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A STUDY ON PROFITABILITY ANALYSIS OF INDIAN CEMENTS LIMITED IN INDIA

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Abstract:

The purpose of this study is to profitability relationship between the dependent (DER)and independent variables (Current Ratio, Return on Asset, Asset structure, Return on Equity, Interest Coverage Ratio) in the model of the Indian Cements 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 Current Ratio and Asset structure have a significant impact on Debt Equity Ratio. The results also show Current Ratio not significant negatively associated with Debt Equity Ratio. These results are consisting with previous empirical studies. Further recommendations are presented in the research.

Key Words: Return on Asset, Return on Equity, Current Ratio, DER, Current Ratio.

Introduction:

Indian Cements Limited is a cement manufacturing company in India. It was established in 1946 and the first plant was set up at Thalaiyuthu in Tamil Nadu in 1949. It has about seven cement manufacturing plants spread over southern India and Maharashtra. The capacities of its plants are over 9million tons per annum. Indian cement is the 3rd largest company in India. They are most trusted brands of cement in southern states of India. They give employment to 7500 people in their company. India is the forward largest producer of cement in our world. India's cement industry is significantly very essential role in our economy. India is a developing country and it's has fortune for improvement in the infrastructure and construction sector and the cement sector is expected to develop rapidly. As India has a high quality and quality of limestone deposits throughout the country.

In simple terms a company's profitability is the extent is 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 ratio or Net income. Profitability is measured with income and expenses. Income is money generated from the business. Profitability ratio assess a company's ability to earn profits from its sales or operations, Balance sheet, or Shareholders equity. Refers to the extent to which a company earn profit relative to its size and operations.

Objectives of the Study:

- 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:

Butalal and Ajmera (2012) in their "Study on profitability analysis of Asian paints Ltd Empirical study" to find out the operation items influencing the profitability of the Asian paint Ltd and to offer suggestions if any required for increasing profit ability of the Asian Paint Ltd. The study was based on secondary data. The main source of data is collected NSE. Secondary data based study covering period of ten years. Dependent Variables is considered the Gross profit, Net profit ratio and Independent Variables are considered operating profit, Liquidity ratio. Correlation, Regression, of correlation were used the analysis. She found" profitability analysis of Asian Paint Ltd. An Empirical study" has been made by using data from financial statements of all ten years of Asian Paint Ltd. The analysis of factors having influences on profitability reveals that all variable are positively related the to profitability expect raw material which a having negative impact on profitability.

Balakrishnan and Kothandapani and Krithika (2017) in their "A study on profitability Ratio Analysis of the Sundaram Finance Ltd in Chennai". To know the profitability position of Sundaram finance limited and to forecast the annual growth rate of income of the company with the help of regression analysis. The study was based on secondary data. The main source of data is collected NSE. A sample of data of the past three years has been selected for this study. Dependent Variables are considered the Gross profit ratio, Net profit ratio and Independent Variables are considered the Operating profit ratio. Regression were used for the analysis. In his her founded the company has stable during growth and it better performance in all the areas it works. The analysis of financial statements is a process of evaluating relationship between component parts of financial statements to obtain a better understanding of the firm's position and performance. The focus of financial analysis is on key figures in the fiscal statements and the significant relationship that exists between them.

Ranjithkumar and Eahambaram (2018) in their "A Study on Profitability Analysis of Indian Selected Automobile Industry in India". To know the financial performance and their impact on liquidity and profit ability position of a selected automobile industry. The study was based on secondary data. The main source of data is collected NSE. The data for the study has been collected from "CAPITALINE" database for a period of five years. Dependent variables are considered the Net profit, Return on Assets and Independent variables are considered Operating profit, Current assets. Correlations were used for the analysis. He found it is also suggested to have the trade off between liquidity and profitability because it is the outcome of composition of not only the current assets but funds invested in obtaining current assets.

Singaravelu and Balagurusamy (2018) in their "Study on Profitability of Mahindra and Mahindra Ltd". To analyze the working capital position of the firm and analyze the effect of risk on profitability. To offer suitable suggestions on the basic of findings of the study. The study was based on secondary data. The main source of data is collected NSE. In this study the sample of seven companies named Mahindra and Mahindra Ltd has been taken for analysis of working capital position. Dependent Variables are considered the Return on Capital, Operating profit, Gross profit ratio and Independent Variables are considered Liquidity ratio, Current ratio. ANOVA were used for the analysis. He found there is no significance difference between risk and profitability of Mahindra and Mahindra Ltd during the study period. The company is finally advised to follow the principle to manage liquidity, profitability, survival and growth of the business. It may be of the reason that the amount and risk involved in Capital investment decision are very high.

