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A STUDY ON THE INTERRELATIONSHIP BETWEEN THE LIQUIDITY POSITION & PROFITABILTY POSITION OF CROMPTON GREAVES INDIA PVT LTD

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ABSTRACT

The purpose of this research article is to know the relationship between profitability position and the liquidity position of Crompton & Greaves India Pvt Ltd. and to assess and identify the factors that relates to profitability & liquidity of this organization. Any business organization's optimal working capital management contributes positively towards creating its value in the market and it also contributes towards credit worthiness of the business organization . Liquidity and profitability have a close relationship and they have a direct impact on each other. In this study we have analyzed the liquidity position and profitability position covering a period of 05 years from 2012-13 TO 2016-17 Profitability has been measured in terms of gross profit ratio, net profit ratio, operating profit ratio etc and the liquidity position have been examined on the basis of liquidity ratio cash ratio etc. Pearson's correlation and analysis are used in the study.

Keywords: Liquidity, Profitability.

Introduction

Liquidity and profitability have a close relationship and they have a direct impact on each other. Liquidity means that the organization or the company have adequate amount of cash & bank balances for meeting out the day to day expenses and current liabilities. If the organization or the company fails to meet out its day to day expenses or not able to make the payments relating to the current liabilities in time then it loses its reputation, goodwill, market value of shares & faith of the investors & creditors. These factors lead to negative impact on the financial position of the organization and it also leads to decrease in the profits & increase in the losses. On the other hand if the organization or the company easily meet out its day to day expenses or to make the payments relating to the current liabilities in time then it improves its reputation, goodwill, market value of shares & faith of the investors & creditors. Thus it could be stated that the liquidity have an impact on the profitability of the organization. In this research paper we have taken the topic impact of liquidity on profitability of Crompton & Greaves due to the above mentioned reasons.

Review of Literature

Deloof (2001) is of the opinion that most firms had a large amount of cash invested in working capital and it is expected that the way in which working capital is administered will have a significant impact on profitability of those firms. He established a noteworthy negative relationship between gross operating income and the number of days accounts receivable, inventories and accounts payable of Belgian firms with the help of correlation and regression analysis. To determine the effect of working capital management on the net operating profitability and liquidity, **Raheman and Nasr (2004)** selected a sample of 94 Pakistani firms listed on Karachi Stock Exchange for a period of 6 years. Average collection period, inventory turnover in days, average payment period, CCC, current ratio, debt ratio, size of the firm, and financial assets to total assets ratio are the selected independent variables and net operating profit is the dependent variable used in their analysis. They found that there is a strong negative relationship between variables of working capital management and profitability of the firms. **Salmi and Martikainen(1994) "**the research areas are reviewed are the functional form of the financial ratios, distributional characteristics of financial ratios, classification of financial ratios and the estimation of the internal rate of return from financial statements. It is observed that it is typical of financial ratio analysis research that there are several unexpectedly distinct lines with research tradition of their own. A common feature of all the areas of financial ratio analysis seems to be that while significant regularities can be observed, they are not necessarily be stable across the different ratios, industries and time periods. This leaves much space for the development of a more robust theoretical basis and for further empirical research." **Rej, Debasis & Sur, Debasis(2001)** conclude that profitability of Cadbury India Ltd in terms of gross profit ratio, net profit ratio, return on investment ratio was not stable during the study period. Some variability was observed in respect of these three profitability ratios which were supported by high coefficient of variation. **Eljelly, Abuzar M.A (2004)** empirically examined the relationship between the profitability and liquidity on a sample of joint stock companies which are operated in Saudi Arabia. They found significant negative relationship between the profitability and liquidity position of the firms. At the industry level, the cash conversion cycle was more important than current ratio as a measure of liquidity.

Objectives of Study

The study fulfils the following objectives:

(i) To analyze the concept of liquidity & profitability Crompton & Greaves India Pvt Ltd.

(ii) To examine how far liquidity have an impact on profitability of Crompton & Greaves India Pvt Ltd.

(ii) To give suggestions on the basis of the findings of the study.

Hypothesis

In order to achieve these objectives, the following null hypothesis is framed for testing:

(i) There is no significant impact of current assets on the profitability position of Crompton & Greaves from the year 2012-13 to 2016-17.

Limitations

The following are the limitations of this study

(i) Only monetary information is considered the non monetary information are ignored.

