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A STUDY ON PROFITABILITY ANALYSIS OF J.K. CEMENT LIMITED IN INDIA

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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 J.K.CEMENT 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 and Interest Coverage Ratio have a significant impact on Debt Equity Ratio. The result also shows Current Ratio, Return on Asset, Return on Equity negatively associated with Debt Equity Ratio. These results are consisting with previous empirical studies. Further, Recommendations are presented in the research.

Key Words: Current Ratio, Return on Asset, Profitability, Regression.

Introduction:

The company was 2014, the company further expended its capacity in the north with brown field expansion of 1.5 MNTBA integrated unit at Mongol and split grinding unit 1.5 MNTPA, making it one of the top cement Manufacture are in the country. JK cement started its commercial production in May 1975 its first plant Nembhard. The company produces white cement and its production units is located in Goten at Rajasthan. Profitability refers to the ability to generate profits or gains forms an investment or economic activity. It is a measure that indicates the performance or efficiency of an investment in terms of economic return. The higher the profitability the greater the ability to obtain profit. It is used to assess the viability and attractiveness of an investment, as it indicates how effectively available resources are utilized. Profitability is the ability of a company or business to generate revenue over and above expenses usually measured using ratio like profit margin, net profit margin EDIDA Etc. Profitability refer to the potential of a venture to be financially successful. This may be assessed before entering in to business or it may be used to analysis a venture that is currently operating. Profitability is the primary goal of all business ventures. Without Profitability the business will not survive in the long run. So measuring current and past Profitability and projecting future Profitability is very important. Profitability is measured with income expenses.

Research Objectives:

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

Review of Literature:

Behzad Padgham (2015) the study on "Profitability of position of Tata Motors Companies". To study the concept of Profitability. To Identify Profitability of Tata motors Companies over the period of study. The study was based on secondary data. The main source of data is collected national stock exchange. A Sample of six companies has been selected for this study. Return on Asset and Debt Equity Ratio is considered the Dependent variable. Operating profit ratio and Return on Net Worth and Earning Per Share are considered Independent variables. ANOVA and Regression Used for analysis 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 Investment, no significant differences were found among sample companies.

Balakrishnan and Kothandapani Kirthika (2017) the study on "profitability of selected cement companies in India". To find the profitability of selected cement companies in an equity and to examine the return on investment of selected companies. The study is based on secondary data. The main source of data is collected national stock exchange. A sample of 3 companies has been selected forth is study. Assets turnover ratio and return on investment is considered Dependent variable. Return on asset ratio and return on equity ratio are considered the Independent variables, ANOVA and regression Used for analysis indicated that significant differences were found in net profit ratio, return on assets and earnings per share among the sample companies.

Bhumi Kothari and Paresh Shah (2018) the study entitled "Profitability Analysis of Sugar Industry". To Profitability with reference to return on capital in Sugar and offer suggestions. The study was based on secondary data. The main sources of data is collected national stock exchange. A sample of three companies has been selected for this study. Return on asset and debt equity ratio is considered the Dependent variable. Operating Profit Ratio and Return on Net Worth and Earning per Share are considered Independent variables. ANOVA is used for analysis. In this study, she founded the profitability of more less dependent upon the better of selected cement companies during the period of study. Present study used difference analytical tools like Reliability Analysis, Descriptive Statistics, Multiple Regression Analysis Correlation and tests of significant to test the causal Profitability. Result of Regression analysis showed that, hypothesis one is rejected because liquidity causes positive impact on Return on Equity and found significant Analysis.

Samir Thakkar, Petel, Dhananjay and Suryavanshi (2021) they carried on "Profitability Analysis of J.K cement Company". To determine the Profitability of J.K. Cement business on the group of J.K. Cement. The study was based on secondary data. The main source of data is collected national stock exchange. A Sample Nine companies has been selected for this study. Return Cost Ratio and Return Investment is considered the Dependent variable. P/S Ratio and C/S Ratio are Independent variables. Correlation and Regression is used for analysis. The J.K. Cement business on the former group members in its profit is always increased. He 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.

