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Impact of Working Capital on Profitability in MAWANA Sugar Mill

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Abstract
This paper makes an attempt to assess the trends in Working Capital Management and their impact on profitability of Mawana sugar mill for a period of 31st December 2014 to 2018-19. An attempt has been undertaken to observe the trend values of position of the company and to study the correlation between working capital and profitability. An attempt has also been made to establish the relationship between working capital and profitability with the help of statistical tools. The study is based on secondary data collected from published annual reports of Mawana Sugar Mill and from published annual reports of Public enterprise. The available data has been analyzed by using some important managerial and statistics tools. On the basis of overall analysis, it is therefore important to state that the selected company always tries to maintain adequate amount of net working capital in relation to current liability so as to keep a good amount of liquidity throughout the study period.
Key Words: Capital, Profitability

Introduction

Every business needs funds for two purposes for its establishment and to carry out its day-to-day operation. For establishment funds are needed through acquisition of fixed assets e.g. Building, Machinery, Motor and Furniture etc. Investment in these assets represents that part of capital which is blocked on a permanent basis is called Fixed Assets. These are not acquired for the purpose of resale but for the purpose of earning profit from the use of these assets for a long period in the future. On the other hand, funds are also needed for short term purposes for the purchase of raw materials, payment of wages and other day-to-day expenses. These funds are needed for short term period, are known as working capital or revolving capital or circulating capital. This type of capital circulates steadily means first of all cash is being converted into raw material then raw material is being converted into work-in-progress then work-in-progress is being converted into finished goods then finished goods is being converted into account receivable and at last account receivable is being converted into cash. The basic goal of working capital management is to manage the current assets and current liabilities of a firm in such a way that a satisfactory level of working capital is maintained. i.e., it is neither insufficient nor excessive. This is so because both insufficient as well as excessive working capital position is harmful for the business. Inadequacy of working capital may lead the firm to insolvency or bankruptcy and excessive working capital implies idle funds which earns no profit for the business. The current assets should be large enough to cover its current liabilities large enough to cover its current liabilities in order to ensure a reasonable margin of safety. Working Capital Management policies of a firm have a great effect on its profitability, liquidity structured health of an organization. There are two concept of working capital gross and net. The gross working capital means the total of all current assets while net working capital means the difference between current assets and current liabilities.

Profile of the Company

Mawana Sugar Limited (Formerly known as SIEL Limited) emerged as an independent entity in 1989 out of the restructuring of the erstwhile DCM Group. Mawana Sugar Ltd. Has been engaged in the business of manufacture

and selling of chemicals, sugar and edible oils. Shriram Industrial Enterprises Limited (SIEL).

Mawana Sugar Ltd. (Formerly known as SIEL Limited), incorporated in the year 1961, is a small Cap company (having a market cap of `124.20 Crore) operating in Sugar sector. Mawana Sugar Ltd. Key products/Revenue Segments include Sugar which contributed ` 963.51 Crore to Sales value (71.81% of Total Sales), Chlor Alkali Products which contributed `256.36 Crore to Sales Value (19.10% of Total Sales), Alchohal (Industrial) which contributed ` 55.66 Crore to Sales Value (2.60% of Total Sales), Other Operating Revenue which contributed 19.74 Crore to Sales Value (1.47 % of Total Sales), Others which contributed ` 9.81 Crore to Sales Value (0.73 % of Total Sales), Scrap which contributed ` 1.57 Crore to Sales Value (0.11 % of Total Sales) for the year ending 31-Mar-2018.

The Company was promoted by well-known group, Shriram. The company got merged with Shriram Refrigeration Industries Ltd. In April 1992 and the name stands changed back to Shriram Industrial Enterprises Ltd.

Literature Review

Karamjeet and Firew (2011) conducted a study to assess the working capital adequacy and its impact on profitability of firms using a sample of 449 Indian manufacturing firms and found that there is significant difference in relative solvency level of firms and firms with adequate working capital.

Mukhopadhyay (2004) conducted a study on working capital management in heavy engineering firms to investigate into the effectiveness of working capital management of an organization.