(ii) For this study some data have been grouped and sub grouped,

(iii) Non-availability of sufficient data & literature is also a limitation of this study .

(iv) This study is based on the published annual reports hence there is no primary collection of data.

(v) If there are any uneven changes before or beyond the set period then it will be considered as the limitation of the study.

Research Design

For this study the research design includes the liquidity analysis & profitability analysis of Crompton & Greaves which is based on various liquidity ratios & profitability ratios. This research design helps in knowing liquidity position & profitability position of this corporation. For this purpose, figures are taken from the organization's annual report which contains Annual Balance Sheet, Profit & Loss Account and other published documents. The collected data has been processed by constructing tables, with the required information for the calculation of ratio. It has also been carefully examined to avoid personal bias while interpreting the ratios. For the significance of the study we have taken various statistical tools such as mean, correlation & t-test so that the calculated information is in accordance with predefined standard of accuracy.

ANALYSIS OF THE LIQUIDITY & PROFITABILITY POSITION OF CROMPTON & GREAVES

For analyzing the liquidity & profitability position of Crompton & Greaves from the year 2012-13 to 2016-17. The liquidity ratios and profitability ratios had been used. In order to measure the liquidity position we have used the current ratio, quick ratio, absolute liquid ratio & working capital turnover ratio. In order to assess the profitability position of Crompton & Greaves the gross profit ratio, net profit ratio has been used. Further to understand the relationships between current assets and net profit a separate table is prepared & to study the impact of liquid assets on net profit we have prepared a separate table.

1. **Current Ratio**

The Current ratio measures the firm's short term solvency and it indicates the availability of current assets in rupees for every one rupee of current liability. A greater ratio indicates that the firm has more current assets than current claims & the ideal ratio is considered as 2:1. On the other hand if this ratio is low then it represents the liquidity position of the firm is not good.

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

TABLE NO. 1: Statement Showing Current Ratio (Rs. In Crores)

Year	Current Assets	Current Liabilities	Current Ratio
2012-13	3921.68	2096.77	1.87
2013-14	3915.44	2086.31	1.87
2014-15	4896.14	1949.88	2.51
2015-16	4434.16	2149.67	2.06
2016-17	1216.72	908.29	1.33
Mean	3676.828	1838.184	1.93
S.D	1434.33	525.03	
CV	39.01	28.56	

Source: Compiled from Annual report of the Crompton Greaves India Pvt Ltd.

Interpretation

As per the above the current ratio of this organization seems to be decreasing . Initially it was at 1.87:1 and it got increased to 2.51:1 by 2014-15. There was decrease in this ratio as it was at 2.06:1 by 2015-16 and a further dip 1.33: 1 in the last year. The mean was at 1.93: 1.

2. Liquid Ratio

The liquid ratio or Quick ratio refers to the ability of the firm to pay its short term obligation as and when they become due. The liquid assets should not include stock & prepaid expenses which cannot be converted into cash within a short period. The ideal ratio is considered as 1:1. It measures the firm’s capacity to pay off current obligations immediately and it is a more rigorous test of liquidity than current ratio. It is used as complementary ratio to the current ratio.

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

Liquid assets = Current assets – (Stock + Prepaid expense)

TABLE NO. 2: Statement Showing Quick Ratio (Rs. In Crores)

YEAR	Liquid Assets	Current Liabilities	Quick Ratio
2012-13	3373.18	2096.77	1.60
2013-14	3357.66	2086.31	1.60
2014-15	4372.37	1949.88	2.24
2015-16	4026.99	2149.67	1.87
2016-17	981.9	908.29	1.08
Mean	3222.42	1838.184	1.68
S.D	1325.77	525.03	
CV	41.14	28.56	

Source: Compiled from Annual report of the Crompton Greaves India Pvt Ltd.

Interpretation

As per the above table no.2, the quick ratio of this organization seems to be improving initially as it was at 1.60:1 and it got increased to 2.24:1 by 2014-15. There was a decrease in this ratio as it was at 1.87:1 by 2015-16 and it was at minimum in the last year showing this ratio at 1.08 :1 The quick ratio was more than the ideal ratio of 1:1 throughout the study period . The mean was at 1.68: 1.