Sai Dakshayani and Vishwanath (2022) in his study on "The profitability analysis at Bajaj FINSERV Ltd Companies". To analyse the Profitability of sampled cement companies during the period of study. This study was based on secondary data. The main source of data is collected national stock exchange. A sample of ten companies has been selected for this study. Return on Equity and Net Profit Margin and return on capital is considered the Dependent variable. EBIT Margin and Return on Asset are considered Independent variables. Statistical tool and one way ANOVA test is used for analysis. In this study, he has compared the study has found that the Profitability of the company has been stable for the last Three Years. There is a negatively strong relation exist between Net Profit Ratio and Total Asset turnover ratio and suggests to control, monitor company's Operating expenses.

Sathish Kumar and Uma Maheswari Kanaga Durga Devi (2022) the study on "Profitability Analysis of Sugar Manufacturing Companies". To measure the operational indicator of company. The evaluate Non-operational indicator of the company. The study was based on secondary data. The main source is collected national stock exchange. A Sample of Nine Companies has been selected for this study. Current ratio and Net Profit Margin is considered as the Dependent variable. Return on Asset and Operating Profit Ratio and Gross Profit Ratio are considered the Independent variable. Correlation, ANOVA is used for analysis. He is Analysis it was found that the southern region companies had a higher Profitability than the northern region companies.

Poornima and Vishnu Priya (2023) carried out of their study on "A Study of Financial Statement Analysis of Asian paints (India) Private Limited". To Analyses the profitability of Companies. To identify the Profitability of determine the company liquidity position. The study was based on secondary data. The main source of data is collected national stock exchange. A Sample of Five companies has been selected for this study. Return on Asset and Net Profit Ratio is considered the Dependent variable and Current Ratio and Gross Profit Ratio are considered the Independent variable. ANOVA test used for the analysis. In their study, has been found that there is significance difference between in Gross Profit Ratio and Net Profit Ratio of selected Asian paints companies of India. The Finding are consistent with earlier research and accepted financial theory, which states that rising Profitability will results in greater efficiency as well as better financial performance in the long run. The company's efficiency ratios, which include a relatively stable inventory turnover ratio and receivables turnover ratio, suggest that it has been effective its resources.

Pavan Mishra and Pathak (2024) a study entitled "Profitability analysis of Wipro Limited Companies". To analysis the Profitability with reference to Return on Capital in sample Wipro Limited and offer suggestions. The study was based on secondary data. The main source of data is collected national stock exchange. A sample of Six Companies has been selected for this study. Debt Equity Ratio is considered the Dependent variable. Operating Profit Ratio and P/V Ratio and Return on Capital invested are considered Independent variables. ANOVA is used for analysis. He found the financial scrutiny has become an indispensable tool for evaluating a business's overall efficiency.

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 J.K. 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.

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

Where,

DER - Debt Equity Ratio
AS - Asset Structure
CR - Current Ratio
ROA - Return on Equity
ICR - Interest Coverage Ratio
e - Error Term

Dependent Variable:

Debt Equity Ratio:

The Debt -to-Equity (D/E) Ratio is financial metric that shows how much debt a company has compared to its equity. It's calculated by dividing a company's total debt by its shareholder's equity.

Debt Equity Ratio = Total Liabilities/Shareholders Equity

Independent Variable:

Current Ratio:

The current ratio is a liquidity ratio that measures a company's ability to per short-term obligations or those due within one year.

Current Ratio = Current Asset/ Current Liability

Return on Asset:

Return on assets (ROA) is a type of return on investment (ROI) metric that measures the profitability of a business in relation to its total assets.

Return on Assets = Net Income/Average Total Assets

Asset on Structure:

Asset structure refers to the distribution of a company's assets across different asset categories and how they are used.

Assets Structure= Fixed Asset/Total Current Asset

Return on Equity:

Return on equity (ROE) is financial metric that measures how well a company uses shareholder's money to generate profits.

