International Journal of Engineering Research and Modern Education (IJERME)
International Peer Reviewed - Refereed Research Journal, Website: www.rdmodernresearch.com
Impact Factor: 7.018, ISSN (Online): 2455 - 4200, Volume 10, Issue 1, January - June, 2025

A STUDY ON PROFITABILITY ANALYSIS OF STAR CEMENT LIMITED IN INDIA

Dr. K. Bhuvaneswari* & S. Jeeva Dharshini**

* Assistant Professor, PG & Research Department of Commerce with Computer Applications, Sakthi College of Arts and Science for Women, Oddanchatram, Dindigul, Tamil Nadu

** PG Scholar, PG & Research Department of Commerce with Computer Applications, Sakthi College of Arts and Science for Women, Oddanchatram, Dindigul, Tamil Nadu

Cite This Article: Dr. K. Bhuvaneswari & S. Jeeva Dharshini, "A Study on Profitability Analysis of Star Cement Limited in India", International Journal of Engineering Research and Modern Education, Volume 10, Issue 1, January - June, Page Number 1-4, 2025.

Abstract:

The purpose of this study is to profitability relationship between the dependent(Debt-equity ratio) and independent variables (Current ratio, Return on asset, Asset structure, Return on equity, Interest coverage ratio) in the model of the Star Cement Limited in India from the financial year 2015-2024. Data are analyzed using Correlation and Regression analysis to find the association between the variables. The results show that Asset structure has a signification impact on Debt-equity ratio. The results also show Interest coverage ratios are negatively associated with Debt-equity ratio. These results are consisting with previous empirical studies. Further, recommendations are presented in the research.

Key Words: DER, Asset Structure, Correlation, Return on Equity.

Introduction:

Star Cement Limited manufactures and sells cement and clinker products in India and internationally. The company offers ordinary Portland, Portland pozzolana, Portland slag, and antirust and weather shield products under the Star Cement brand. It also generates power. The company markets its products through a network of dealers and Retailers. The Company was formerly known as cement Manufacturing Company Limited and changed its names to Star Cement Limited in June 2016. Star Cement Limited was incorporated in 2001 and is based in Kolkata, India.

Profitability refers to the ability to generate profits or gains from an investment or economic activity. It is a measure that indicates the performance or efficiency of an investment in terms of economic return. Profitability is measure of a company's ability to generate income relative to its expenses. When a business's revenue growth outpaces its spending and operating costs, it is said to be profitable. Companies that are not making enough money are considered unprofitable and must make adjustment in order to become profitable again. Profitability is the thing that tells stakeholders if a company can sustain its position in the market and continue to grow. In simple terms, a company's profitability is the extent to which its total income exceeds its total expenses for any given period. Profitability is an accounting concept that is sometimes referred to as net profit or net income. Profitability can be accessed through various financial ratios, such as gross profit margin, net profit margin and return on investment (ROI). These ratios provide insights into different aspects of profitability, allowing businesses to evaluate their financial performance from multiple angles. Profitability is the initial aim of all business ventures without profitability the business cannot survive in the long term. Therefore, measuring current and past profitability as well as projecting future profitability is very significant.

Research Objectives:

- To find the relationship between Debt-Equity and profitability ratio.
- To suggest the industry a way to increase profitability through adapting a better strategic framework.

Review of Literature:

Shrivastava (2013) carried out their "Study on working capital management and its impact on the profitability of Tata Motors". To analysis identify the variables that most affect the profitability of Tata Motors and statistically infer on the relationship between working capital management and profitability of Tata Motors. The study was based on Secondary data. The main source of data is collected national stock exchange. A sample of Tata Motors for a period of five years from 2013 to 2017 has been selected for this study. Return on asset (ROA), Net income is considered dependent variable. Average conversion period (ICP), Average payment period (APP) is considered Independent variable. He found that results working capital management has a statistically strong impact on the profitability of Tata Motors. Significant negative relation is found between average collection periods.

Pagheh (2015) in the study entitled "An analysis study of profitability position of Tata Motors". To analysis the financial statement for the past five financial years (2008-2012) and to know the profitability and financial stability position of Tata Motors. The study was based on Secondary data. The main source of data is collected National Stock Exchange. A sample for the period of five years from 2008-2012 of Tata Motors has been selected for this study. Return on asset, net profit margin is considered as the dependent variables. Operating profit margin, gross profit margin is considered as the independent variable. They used to data analysis is Correlation, Regression. He found in the study of profitability and financial performance of Tata motors it is clear-cut that the firm's financial performance is acceptable and satisfactory. The firm has steady growth and it is indicating a greater status in all the areas it works. The company has been suggested to reduce the expenditure as it increases every year. Decrease in expenses will increase the profitability.

