

Working Capital Management and its Impact on Profitability of Selected Cement Companies in India

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Abstract

Management of capital has a major role in an organisation. The capital of a company is classified into fixed and working capital. Fixed capital is the long-term capital used for investment in assets. Working capital is the short-term capital required to meet the company's regular expenses. It provides life and strength to the company and decides the profitability and solvency of the business. The management of working capital is thus important for all companies. Ineffective management of working capital will lead to industrial sickness. In this regard, the present study focuses on understanding working capital management and its impact on the profitability of selected five cement companies using Trend Analysis and Pearson's Correlation Coefficient.

Keywords: Cement Companies, Profitability, Working Capital Management

1. Introduction

India boasts a diverse range of industries, with the cement sector firmly contributing to the country's robust economy. The cement industry is one of the primary industries in the country. It helps in building the infrastructure of the country. The increasing demands in the construction industry have a direct impact on the cement industry. In every business, it is very important to manage the capital effectively. Working capital management is concerned with short-term financial decisions. When working capital is not utilised effectively, it will decrease the benefits of short-term investments. The business may face a short-term liquidity crisis if the level of working capital is too low which will ultimately affect the credit worthiness of the company.

This study attempts to investigate the importance of working capital management and its impact on the profitability of selected five cement companies viz., Ultra Tech Cements, Jai Prakash Associates, Ambuja Cements, Shree Cements and ACC Cement Company. The data has been taken for ten years from 2014-2023.

2. Review of Literature

Mian Sajid Nazir and Talat Afza¹ explored the impact of aggressive working capital management policy on the profitability of firms. This study used secondary data with a panel data set from 1998 to 2005. Tobin's q-test and regression analysis were used in this study. It was found that firms with more aggressive financing policies might not be able to earn more profit. Abdul Raheman *et al.*,² studied working capital management and corporate performance of the manufacturing sector in Pakistan from 1998-2007. The secondary data of 204 manufacturing firms listed on the Karachi Stock Exchange were considered. Tools like ratio analysis, Pearson correlation coefficient, regression analysis and Hausman test were used in this study. The study found that effective management of working capital could improve the operating profitability of manufacturing firms. Sharma and Satish Kumar³ conducted a study on working capital management and its effect on profitability. The secondary data were collected from 263 non-financial firms listed on the Bombay stock exchange from 2000-2008. Tools like

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ratios, correlation matrix and OLS multiple regression analysis were used. It was found that working capital management and profitability were positively correlated in Indian companies. Rajesh⁴ conducted a study based on secondary data. The samples were taken from the annual reports of the selected seven cement companies from 2001 to 2011. Ratio analysis, regression analysis and ANOVA were used in this study. The study stated that the major portion of the current assets was in the form of inventory. Tanushree Sharma and Utkarsh Rathore⁵ conducted a study on working capital management and profitability. The secondary data required for the study were collected from the annual report of IOCL for the period 2005 to 2010. Tools like various ratios, Pearson's simple correlation coefficient and multiple regression analysis were used in this study. This study reveals that the cash turnover ratio and inventory turnover ratio explained 89.9% of the total variation in the profitability and 98.4% of the total variation in the profitability of the company was jointly explained by the Current ratio and Current Assets to Total Assets Turnover Ratio (CATAR).

3. Objectives of the Study

- To understand the growth in Return on Investment (ROI) of the selected companies.
- To understand the significant relationship between working capital management and profitability (ROI).

4. Methodology

The secondary data required for the present study was collected by using a judgemental sampling technique. During the data collection period, the selected five cement companies were quoted in the list of the Bombay Stock Exchange. It was decided to use only the top 5 companies, Ultra Tech Cements, Jai Prakash Associates Cements, Ambuja Cements, Shree Cements and ACC Cements for the present study. The required data for 10 years between 2014 and 2023 was considered for the present study. The data was collected from the company's annual reports for the period from 2014 to 2023. Ratios of the companies were used. Further, trend analysis and Karl Pearson's correlation coefficient were employed to analyse the data.

