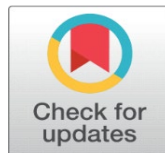


A STUDY ON THE ROLE OF OPERATIONAL EFFICIENCY IN ENHANCING FINANCIAL PERFORMANCE OF MAJOR INDIAN CEMENT COMPANIES

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ABSTRACT

This study investigates the influence of operational efficiency on the financial performance of leading Indian cement companies. Given the capital-intensive nature of the cement industry, operational efficiency emerges as a critical driver of profitability and long-term sustainability. Drawing on financial data from 2014 to 2024, the research analyzes key operational and financial indicators—including capacity utilization, inventory turnover, operating ratio, and return on capital employed (ROCE)—to examine their correlation with financial performance metrics. The results reveal a significant positive relationship between operational efficiency and profitability, offering valuable insights for corporate managers, investors, and policymakers aiming to enhance performance in the cement sector.

Keywords: Financial Performance, Operational Efficiency, Indian Cement Industry, Profitability, ROCE, Cost Optimization

1. INTRODUCTION

India's cement industry ranks as the second-largest in the world, playing a vital role in the country's infrastructure growth. To thrive in an increasingly competitive environment, companies must enhance their operational effectiveness. Operational efficiency is defined as the capacity to produce goods or services while utilizing the least amount of resources possible. This research aims to analyze the impact of operational efficiency on the financial performance of prominent Indian cement companies, including UltraTech Cement, Deccan Cement, Ambuja Cements, kesoram Cement, and Shree Cements

2. OBJECTIVES OF THE STUDY

- 1) To study the patterns and changes in financial performance over the period 2014 to 2024.

- 2) To evaluate the key indicators of operational efficiency in the chosen Indian cement firms.
- 3) To investigate the relationship between operational efficiency measures and financial performance metrics.

3. LITERATURE REVIEW

Prior studies have highlighted operational efficiency as a critical driver of profitability and shareholder value in manufacturing sectors. However, limited empirical evidence exists specific to the Indian cement sector, making this study timely and relevant.

Ghosh and Bandyopadhyay, 2018; Sharma, 2020) Operational efficiency is critical to success, and operating in the manufacturing sector is a prime example. This is particularly true in the specific cement sector. I focus on quality studies, relevant research, and opportunities. Operational effectiveness is crucial to the economic impact of consumption itself, in addition to the industry's capital intensity. Jarenlang has had many others who want to connect with the intelligence of efficiency in their lives, twin proximity, and war activity.

1) Conceptual Framework of Operational Efficiency and Financial Performance.

Operational effectiveness is of great importance to society and to the high-quality position with a minimum total amount, inter quas tempo, capital and labor (Kaplan and Norton, 1996). Financial performance, on the other hand, is measured through indicators such as profitability, return on assets (ROA), return on equity (ROE), and earnings per share (EPS) (Ross et al., 2010). A direct link exists between reducing operational inefficiencies and enhancing financial metrics.

2) Empirical study on the effectiveness and Efficiency Performance.

Several empirical studies have shown that the operational efficiency of finance is effective. I observed Singh en Sinha (2017) that Indian manufacturing has encountered better operational efficiency, high win and high market return. Gupta and Sharma (2019), in their study of Indian cement firms, noted that firms employing cost optimization, lean manufacturing, and energy efficiency saw substantial improvement in ROA and profit margins..

3) Cement Industry Specific Analysis:

Cement Industry. The cement industry in India is high-energy, high-energy, and environmentally concerns. According to ICRA (2021), Operational efficiency, including logistics optimization and alternative fossil fuel use, is fundamental to a competitive state of conservation. Bansal and Kumar (2020) investigate the administrative ratio of major cement actors in India and companies involved in UltraTech Cement and Shree Cement observe, regarding the automation process, the heat recovery system, and large-scale economic efficiency.

4) Financial Metrics and Operational Practices

Operational efficiency is often reflected in financial indicators such as the operating profit margin (OPM), asset turnover ratio, and working capital cycle. Chakraborty and Ghosh (2016) showed that companies optimizing their working capital management experience better cash flow and reduced financing costs, positively affecting net income. Moreover, energy and input cost management was found to be a critical determinant of EBITDA margins in cement firms (CRISIL, 2022).