Return on Equity = Net Income/Shareholders Equity×100
Net Income = Revenue- Total Expenses

Interest Coverage Ratio:

Interest coverage ratio (ICR) is a financial metric that measures a company's ability to pay its interest expenses and outstanding debt. It's calculated by dividing a company's earning before interest and taxes (EBIT) by its interest expenses.

Interest Coverage Ratio = EBIT/ Interest Expenses

EBIT = Total Revenue-Operating Expenses

Result of the Study:

Table 1: Results of the Correlation

Variables	R	R2
Current Ratio	0.889	0.790321
Return on asset	-0.887	0.786769
Asset on structure	0.881	0.0776161
Return on equity	-0.792	0.627264
Interest coverage ratio	0.716	0.512656

**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 variable independent and dependent variables used in this study. From this table it is clear that the variables are Current Ratio and Asset on Structure is positively association with Debt-Equity ratio. Whereas the variables like Return on Asset, Return on Equity and Interest Coverage Ratio were negatively associated with Debt-Equity ratio. So, we concluded that all the select variable has associated with Profitability J.K. Cement limited India.

Result of the Regression:

Table 2: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.972[a]	.945	.876	.03236

a. Predictors: (constant), Interest Coverage Ratio, Asset On 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 R-Square is 0.972 which is approximately the dependent variable 97.2% variance of the Debt-Equity Ratio is explained by independent variables profitability ratio.

Table 3: ANOVA

Model	Sum of square	DF	Mean Square	F	Sig.
Regression	.072	5	.014	13.745	.013[a]
Residual	.004	4	.001		
Total	.076	9			

a. Predictors: (Constant), Interest Coverage Ratio, Asset on 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 13.745 which are low and have a not significant value of less then 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 J.K. Cement Companies

Variables	Model
(Constant)	
Un-Standardized Coefficients	0.442
Standard error	0.226
T-Value	1.956
P-Value	0.122
(Current Ratio)	
Un-Standardized Co-efficient	-0.086
Standard error	0.419
T-Value	-0.206
P-Value	0.847
(Return on Asset)	
Un-Standardized Co-efficient	-1.881
Standard error	1.364
T-Value	-1.379
P-Value	0.240
(Asset Structure)	
Un-standardized Co-efficient	0.196
Standard error	0.091
T-Value	2.135
P-Value	0.001
(Return on Equity)	
Un-Standardized Co-efficient	0.000
Standard error	0.000
T-value	1.770

P-Value	0.152
(Interest Coverage Ratio)	
Un-Standardized Co-efficient	-0.206
Standard error	0.126
T-Value	-1.634
P-Value	0.005

The Parameter of the regression model above the table is related. The table 4 shows the significance of individual independent variable 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 DER and independent variables of profitability Ratio. The regression of Co-efficient value shows the relationship between Asset structure and Interest Coverage Ratio and Debt Equity Ratio other variable like Current Ratio, Return on Asset, Return on Equity not significant with Debt Equity Ratio.

Conclusion:

The purpose of this research study is to investigate the relationship between Debt Equity Ratio and profitability ratios. For this purpose J.K. Cement Industry has been selected from India as study sample and data is collected 9 years (2015-2024) and processed by using statistical tools. The study found that the R values of Current Ratio (0.889) and Asset on Structure (0.881) positively significant with Debt Equity Ratio. Return on Asset (-0.887), Return on Equity (-0.792) and Interest Coverage Ratio (0.716) shows negatively correlate with Debt Equity Ratio. The Current Ratio is a liquidity ratio that measures an industry ability to pay short-term obligations or those due within one year. Asset structure affects a company's financial stability, growth potential and overall success. It also impacts a company's capital structure. Return on Equity is a financial metric that's important for investors because it measures how well a company's management is using shareholders capital to generate income and growth. Interest Coverage Ratio also shows negative results, Interest Coverage Ratio that measure a company ability to pay its interest on debt. It's a company's financial health and stability.

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