attained during the research period, shows a 16.067 percent increase. The use of net profit in the period is increased due to the growth of JK Cement Limited.

### **Findings and Conclusion**

The trend and pattern of production cost indicates that revenues of cement industries are mostly consumed by raw material, power and fuel, employees, and selling and administration overheads. Cement companies are gradually increasing its turnover, but the overheads accounts for significant portion of its revenues. Despite, higher expenses burden on cement companies, they continued to generate profit and the level of profit is increasing year after year. Trend analysis reveals that there is significant differences exist between expenses, net sales and profit level from one company to another company. The trend and pattern of cost and profitability of JK Cement depends upon the various financial parameters.

It consists of different types of expenses and turnover of the firm. Indian cement industry is experiencing a thunder as a result of the overall development of the economy mainly on account of augmented industrial activity, blooming realty business, raising urbanization and construction work, and expanding investment in infrastructure. The performance of the cement business under various policy regimes reveals that deregulation of the sector and economic liberalisation have resulted in substantial improvements in measures such as installed capacity, per capita spending, capacity operation, and foreign sales. Cement is the essential product for all industrial activities. As one among the major industries, cement industry contributes considerably to India's industrial and economic development. It was found that raw materials, power and fuel cost, employee cost, selling, administration and miscellaneous expenses, volume of sales and profitability of the firm are increased during the period.

### **Suggestions**

- 1) The cement firms should suitably utilize their operating assets and should attempt to reduce non-operating expenses associated with its operation.
- 2) The cement firms have to use optimum level of debt in order to ensure proper leverage between owned funds and borrowed funds.
- 3) The study suggests that capital structure decisions of cement firms are vastly determined by its own features along with external environment. Therefore, cement firms should focus on macroeconomic, social, and international affairs.
- 4) The study suggests cement firms resort to debt finance during high inflationary situations instead of equity and vice versa during deflationary situations.

- 5) It can be suggested that cement firms should focus on debt-equity ratio so as to increase earnings per share.

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