4. RESEARCH METHODOLOGY

- **Sample:** Four leading Indian cement companies (Deccan Cement and Kesoram Cements),
- **Time Period:** FY 2014–2024.
- **Data Sources:** Annual reports, CMIE Prowess, and company financial statements.
- **Tools:** Ratio Analysis.

5. ANALYSIS AND DISCUSSION

1) Financial Performance

- **ROCE:** Increased with better plant utilization and cost control.
- **Net Profit Margin and EPS:** Firms with leaner operations consistently reported stronger profit margins.

DUPONT MODEL FOR RETURN ON CAPITAL EMPLOYED FOR DECCAN CEMENTS

Year	Sales	Net profit	Capital employed	Capital turnover ratio	Net profit ratio	Return on capital employedratio	Return on capital employed Dupont model
2014-15	19104.84	4796.59	31890.28	0.5911	0.2511	0.1504	0.1504
2015-16	18703.52	3422.98	52686.90	0.3550	0.1830	0.0650	0.0650
2016-17	29897.61	434.00	54911.98	0.5445	0.0145	0.0079	0.0079
2017-18	34319.06	199.31	50149.30	0.6483	0.0058	0.0040	0.0040
2018-19	51327.73	4776.27	50008.49	1.0264	0.0931	0.0955	0.0955
2019-20	50212.33	731.32	49584.34	1.0127	0.0146	0.0147	0.0147
2020-21	39338.95	502.35	49544.00	0.7940	0.0128	0.0101	0.0101
2021-22	44065.30	1987.89	44204.67	0.9968	0.0451	0.0450	0.0450
2022-23	58055.03	4556.25	41904.29	1.3854	0.0785	0.1087	0.1087
2023-24	55986.27	4659.70	46530.15	1.2032	0.0832	0.1001	0.1001

Source Compiled from Annual Reports

NET PROFIT RATIO of DECCAN CEMENTS AND KESORAM CEMENTS

(Amount in Rs. Lakhs)

Year	Deccan Cements			Kesoram Cements		
	Net Profit	Sales Revenue	Net Profit Margin	Net Profit	Sales Revenue	Net Profit Margin
2014-15	4796.59	21225.11	22.6	38335.04	302816.38	12.66
2015-16	3422.98 (-28.64)	18703.52 (-11.88)	18.3	37874.10 (-1.20)	395366.19 (30.56)	9.58
2016-17	434.00 (-87.32)	29897.61 (59.85)	1.45	23733.74 (-37.34)	486136.96 (22.96)	4.88
2017-18	199.30 (-54.8)	34319.06 (14.79)	0.58	-21021.24 (-188.57)	555905.07 (14.35)	-3.78
2018-19	4776.27 (2296.52)	51327.73 (49.56)	9.31	-37974 (-80.65)	600486.00 (8.02)	-6.32
2019-20	731.32 (-84.69)	50212.33 (-2.17)	1.46	-32923 (13.30)	584186 (-2.71)	-5.64
2020-21	502.35 (-31.31)	39338.95 (-21.65)	1.28	-51555 (-56.59)	520545 (-10.89)	-9.90
2021-22	1987.89 (295.72)	44065.30 (12.01)	4.51	-36668 (28.88)	493912 (-5.12)	-7.42
2022-23	4556.25 (129.20)	58055.03 (31.75)	7.85	13712 (137.40)	421757 (-14.61)	3.25
2023-24	4659.70 (2.27)	55986.27 (-3.56)	8.32	-12413 (-190.53)	389196 (-7.72)	-3.09
CAGR (in %)	-0.29	10.19		-10.66	2.54	
Average	2606.67	40313.09	7.57	-7889.94	475030.66	-0.59

- **Source:** Compiled from Annual Reports
- **Note:** The values in the parentheses represent annual growth rates in per cent

- The Net Profit Ratio of Deccan Cements (average value of 7.57) is satisfactory compared to Kesoram Cements (average value of - 0.59).

EARNINGS PER SHARE of DECCAN CEMENTS AND KESORAM CEMENTS

(Amount in Rs.)