With particular reference to its short-term liquidity and solvency and its impact on commercial operations of that organization.

Danial and Ambros, (2013) reviewed manufacturing and construction companies in Nairobi. A negative relationship between profitability and receivable in days and a positive relation between inventory turnover ratio was observed.

Singh and Pandey (2008) suggested that, for the successful working of any business organization, fixed and current assets play a vital role. And that the management of working capital is essential as it has a direct impact on profitability and liquidity. They studied the working capital components and found significant impact of working capital management on profitability for Hindalco Industries limited.

Pandey and Sabamaithily (2016) found that Current ratio and Quick ratio are important factor affecting a company's Return On Investment (ROI) .

Singhania et al (2014) studied Indian manufacturing companies listed on BSE 500 and observed that cash conversion cycle can be used as a broad measure of working management. Reduction in cash conversion cycle leads to an increase in profitability. Increase in day payable will result in improvement of performance of the firm.

Arun Kumar and Radharaman(2012) studied 1211 manufacturing companies from different sectors in India. Positive relationship between Inventory Turnover in days with profitability was observed.

Chaklader et al (2013) studied companies in Indian FMCG sector to examine the relationship between working capital and profitability. Receivable and Payable ratios were found to be significant factors whereas inventory turnover was not significant.

Objective of the study

The main objectives of the research study are-

1. To evaluate the overall efficiency of the management of working capital.
2. To study the indices and trends of working capital, current assets and current liabilities as well as competency the working capital.
3. To offer necessary suggestions to improve the efficiency of working capital management in Mawana Sugar Limited.

Hypothesis

As regard the formulation of hypothesis in the proposed study, the researcher seeks to and judge:

I. Working capital and Profitability are independent or Profit and Loss are positively associated.

II. Working capital significantly affects Profitability.

Research Methodology

The required information on the subject collected from different sources. Resources are taken from various libraries. Profitability and Liquidity of Mawana Sugar Limited held before arriving at the conclusion and fruitful suggestions.

Research Design

1. Source of Data- The study is based purely on secondary data. The data has been collected from different Journals, magazines, books and different sites were also referred for finalizing the methodology for the study.

2. Period of Study- The study covers a period of 5 years starting from 31st December 2014 to 31st March 2018-19.

3. Sample size of the study-The researcher has selected Mawana Sugar Limited, India to evaluate, what extent they are profitable financially strength and liquidity position.

Data Analysis and Interpretation

Current Ratio

Current Ratio creates a relationship between Current Assets and Current Liabilities. The ratio is calculated with the help of the following formula:

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

The following Table 1.1 shows the Current Ratio in respect of Mawana Sugar Ltd.

***TABLE NO. 1.1* Showing Current Ratio inMawana Sugar Mill.**

Year	31 Dec 2014	2015-16 (for 15 months)	2016-17	2017-18	2018-19
Current Assets (in millions)	4136.57	5550.12	6622.96	5619.17	8431.50
Current Liabilities (in millions)	12023.09	11144.20	6833.18	8027.68	6295.70
Current Ratio (in times)	0.34	0.50	0.97	0.70	1.34

(Source: computed with the help of statistics published by the Mawana Sugar Mill in its annual report)

Table no 1.1 reveals that Current Ratio in Mawana Sugar Limited went up from 0.34 times in 31st December 2014 to 1.34 times in 2018-19 and current assets of the company went up from `4136.57 in 31st December 2014 to `8431.50 in 2018-19. However current liabilities of the company went down from `12023.09in 31st December 2014 to `6295.70 in 2018-19 which indicates strong short-term solvency of the concern.

Quick Ratio or Acid Test Ratio

Quick ratio is a relationship of liquid assets with current liabilities. The ratio is calculated with the help of the following formula:

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

The following Table No. 1.2 shows the Quick Ratio in respect of Mawana Sugar Limited.

TABLE NO. 1.2

Showing Quick Ratio inMawana Sugar Mill.