Rakhi Sharma February (2015) carried out their "Study on Profitability Analysis of Hero Moto corp.".To analysis examine the profitability position of the company for the past ten years and to ascertain the growth of company in light of important profitability indicators. The study was based on Secondary data. The main source of data is collected national stock exchange. A sample of hero motors limit for past ten year has been selected for this study. Return on equity, return on net worth ratio is considered the dependent variable. Current ratio, operating profit ratio is considered independent variable. Standard division, co-efficiency tools were used for the analysis. She found it can turnover of 4539.49 cores in 2001-02 to 19245.03 cores in 2010-11.it has created value for its shareholders by consistently posting huge profits and thereby increasing the net worth.

Gandhi December (2017) carried out their "Study on profitability analysis of select automobile companies in India-with special reference to Tata Motors and Mahindra and Mahindra". To analysis the study has been undertaken profitability analysis of selected automobile companies in India. The study was based on secondary data. The main source of data is collected National Stock Exchange. A sample of two companies has been selected for this study. Return on asset, return on investment and return on sales, net profit ratio is considered the dependent variable. Operating profit ratio, earning per share are considered independent variable. He found net profit of Tata Motors decreased during the study, net profit of Mahindra and Mahindra Ltd increased considerably. It was also evidenced that profitability in terms of net profit ratio, operating profit ratio, return on asset return on investments and earnings per share of Mahindra and Mahindra Ltd was better than Tata Motors Ltd. During the study period. The results of ANOVA indicated that significant differences were found in net profit ratio, return on assets and earnings per share among the sample companies and in case of operating profit ratio and return on investments, no significant differences were found among sample companies.

Vani July (2021) Carried out their "Study on Impact of Capital Structure on Profitability -A study on Tata Motor's". To analysis study the Correlation between the Profitability and the return on the various capital sources and the impact of capital structure on profitability of firm. The study was based on Secondary data. The main source of data is collected National Stock exchange. A sample of Tata motors for the period range of March 2021 to March 2019 has been selected for this study. Return on asset, Net profit margin is considered independent variable. Capital structures are considered dependent variable. Correlation and regression were used for the analysis. She found that when the profits are positivity correlated to capital ratios and short-term debt ratio is positively related to profitability ratio, the slight negative correlation is brought about by the long-term debt of the companies. It can be concluded that if the industry slightly reduces its component of long-term debt and increases the equity then there will be positive correlation among the variables.

Pavitra Jain March-April (2023) carried out their "Study on the profitability analysis of Tata Motors". To analysis to assess Tata Motor's financial situation and to check profitability position of Tata Motors. The study was based on Secondary data. The main source of data is collected National stock exchange. A sample of the Tata Motors Ltd five year has been selected for this study. Net profit and Return on net worth are considered as the dependent variables and Current ratio and Leverage are considered as independent variables. Correlation and regression were used for the analysis. She found that Tata Motors Ltd must enhance the proprietor's fund contribution to the firm in order to strengthen its long-term solvency position.

Ajmer Tusker Rameshbhai April (2023) carried out their "Study on an empirical study of profitability & liquidity in selected auto two and three wheelers companies in India". To analysis of find out profitability of hero Moto crop, Bajaj auto &TVs motor during study period. To identify higher profit making and maintain Liquidity Company among selected companies. The study was based on secondary data. The main source of data is collected National Stock Exchange. The sample has been selected on the basis of random sampling technique selected for this study. Return on capital employed ratio and net profit margin ratio are considered as the dependent variable. Inventory turnover ratio and operating profit margin, current ratio is considered independent variable. NOVA test were used for the analysis. He found the standard current ratio 2:1 which was not satisfied by any single company during study period but standard quick ratio 1:1 would be satisfied by Hero motors in the year 2018-19.

Methodology:

Secondary data required for research were collected from the official web sites of cement industries in India. Data were used on various financial statement of Star Cement Limited in India (2015-2024).

Regression Model:

The multiple Regression models have been followed to test the empirical relationship between the dependent and independent variables of the firm.

$$DER=a+b_1CR+b_2ROA+b_3AS+b_4ROE+b_5+ICR+e.$$

Where,

DER=Debt equity ratio	AS=Asset structure
CR=Current Ratio	ICR=Interest coverage ratio.
ROE=Return on equity	e=Error term.

Dependent Variable:

Debt Equity Ratio:

A Ratio that is used to evaluate a company's financial leverage and is calculated by dividing a company's total liabilities by its shareholder equity.

$$\text{Debt Equity Ratio} = \frac{\text{Total Liabilities}}{\text{Shareholders Equity}}$$

Independent Variable:

Current Ratio:

Current Ratio is a vital liquidity ratio which measures the liquidity position of a company. Where Current assets are those items which are either cash or can be converted into cash in a short while. Current Liabilities are those liabilities which are payable in a year's time.