Absolute Liquid

The absolute liquid ratio is more rigorous than current ratio and quick ratio. This ratio is calculated to find out the firms capacity to pay current obligations very immediately. The absolute liquid ratio is calculated by dividing absolute liquid asset by liquid liabilities. The absolute liquid asset includes cash in hand, cash at bank and marketable securities. The acceptable norm for this ratio is .5:1.

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

Absolute liquid assets = Cash in hand+ Bank balance+ Marketable securities

TABLE NO. 3: Statement Showing Absolute Liquid Ratio (Rs. In Crores)

YEAR	Absolute Liquid Assets	Current Liabilities	Absolute Liquid Ratio
2012-13	288.79	2096.77	0.13
2013-14	442.8	2086.31	0.21
2014-15	302.44	1949.88	0.15
2015-16	510.41	2149.67	0.23
2016-17	69.97	908.29	0.07
Mean	322.882	1838.184	0.16
S.D	169.62	525.03	
CV	52.53	28.56	

Source: Compiled from Annual report of the Crompton Greaves India Pvt Ltd.

Interpretation

As per the above table no. 3 the absolute liquid position of this organization seems to be very poor during the study period. Initially it was at0.13:1 and it got increased to 0.21:1 by 2013-14. However there was a decrease in this ratio as it was at 0.15:1 by 2014-15 and it was at minimum in the last year showing this ratio at 0.07:1 This ratio was less than the ideal ratio of 0.5:1 throughout the study period. The mean was at 0.16: 1

Working capital turnover Ratio

The Working capital turnover ratio measures the utilization of working capital & the number of times the working capital is rotated in the course of a year. A greater ratio indicates that the organization has utilized the working capital efficiently & on the other hand if this ratio is low then it represents organization has not utilized the working capital efficiently.

$$\text{Working capital turnover Ratio} = \frac{\text{cost of goods sold}}{\text{working capital}}$$

TABLE NO. 4: Statement Showing Working capital turnover Ratio (Rs. In Crores)

YEAR	Cost of goods sold	Working Capital	Working Capital Turnover Ratio
2010 - 11	5235.41	1824.91	2.86
2011-12	5422.24	1829.13	2.96
2012-13	5644.73	2946.26	1.91
2013-14	2639.5	2284.49	1.15
2014-15	2717.35	308.43	8.81
Mean	4331.846	1838.644	3.54
SD	1516.549018	970.49	
CV	35.00930129	52.78	

Source: Compiled from Annual report of the Crompton Greaves India Pvt Ltd

Interpretation

As per table no.4 it was found that this ratio is reflecting decreasing trend except for the last year when there was a sudden increase due to decrease in the working capital. In the year 2010-11 this ratio was at 2.86 times and it reduced to 1.91 times by 2012-13. There was a further decrease in this ratio to 1.15 times in the year 2013-14. The mean of this ratio was at 3.54 times.

5. GROSS PROFIT RATIO

The gross profit ratio establishes the relationship between the gross profit and net sales of the organization. It indicates the efficiency of the organization. A higher ratio indicates good efficiency of the organization and a lower ratio indicates inefficiency of the organization. The formula for calculating the operating profit ratio is

$$Gross\ Profit\ Ratio = \frac{\text{Gross Profit}}{\text{Net Sales}} * 100$$

TABLE NO 5

STATEMENT SHOWING GROSS PROFIT RATIO

Year	Gross Profit	Net Sales	Gross Profit Ratio
2012-13	1899.89	7135.3	26.62
2013-14	2067.33	7489.57	27.60
2014-15	2192.29	7837.02	27.97
2015-16	1651.33	4290.83	38.48
2016-17	1258.55	3975.9	31.65
Mean	1813.878	6145.724	30.46
S.D	370.68	1857.04	
CV	20.43	30.21	

Source: Compiled from Annual report of the Crompton Greaves India Pvt Ltd

Interpretation:

The gross profit ratio is reflecting an upward trend as it was at 26.62% in the year 2012-13 and it got increased to 29.97% in the year 2014-15. There was an increase in the next year as it reached to 38.48% but it got reduced to 31.65% in the last year. The mean of gross profit ratio was at 30.46%.

6. NET PROFIT RATIO

In order to understand the organisation's efficiency in manufacturing, administration and selling of the products we calculate the net profit ratio. A high net profit ratio would reveal an advantageous position in the face of falling sale price, rising cost of production and declining demand for the products.