5. Analysis and Discussion

5.1 Growth Rate of Selected Companies

The growth rate of the selected cement companies from 2014 to 2023 has been examined by applying trend analysis. Trend analysis is a quantitative review of what happens over a period of time. It examines data over time to identify any consistent patterns or tendencies. In this study, the growth rate of Return on Investment ($\text{Profit} \div \text{Investment} * 100$) of the selected five companies has been examined with trend analysis. Table 1 shows the growth rate of ROI of Ultra Tech Cements.

Table 1 reveals the ROI(%) and the trend of Ultra Tech Cements. It is found that ROI is the highest (10.104) during the year 2022 and lowest (3.461) during the year 2019. The mean value of ROI is 6.732 and the coefficient of variation is 27.807. The linear growth rate of 0.126 shows positive growth in all the years (2014-2023). Table 2 gives a picture of the ROI of Jaiprakash Associates.

Table 2 shows the ROI (%) and the trend of Jaiprakash Associates. The ROI (%) is negative during all the periods

Table 1. ROI of Ultra Tech Cements

Year	ROI(%)
2014	7.735
2015	6.223
2016	6.733
2017	6.944
2018	4.303
2019	3.461
2020	8.068
2021	7.354
2022	10.104
2023	6.402
Mean	6.732
Standard Deviation	1.872
Coefficient of Variation (CV)	27.807
Linear Growth Rate	0.126
t Value	0.589

Source: Computed

Table 2. ROI of Jaiprakash Associates

Year	ROI (%)
2014	-0.779
2015	-1.612
2016	-3.467
2017	-18.426
2018	-6.336
2019	-6.483
2020	-1.839
2021	2.297
2022	-5.138
2023	-4.408
Mean	-4.619
Standard Deviation	5.558
Coefficient of Variation (CV)	120.329
Linear Growth Rate	0.128
t Value	0.197

Source: Computed

except during the year 2021. A negative ROI shows that the total costs are greater than the returns. The mean value of ROI is -4.619 and the coefficient of variation is 120.329. The linear growth rate of 0.128 shows positive growth.

Table 3 depicts the ROI of Ambuja Cements.

Table 3 shows the ROI (%) and the trend of Ambuja cement during the study period. ROI is the highest (30.755) during the year 2014 and lowest (0.415) during the year 2019. The mean value of ROI is 10.015 and the coefficient of variation is 92.680. The linear growth rate is -2.373 which shows the negative growth of ROI.

Table 4 portrays the ROI and growth rate of Shree Cements.

Table 4 shows the ROI (%) and the trend of Shree cements during the study period. ROI is the highest (13.537) during the year 2017 and lowest (5.758) during the year 2015. The mean value of ROI is 9.880 and the coefficient of variation is 29.746. The linear growth rate is -0.270 which shows the negative growth of ROI during the study period.

Table 5 shows the ROI and growth rate of ACC Limited.

Table 5 shows the ROI (%) and the trend of ACC Limited during the study period. ROI was the highest (10.940) during the year 2019 and lowest (4.687) during the year 2023. The mean value of ROI is 8.020 and the coefficient of variation is 28.304. The linear growth rate is -0.078 which shows the negative growth of ROI.

Table 3. ROI of Ambuja cements

Year	ROI (%)
2014	30.755
2015	21.758
2016	9.237
2017	10.308
2018	8.095
2019	0.415
2020	3.209
2021	5.391
2022	6.57
2023	4.413
Mean	10.015
Standard Deviation	9.282
Coefficient of Variation (CV)	92.680
Linear Growth Rate	-2.373
t Value	-3.458

Source: Computed

Table 4. ROI of Shree cements

Year	ROI(%)
2014	12.229
2015	5.758
2016	12.818
2017	13.537
2018	10.593
2019	6.726
2020	8.439
2021	11.825
2022	10.971
2023	5.911
Mean	9.880
Standard Deviation	2.939
Coefficient of Variation(CV)	29.746
Linear Growth Rate	-0.270
t Value	-0.818

Source: Computed

5.2 Relationship between ROI and Other Selected Variables

The relationship between two variables is measured with a correlation coefficient. If the r value is between 0 and 1, it is known as a positive correlation. If the r value is between

Table 5. ROI of ACC Limited

Year	ROI (%)
2014	9.678
2015	9.849
2016	4.981
2017	5.514
2018	7.202
2019	10.94
2020	8.888
2021	8.598
2022	9.867
2023	4.687
Mean	8.020
Standard Deviation	2.270
Coefficient of Variation (CV)	28.304
Linear Growth Rate	-0.078
t Value	-0.295

Source: Computed

0 and -1, it is known as a negative correlation. If the r value is 0, there is no relationship between the variables. The relationship between the ROI and the selected other variables has been analysed and shown in Table 6.