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

Return on Assets (ROA):

ROA is a financial metric that tells you how much profit a company generates relative to the value of its assets. A company's assets encompass all of the resources that it owns or controls that produce business value.

$$\text{ROA} = \frac{\text{Net Income}}{\text{Total Assets}}$$

Assets Structure:

Asset Structure refers to the total assets a company owns and uses to run its business. It includes both current and fixed assets, which can be used for financing and as collateral.

$$\text{Asset Structure} = \frac{\text{Fixed Asset}}{\text{Current Asset}}$$

Return on Equity:

Return on equity (ROE) is a profitability metric that shows how efficiency a company uses its assets to produce profits.

$$\text{Return on Equity} = \frac{\text{Net Income}}{\text{Shareholders}} \times 100$$

$$\text{Net Income} = \text{Revenue} - \text{Totalexpenses}$$

Interest Coverage Ratio:

A debt and Profitability ratio used to determine how easily a company can pay interest on its outstanding debt.

$$\text{Interest Coverage Ratio} = \frac{\text{EBIT}}{\text{Interest Expenses}}$$

$$\text{EBIT} = \text{Revenue} - \text{Operating Expenses}$$

Results of the Study:

Table 1: Results of the Correlation

Variables	R	R2
Current Ratio	0.606	0.367236
Return on Asset	0.468	0.219024
Asset Structure	-0.083	0.006889
Return on Equity	0.058	0.003364
Interest Coverage Ratio	-0.045	0.0020793

** Correlation is significant at the 0.01 level (2-tailed)
* Correlation is significant at the 0.05 level (2-tailed)

Table 1 above represent the relationship between the variables independent and dependent variables used in this study. From this table it is clear that the variables are current ratio and return on asset are positively associations with Debt-Equity ratio. Whereas the variables like asset structure and interest coverage ratio were negatively associated with Debt-Equity ratio. So, we concluded that all the select variables have associated with profitability ratio in Star Cement Limited during the study period 2015-2024.

Results of the Regression:

Table 2: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.989[a]	.978	.950	.05480

a. Predictors: (Constant), Interest coverage ratio, Asset structure, Return on asset, Current ratio, Return on equity

The model summary table illustrates the magnitude of the variance in the dependent variables as described by the independent variables. The value of the R-Square is 0.989 which is approximately the dependent variable 98.9% variance of the DER is explained by independent variables of profitability ratio.

Table 3: ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.532	5	.106	35.410	.002[a]
	Residual	.012	4	.003		
	Total	.544	9			

a. Predictors: (Constant), Interest coverage ratio, Asset structure, Return on asset, Current ratio, Return on equity
b. Dependent Variable: Debt equity ratio

ANOVA test to find out whether the regression model is valid or not. F-Statistics is 35.410 which are high and have a significant value of less than 5% which indicates that the testing of ANOVA is significant and that the model is valid from the given predictors.

Table 4: Regression Coefficients of Select Star cement companies

Variables	Model
(Constant)	
Un-Standardized Co-efficient	0.061
Standard error	0.108
T-Value	0.565
P-Value	0.602
(Current Ratio)	
Un-Standardized Co-efficient	1.226
Standard error	0.270
T-value	4.534
P-Value	0.001
(Return On Asset)	
Un-Standardized Co-efficient	0.008

Standard error	0.290
T-Value	0.027
P-Value	0.980
(Asset Structure)	
Un-Standardized Co-efficient	-0.333
Standard error	0.102
T-Value	-3.258
P-Value	0.003
(Return on Equity)	
Un-Standardizes Co-efficient	0.010
Standard error	0.019
T-Value	0.500
P-Value	0.643
(Interest Coverage Ratio)	
Un-Standardized Co-efficient	-0.772
Standard error	1.181
T-Value	-0.654
P-Value	0.549

The parameter of the regression model above the table is related. The table No: 4 shows the significance of the individual independent variable in interpreting the dependent variable. The Un-Standardized Coefficient (B) value shows the magnitude and relationship between Debt equity ratio and independent variables of profitability ratio. The regression Co-efficient value shows the relationship between DER and independent variables of profitability ratios. The regression of Co-efficient value shows the relationship between Asset structure and Debt-equity ratio. Other variables like Current ratio, Return on Asset, Return on Equity, Interest coverage ratio not Significant with Debt-equity ratio.

Conclusion:

The purpose of this research study is to investigate the relationship between Debt-equity ratio as study sample and data is collected 9 year (2015-2024) and processed by using statistical tools. The study found that the R values of current ratio (0.606) and return on asset (0.468) are positively significant with Debt-equity ratio. Interest Coverage ratio (-0.468) Shows negatively associated with Debt-Equity Ratio. Current ratio its short-term financial health and liquidity. Company have trouble paying its bills. A healthy ratio boost investors and leaders confidence in the company's ability to manage finances.

References:

- https://images.app.goo.gl/y4fzerjvuv2fyma7
- https://sjcc.eduin/sjccresesrch/publications/dec17_82-90.pdf
- https://www.ijfmr.com/papers/2023/2/1925.pdf
- https://www.researchgate.net/publucation/337146801_an_analytical_study_of_profitability_position_of_tata_motors.
- https://www.worldwidejournals.com/indian-journal-of-applied-research-(ijar)/recent_issues_pdf/2015/february/february_2015_1422883603__90.pdf
- https://papers.ssrn.com/sol13/papers.cfm?abstract_id=3308602
- https://www.jetir.org/papers/jetir2107628.pdf