The formula for calculating the net profit ratio is:

$$Net\ Profit\ Ratio = \frac{\text{Net Profit}}{\text{Net Sales}} * 100$$

Table No 6

STATEMENT SHOWING NET PROFIT RATIO

Year	Net Profit (Rs)	Net Sales	Net Profit Ratio
2012-13	445.84	7135.3	6.24
2013-14	521.09	7489.57	6.95
2014-15	731.14	7837.02	9.32
2015-16	-1091.97	4290.83	-25.44
2016-17	290.69	3975.9	7.31
Mean	179.35	6145.72	0.87
S.D	728.17	1857.04	
CV	405.98	30.21	

Source: Compiled from Annual report of the Crompton Greaves India Pvt Ltd

Interpretation:

The net profit ratio is also reflecting a downward trend as it was at 6.24% in the year 2012-13 and it got reduced to 9.32.% in the year 2014-15. There was a huge decrease in this ratio in next year and it stood at -25.44% in the year 2015-16. The mean of net profit ratio was at 0.87%.

TABLE NO. 7. STATEMENT OF CHANGES IN LIQUID ASSETS AND NET PROFIT

Year	Liquid assets	% change	NET profit	% change
2012-13	3373.18		445.84	
2013-14	3357.66	0.46	521.09	14.44
2014-15	4372.37	30.22	731.14	40.30
2015-16	4026.99	-7.89	-1091.97	-249.32
2016-17	981.9	-75.6	290.69	-73.37

Source: Compiled from Annual report of the Crompton Greaves India Pvt Ltd

As per the above table it was found that the liquid assets had shown a decreasing trend as it was at 0.46% in the year 2013-14 but it got increased to 30.22 % in the very next year and it slipped to -7.89% by 2015-16. It was also found that the net profit had also shown a decreasing trend as it was at -14.44% in the year 2013-13 but it got reduced to -249.32 % in the year 2015-16 and it was at - 73.37% by 2016-17.

TABLE NO.8 STATEMENT OF PERCENTAGE CHANGE IN CURRENT ASSETS AND NET PROFIT

YEAR	Current assets	% change	Net profit	% change
2012-13	3921.68		445.84	
2013-14	3915.44	-0.15	521.09	14.44
2014-15	4896.14	25.04	731.14	40.30
2015-16	4434.16	-9.43	-1091.97	-249.32
2016-17	1216.72	-72.56	290.69	-73.37

Source: Compiled from Annual report of the Crompton Greaves India Pvt Ltd

Interpretation

As per the above table it was found that the current assets had shown a decreasing trend as it was at 25.04% in the year 2014-15 but it got decreased to -9.43 % in the very next year and it slipped to -72.56% by 2015-16. It was also found that the net profit had also shown a decreasing trend as it was at -14.44% in the year 2013-13 but it got reduced to -249.32 % in the year 2015-16 and it was at - 73.37% by 2016-17.

FINDINGS AND SUGGESTIONS

TESTING OF HYPOTHESIS

In this study the hypothesis has been analyzed by t-test as the significance of data can be analyzed by means of statistical tools. Hence correlation & t- test have been applied in this study.

For the calculating of t-test the following formula has been used and the reliability of data has been tested at 5% level of significance.

Null Hypothesis

H_{O1} There is no significant impact of current assets on the profitability position of Crompton & Greaves Pvt Ltd from the year 2012-13 to 2016-17.

Interpretation of t-test

$$t = 0.20, \quad t_{0.05} = 2.132 \quad \& \ t > t_{0.05}$$

When the degree of freedom is 4 & the level of significance is 5% the critical value is 2.132. Since the calculated value of t is 0.20 which is less than the critical value we conclude that null hypothesis is accepted which means that there is no significant impact of current assets on the profitability position of Crompton & Greaves from the year 2012-13 to 2016-17.

FINDINGS & SUGGESSIONS

The short term liquidity position of the corporation was not satisfactory as the current ratio of the corporation had shown a decreasing trend . Initially it was at 1.87:1 and it got increased to 2.51:1 by 2014-15. There was decrease in this ratio as it was at 2.06:1 by 2015-16 and a further dip 1.33: 1 in the last year

The short term liquidity position was not satisfactory as the quick ratio of this organization seems to be improving initially as it was at 1.60:1 and it got increased to 2.24:1 by 2014-15. There was a decrease in this ratio as it was at 1.87:1 by 2015-16 and it was at minimum in the last year showing this ratio at 1.08 :1 Even if the quick ratio was more than the ideal ratio of 1:1 throughout the study period but it is decreasing very rapidly. Thus it can be concluded that the corporation's capacity to pay off current obligations very immediately was satisfactory.