Sai Dakshayani and Viswanathan (2020) in their "A Study on Profitability Analysis at Bajaj Finserv Ltd". To analyze the profitability in terms of sales. To examine the relationship of net profit and total assets efficiency. The study was based on secondary data. The main source of data is collected NSE.A sample of analyzing the financial statements for the time period of ten years has been selected for this study. Dependent Variables is considered the Total assets, Return on net worth, Net profit ratio and Independent Variables are considered the Liquidity ratio, Current ratio. Correlation, Ratio analysis, One way ANOVA were used for the analysis. Inhis found it is the process of computing and interpreting relationship between the items of the financial statements for arriving at conclusion about the financial position and performance of an enterprise. The company is already maintaining the operating profit margin ratio in a stabilized manner; it is required to take measures to increase the Operating profit margin ratio.

Viyayapriya and Krishna Moorthy (2023) in their "Study on Profitability and Liquidity Analysis of TVS Motor Company Ltd". To measure the profitability of TVS Motor Company Ltd. To analyze the financial efficiency of the TVS Motor company Ltd. The study was based on secondary data. The main source of data collected NSE. This research is analysis using various financial ratio Analysis to know the profitability and liquidity for the period of ten years. Dependent Variable is considered the Return on Assets, Return on Equity, Return on Capital Employed and Independent Variable and considered the Current Ratio, Liquidity Ratio. Regression were used the analysis. In his found the Interest Coverage ratio is at all the greatly satisfactory. It is concluded that the TVS Motor Company Limited should improve the financial passion of the company in the future.

Iffathunnisa Begum and Amtual Wahab (2024) in their "A study on Profitability Analysis at Shreejee Tex Prints Pvt Ltd". To calculate and analyze select profitability ratio, that is Net profit Ratio, Operating ratio, Return on Investment, Return on total asset ratio for five years. The study was based on secondary data. The main source of data is collected NSE.A sample of data is retrieved from the financial statements of the company for the period of five years has been selected for this study. Dependent Variable is considered the Total assets, Return on Investment, Return on capital employed and Independent Variables considered the Operating profit ratio, Liquidity ratio. Correlations, ANOVA were used for the analysis. In his foundthe profitability analysis of the company is good it is suggested to maximize the level of performance. The profit margins of the company show that it is improving continuously.

Priya and Muthupriya (2024) in their "A study on profitability Analysis of AB Clothing Co at Bangalore". To study the financial strength and weakness about the products. To analyze the income and expenditure pattern and its impact on the total profits of the company. The study was based on secondary data. The main source of data is collected NSE. A sample of date period of five years has been this study. Dependent Variables is considered the Total assets, Net profit ratio and Independent Variables are considered the Current ratio, Liquidity ratio. Trends, Correlation were used for the analysis. She found the present study attempts to obtain a general view of the analysis practice in AB clothing company. The study will enable the company to plan for future financial analysis and helps to analyze the firm's profitability over time. By considering the above suggestions that the company will be improve and for the better management of finance in near future. Profitability analysis is the virtual part of financial management of any business.

Methodology:

Secondary data required for research were collected from the official web sites of cement industries in India Data were used on various financial statements of Indian Cement Limited (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
ROA=Return on Asset	e = Error term
ROE=Return on Equity	

Dependent Variable:

Debt Equity Ratio:

The debt equity ratio is a financial metric used to assess the relative proportion of a company's debt and equity used to finance its assets. It compares a company's total debt to its shareholder equity, providing insight into the company's financial leverage and risk.

Debt Equity Ratio=Total Liabilities/Shareholders Fund

Independent Variable:

Current Ratio:

The current ratio is a financial metric that measures a company's ability to pay off its short- term liabilities with its short-term assets.

Current Ratio=Current assets/Current Liabilities

Return on Asset:

(ROA) is a financial metric that indicates hoe efficiency a company uses its asset to generate profit.