Table 6 proves that the correlation coefficient between ROI and current ratio is 0.346 and implies that there is a significant relationship between ROI and current ratio at a 5% significance level. The correlation coefficient between ROI and quick ratio is 0.424, ROI and current assets to sales ratio are -0.596, ROI and inventory turnover ratio is 0.587, ROI and debtors turnover ratio is 0.65 and there is a significant relationship between them at a 1% significance level.

The correlation coefficient between ROI and working capital turnover ratio is 0.027, current assets to total assets ratio is 0.103 which is statistically not significant. Hence, it can be concluded that ROI has a significant relationship with the current ratio, quick ratio, current assets to sales ratio, inventory turnover ratio and debtors turnover ratio.

Table 6. Relationship between ROI and other selected variables

		Return on Investment	Current Ratio	Quick Ratio	WC Turnover Ratio	CA to total assets ratio	CA to sales ratio	Cash Turnover Ratio	Inventory Turnover Ratio	Debtors Turnover Ratio
Return on Investment	Pearson Correlation	1	.346*	.424**	.027	.126	-.596**	.103	.587**	.656**
	Sig. (2-tailed)		.014	.002	.851	.385	.000	.478	.000	.000
Current Ratio	Pearson Correlation	.346*	1	.942**	-.154	.828**	.001	-.551**	.393**	.613**
	Sig. (2-tailed)	.014		.000	.287	.000	.997	.000	.005	.000
Quick Ratio	Pearson Correlation	.424**	.942**	1	-.129	.775**	-.208	-.513**	.608**	.733**
	Sig. (2-tailed)	.002	.000		.372	.000	.147	.000	.000	.000
WC Turnover Ratio	Pearson Correlation	.027	-.154	-.129	1	-.157	-.122	.373**	-.037	.003
	Sig. (2-tailed)	.851	.287	.372		.277	.400	.008	.798	.981
CA to total assets ratio	Pearson Correlation	.126	.828**	.775**	-.157	1	.278	-.613**	.130	.418**
	Sig. (2-tailed)	.385	.000	.000	.277		.051	.000	.368	.003
CA to sales ratio	Pearson Correlation	-.596**	.001	-.208	-.122	.278	1	-.316*	-.741**	-.569**
	Sig. (2-tailed)	.000	.997	.147	.400	.051		.025	.000	.000
Cash Turnover Ratio	Pearson Correlation	.103	-.551**	-.513**	.373**	-.613**	-.316*	1	-.006	-.119
	Sig. (2-tailed)	.478	.000	.000	.008	.000	.025		.966	.412
Inventory Turnover Ratio	Pearson Correlation	.587**	.393**	.608**	-.037	.130	-.741**	-.006	1	.778**
	Sig. (2-tailed)	.000	.005	.000	.798	.368	.000	.966		.000
Debtors Turnover Ratio	Pearson Correlation	.656**	.613**	.733**	.003	.418**	-.569**	-.119	.778**	1
	Sig. (2-tailed)	.000	.000	.000	.981	.003	.000	.412	.000	

Source: Computed

*. significant at the 0.05 level

**.. significant at the 0.01 level

6. Suggestions

The linear growth rate of Ultra Tech Cements only shows good positive growth. The Jai Prakash Cements shows a positive linear growth rate. However, most of the ROI shows negative values. Hence, the other companies should take the necessary steps for the positive growth of ROI. The Karl Pearson's Correlation Coefficient value of ROI and current assets to sales ratio shows a negative relationship. The current ratio, quick ratio, inventory turnover ratio and debtors turnover ratio show a positive relationship. Hence, it is suggested to maintain a minimum level of current assets to sales ratio which may lead to an increase in ROI.

7. Conclusion

Efficient management of working capital also results in the profitability of the business. In this study, the trend of the selected five companies for ten years has been shown. Also, the relationship with the selected ratios has been

analysed. Hence, the stated suggestions are advised to be followed for the betterment of the company's growth.

8. References

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