The position of the gross profit was fluctuating during the study period. The gross profit ratio is reflecting an upward trend as it was at 26.62% in the year 2012-13 and it got increased to 29.97% in the year 2014-15. There was an increase in the next year as it reached to 38.48% but it got reduced to 31.65% in the last year due to increase in the cost of goods sold.

The net profit ratio is also reflecting a downward trend as it was at 6.24% in the year 2012-13 and it got reduced to 9.32.% in the year 2014-15. There was a huge decrease in this ratio in next year and it stood at -25.44% in the year 2015-16.hence this corporation is not able to earn good rate of return as compared to their investment. The overall profitability position was not satisfactory due to the above mentioned reasons.

SUGGESSIONS

A research work does not end with its findings and analysis but it also goes one more step ahead i.e. to suggest various ways & measures to improve the overall operations of the organization.

- For the betterment of short term solvency the organisation should try to reduce its current liabilities.
- Steps should be taken by the organisation to maintain the current ratio at an ideal standard of 2:1 as the liquidity position was not satisfactory due to increase in creditors and other current liabilities.
- The corporation should try to improve their cash position by taking short term loans or through bank overdraft for making the payments of day to day expenses and other current obligations.
- It was found that the cost of production of Crompton & Greaves was very high hence the corporation should cut down its cost of production to have better profitability position.

- The operating cost of this organisation is high due to which it consumes more of sales and there is less portion left for the retention of profit hence the organisation should try to reduce the operating cost.

REFERENCES

- Agrwal, N.P. : Analysis of Financial Statement, New Delhi : National publishing House, 1981.
- Amey Lieyed, R and Egginton, Doz A : Management Accounting –A Conceptual Approach, Long man Group Ltd., 1985.
- Anthony, Robert, N : Management Accounting- Text and Cases, Homewood: Illionis : Richard : D Irwin Inc., 1984.
- Balty J : Management Accounting : London : Mc Donald and Evans Ltd., 1975.
- Duck, R.E.W. and Jervis, F.R.J : Management Accounting : London George G. Harvop and company Ltd. 1994.
- Grewal T.S. Grewal G.S. and Grewal H.S. : Analysis of Financial Statement : New Delhi : Sultan Chand & Sons 1999.
- Gupta R.L. 7 Radhaswami : Advanced Accountancy, Vol I: New Dehli : Sultan Chand & Sons 1985.
- Gupta S.P. Statistical Method : New Delhi : Sultan Chand & Sons, 1994.
- Kapila R. Kapila U. : India’s Banking and Financial Sector in the new millennium Vol., Academic Foundation, Ghaziabad.
- Kaura N. Mohindra : Management planning and control system in commercial Banking, Vani Educational Books, New Delhi 1983.
- Kothari C.R. : Research Methodology methods & techniques, Wishwa Prakashan Delhi 1990.
- Kuchhal, S.C. : "Financial Management", Chaitanya Publishing House, . Allahabad, 1996.
- Mamoria C.B. : Personnal Management Himalaya Publishing House, Bombay, 1993.
- Myer John N. : "Financial Statement Analysis", P. Hall of India, New Delhi, 1972
- Noor N.S. : Analysis of Balance sheet, Sky land Publication, New Delhi 1990.

- Pandey I.M. : Financial Management : New Delhi : Vikas Publishing House Pvt. Ltd., 1983.
- Pearce. D.W. and Nash, C.A. : The Social Appraisal of Projects : A Text in Cost - Benefit Analysis, Macmillan, London 1981
- Sharma D.D. : Research Methodology, Kalyani Publications, 2003.
- Sharma M.K. : Financial Appraisal of Industrial Corporation of India, Prateeksha Publication, Jaipur, 1996.
- Sharma R.K. and Gupta S.K. : Management Accounting – Principles and Practice : Lundhiana : Kalyani Publishers, 2003.
- Shriniwasan : Management Accounting : New Delhi Sterling Publication Pvt. Ltd. 1986.