Year	Deccan Cements	Kesoram Cements
2014-15	68.49	83.80
2015-16	48.87 (-28.65)	82.80 (-1.19)
2016-17	6.20 (-87.31)	51.88 (-37.34)
2017-18	2.85 (-54.03)	-45.95 (-188.57)
2018-19	68.20 (2292.98)	-83.02 (-80.67)
2019-20	10.44 (-84.69)	-71.98 (13.30)
2020-21	7.17 (-31.32)	-54.32 (24.53)
2021-22	28.38 (295.82)	-33.40 (38.51)
2022-23	65.05 (129.21)	12.49 (137.40)
2023-24	66.53 (2.28)	-10.58 (-184.71)
CAGR (in %)	-0.29	-18.69
Average	37.22	-6.83

- **Source:** Compiled from Annual Reports
- **Note:** The values in the parentheses represent annual growth rates in per cent
- The earnings per share of Deccan Cements (average value of 37.22) is more satisfactory when compared to earnings per share of Kesoram Cements (average value of -6.83)

2) Operational Performance:

- **Capacity Utilization:** Companies maintaining >85% utilization saw improved cost absorption.
- **Inventory Turnover Ratio:** Higher turnover indicated efficient inventory management, reducing holding costs.
- **Operating Ratio:** Lower ratios correlated with higher profitability.

INVENTORY TURNOVER RATIO

DECCAN CEMENTS AND KESORAM CEMENTS

(Amount in Rs. Lakhs)

Year	Deccan Cements			Kesoram Cements		
	Cost of GoodsSold	Average Inventory	Inventory TurnoverRatio	Cost of GoodsSold	Average Inventory	Inventory TurnoverRatio
2014-15	8130.94	747.79	10.87	104109.29	41836.02	2.49
2015-16	7242.89 (-10.92)	1608.36 (115.08)	4.50	157929.81 (51.70)	51561.58 (23.25)	3.06
2016-17	13914.23 (92.11)	2464.91 (53.26)	5.64	285646.29 (80.87)	75262.77 (45.97)	3.16
2017-18	14150.95 (1.70)	3018.93 (22.48)	4.69	368262.50 (28.92)	101737.13 (35.18)	3.32
2018-19	20428.63 (44.36)	4148.11 (37.40)	4.92	336729 (-8.56)	105685.42 (3.88)	3.77
2019-20	21523.83 (5.36)	5172.49 (24.70)	4.16	279372 (-17.03)	95395.50 (-9.74)	4.10

2020-21	16829.63 (-21.81)	6262.34 (21.07)	2.69	236920 (-15.20)	90344 (-5.30)	4.58
2021-22	16966.82 (0.82)	6961.79 (11.17)	2.44	203036 (-14.30)	81409.5 (-9.89)	4.81
2022-23	19744.32 (16.37)	6107.13 (-12.28)	3.23	144310 (-28.92)	36975.79 (-54.58)	3.07
2023-24	18795.97 (-4.80)	5564.49 (-8.89)	3.38	112558 (-22.00)	52313 (-98.59)	5.58
CAGR (in %)	8.74	22.23		0.78	2.26	
Average	15772.82	4505.63	4.65	222887.29	7352.07	3.79

- **Source:** Compiled from Annual Reports
- **Note:** The values in the parentheses represent annual growth rates in per cent
- Deccan Cements
- The inventory turnover ratio of Deccan Cements The lowest value of inventory turnover ratio of Deccan Cements was recorded in the year 2021-22 at 2.44 and the highest value of 10.87 was recorded in the year 2014-15.
- Kesoram Cements
- The inventory turnover of Kesoram Cements. The lowest value of inventory turnover ratio of Deccan Cements was recorded in the year 2014-15 at 2.49 and the highest value of 5.58 was recorded in the year 2023-24.