Return on Asset=Net Income/Average Total Assets

Asset Structure:

Asset structure refers to the composition of a business's assets, including the proportion of fixed assets, securities, and liquidity investments **set.**

Asset Structure=Fixed Assets/Current Assets

Return on Equity:

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

Return on Equity=Net Income/Shareholders Equity X 10

Net Income=Revenue-Total Expenses

Interest Coverage Ratio:

The interest coverage ratio (ICR) is a financial metric that measures a company's ability to pay it is interest expenses and outstanding debt.

Interest Coverage Ratio=EBIT/Interest Expenses

EBIT=Total Revenue-Operating Expenses

Results of the Study:

Table 1: Result of Correlation

Variables	**R**	**R^2**
Current Ratio	0.379	0.143
Return on Asset	0.700	0.49
Asset on Structure	-0.699	0.488
Return on Equity	0.776	0.602
Interest Coverage Ratio	-0.616	0.379

**Correlation is significant at the 0.01 level (2-tailed)
*Correlation is significant at the 0.051 level (2-tailed)

Table 1 above represent the relationship between the various independent and dependent variables used in the study. From this table it is clear that the variables or return of assets and return on equity are positively association with Debt-Equity ratio. Whereas the variables like Debt -Equity ratio were Not Significant associated with CR. So, we conclude that all the select variables have associated with profitability ratio in Indian cements Limited during the period 2015-2024.

Result of Regression:

Table 2: Model Summary

Model	**R**	**R square**	**Adjusted R Square**	**Std Error of the Estimate**
1	.960[a]	. 922	.793	.04032

a. predictors:(constant), Interest on Ratio, Current Ratio, Asset on Structure, Return on Equity, Return on Asset

The model summary table illustrates the magnitude of the dependent variables as described by the independent variables. The value of the R-Square is 0.960 which is approximately the dependent variable 96.0% variance of the DER is explained by independent variables of profitability ratio.

Table 3: ANOVA

Model	**Sum Of Square**	**df**	**Mean Square**	**F**	**Sig.**
Regression Residual Total	.058 .005 .063	5 3 8	.012 .002	7.123	.068[a]

a. Predictors: (constant), Interest on Ratio, Current Ratio, Asset on Structure, Return on Equity, Return on Asset
b. Dependent Variable: Debt Equity Ratio

ANOVA test to find out whether the regression model valid or not. F-Statistics is 7.123 which are Low and have a not 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.

Result of Regression:

Table 4: Regression coefficients of selected Indian Cements Limited

Variables	**Model**
(Constant)	
Un-Standardized Co-efficient	0.131
Standard error	0.377
T-Value	0.347
P-Value	0.752
(Current Ratio)	
Un-Standardized Co-efficient	0.488
Standard error	0.091
T-Value	5.362
P-Value	0.001
(Return on Asset)	
Un-Standardized Co-efficient	-29.713
Standard error	24.460
T-Value	-1.215

P-Value	-0.45
(Asset Structure)	
Un-Standardized Co-efficient	-.128
Standard error	0.038
T-Value	-3.331
P-Value	0.002
(Return on Equity)	
Un-Standardized Co-efficient	0.142
Standard error	0.120
T-Value	1.182
P-Value	0.322
(Interest Coverage Ratio)	
Un- Standardized Co-efficient	0.275
Standard error	0.474
T-Value	0.581
P-Value	0.602

The parameter of the regression model above the table is related. The table No: 4 shows the Significance of the individual independent variables in interpreting the dependent variable. The Un-Standardized Co-efficient (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 Current Ratio and Debt Equity Ratio other variables like Asset Structure, Return Equity, Interest Coverage Ratio are not significant with Debt Equity Ratio.

Conclusion:

The purpose of this research study is to investigate the relationship between Debt Equity Ratio and Profitability Ratio. For this purpose, Indian Cements Industry has been selected from India as study sample and data is collected nine years (2025-2024) and processed by using statistical tools. The study found that the R values of Return on Asset (0.700) And Return on Equity (0.799) positively significant with Debt Equity Ratio. Asset Structure (-0.699) and Interest Coverage Ratio (-0.616) shows negatively correlate with Debt Equity Ratio. Return on Assets (ROA) is ratio indicates how well a company is performing by comparing the profit (net income) it's generating to the capital it's invested in assets. Return on equity (ROE) is a measure of a company's financial performance. In this study Indian Cements Industry concentrate on ROE and ROA for better financial performance.

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