5.1. OPERATING PROFIT RATIO

DECCAN CEMENTS AND KESORAM CEMENTS

(Amount in Rs. Lakhs)

Year	Deccan Cements			Kesoram Cements		
	Operating Profit	Sales Revenue	Operating Profit Margin	Operating Profit	Sales Revenue	Operating Profit Margin
2014-15	7369.59	21225.11	34.72	60658.94	302816.38	20.03
2015-16	5987.88	18703.52	32.01	52998.65	395366.19	13.40
	(-18.75)	(-11.88)		(-12.63)	(30.56)	
2016-17	5291.13	29897.61	17.70	58452.56	486136.96	12.02
	(-11.63)	(59.85)		(10.29)	(22.96)	
2017-18	4313.73	34319.06	12.57	8748.01	555905.07	1.57
	(-18.48)	(14.79)		(-85.03)	(14.35)	
2018-19	9239.38	51327.73	18.00	-1392	600486.00	-0.23
	(114.19)	(49.56)		(-115.91)	(8.02)	
2019-20	4214.41	50212.33	8.39	44310	584186	7.58
	(-54.39)	(-2.17)		(3283.19)	(-2.71)	
2020-21	3420.80	39338.95	8.70	41063	520545	7.89
	(-18.83)	(-21.65)		(-7.33)	(-10.89)	
2021-22	4454.15	44065.30	10.11	18160	493912	3.68
	(30.21)	(12.01)		(-55.78)	(-5.12)	
2022-23	9414.33	58055.03	16.22	-16530	421757	-3.92
	(111.36)	(31.75)		(-191.02)	(-14.61)	
2023-24	7896.63	55986.27	14.10	13480	389196	3.46
	(-16.12)	(-3.56)		(181.55)	(-7.72)	
CAGR (in %)	0.69	10.19		-13.96	2.54	

Average	6160.22	40313.09	17.25	475030.66	27994.93	6.55
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- **Source:** Compiled from Annual Reports
- **Note:** The values in the parentheses represent annual growth rates in per cent
- The operating profit margin of Deccan Cements (average value of 17.25) is satisfactory compared to Kesoram Cements (average value of 6.55).

5.2. FINANCIAL PERFORMANCE

- ROCE: Increased with better plant utilization and cost control.
- Net Profit Margin and EPS: Firms with leaner operations consistently reported stronger profit margins.

NET PROFIT RATIO OF DECCAN CEMENTS AND KESORAM CEMENTS

(Amount in Rs. Lakhs)

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EARNINGS PER SHARE

DECCAN CEMENTS AND KESORAM CEMENTS

(Amount in Rs.)

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	(-54.03)	(-188.57)
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- The earnings per share of Deccan Cements (average value of 37.22) is more satisfactory when compared to earnings per share of Kesoram Cements (average value of -6.83).

6. FINDINGS

1) Top Performers Use Technology and Automation

Cement giants such as UltraTech Cement and Shree Cement have demonstrated superior financial performance, primarily due to the adoption of advanced technologies like waste heat recovery systems, automation in production, and energy-efficient processes.

2) Cost Control is Critical Firms with tighter control over raw material costs, logistics, and power consumption tend to show better financial outcomes. Energy cost, in particular, remains a significant factor affecting profitability in the cement sector.

3) Capacity Utilization Enhances ROI

Companies operating closer to optimal capacity levels tend to have higher asset turnover and better return on investment, as fixed costs get distributed over higher production volumes

4) Inefficiencies Lead to Financial Drag

Firms with poor working capital management, underutilized capacities, and higher operational costs show weaker financial metrics, despite operating in the same regulatory and market environment

5) Strong Correlation between Efficiency and Profitability The Study revealed a strong positive relationship between operational efficiency such as capacity utilizations, energy efficiency and cost control and financial performance indicators like Return on Assets (ROA), Operating Profit Margin (OPM) and Net Profit Margin

7. CONCLUSION

Operational efficiency is not just a cost-reduction strategy but a value creation lever. Cement companies that optimize production processes, reduce waste, and manage resources effectively experience superior financial performance. These findings reinforce the need for continuous operational improvements in capital-intensive industries.

8. RECOMMENDATIONS

- Invest in energy-efficient technologies.
- Optimize supply chain and inventory management.
- Benchmark and monitor operating metrics periodically.

9. LIMITATIONS AND FUTURE SCOPE

This study focuses on large-cap cement firms; future research could include mid-sized players and incorporate qualitative operational factors such as workforce productivity and digital integration.

CONFLICT OF INTERESTS

None.

ACKNOWLEDGMENTS

None.

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