Year	31 Dec 2014	2015-16 (for 15 months)	2016-17	2017-18	2018-19
Quick Assets (in millions)	1213.34	1361.57	2200.77	1411.84	1019.72
Current Liabilities (in millions)	12023.09	11144.20	6833.18	6295.70	8027.68
Quick Ratio (in times)	0.10	0.12	0.32	0.22	0.13

(Source: computed with the help of statistics published by the Mawana Sugar Mill in its annual report)

Table no 1.2 reveals that Quick Ratio in Mawana Sugar Limited went up from 0.10 times in 31st December 2014 to 0.13 times in 2018-19 and quick assets of the company went up from `1213.34 in 31st December 2014 to `10335.17 in 2018-19 which indicates difficulties are faced by the Corporation in short-term solvency.

Absolute Liquidity Ratio

The cash ratio measures cash and cash equivalent balances relative to current liabilities. The ratio is calculated with the help of the following formula:

$$\text{Cash Ratio} = \frac{\text{Cash and Cash Equivalents}}{\text{Current Liabilities}}$$

The following Table No. 1.3 shows the Absolute Liquidity Ratio in respect of Mawana Sugar Mill.

***TABLE NO. 1.3* Showing Absolute Liquidity Ratio inMawana Sugar Mill.**

Year	31 Dec 2014	2015-16 (for 15 months)	2016-17	2017-18	2018-19

Absolute Liquid Assets (in millions)	414.00	430.88	595.30	533.72	311.19
Current Liabilities (in millions)	12023.09	11144.20	6833.18	6295.70	8027.68
Absolute Liquidity Ratio (in times)	0.034	0.039	0.087	0.085	0.039

(Source: computed with the help of statistics published by the Mawana Sugar Mill in its annual report)

Table no 1.3 reveals that Absolute quick ratio in Mawana Sugar Limited went up from 0.034 times in 31st December 2014 to 0.039 times in 2018-19 and Absolute quick assets of the company went down from `414.00 in 31st December 2014 to `311.19 in 2018-19. The entire situation can be shown at a glance with the help of the following graph:

Inventory Turnover Ratio

Inventory turnover ratio also known as stock velocity is normally calculated as sales/average inventory or cost of goods sold/average inventory. The ratio is calculated with the help of the following formula:

$$Inventory\ Turnover\ Ratio = \frac{Cost\ of\ Goods\ Sold}{Average\ Stock}$$

The following Table No. 1.4 shows the Inventory Turnover Ratio in respect of Mawana Sugar Mill.

***TABLE NO. 1.4* Showing Inventory Turnover Ratio inMawana Sugar Mill.**

Year	31 Dec 2014	2015-16 (for 15 months)	2016-17	2017-18	2018-19
Cost of Goods Sold (in millions)	10620.91	9774.84	7378.88	9883.90	6885.2
Average Stock (in millions)	2905.51	3536.82	4287.00	4299.53	5794.82
Inventory Turnover Ratio (in times)	3.66	2.76	1.72	2.30	1.19

(Source: computed with the help of statistics published by the Mawana Sugar Mill in its annual report)

As far as Mawana Sugar Mill is concerned exhibits that Inventory Turnover Ratio went on decreasing in the first three year of the study, thereafter it increased in next year due of care of inventory. Afterwards the management did not take it seriously, as a result Inventory Turnover Ratio of the corporation has been decreased in next year. On the whole inventory turnover ratio in the corporation fluctuated between a range of 1.19 Times to 3.66 times. The decreasing ratio indicates inefficient selling and poor management of working capital in the corporation by the managerial persons.

Debtors Turnover Ratio

The liquidity position of a concern to pay its short-term obligations in time depends upon the quality of its trade debtors. The formula is-

$$Debtors\ Turnover\ Ratio = \frac{Net\ Credit\ Sales}{Average\ Receivables}$$

The following Table No. 1.5 shows the Debtors Turnover ratio in respect of Mawana Sugar Mill.

TABLE NO. 1.5 Showing Debtors Turnover Ratio inMawana Sugar Mill.

Year	31 Dec 2014	2015-16 (for 15 months)	2016-17	2017-18	2018-19
Net Credit Sales (inmillions)	14006.56	14846.37	11913.05	13454.73	11577.13
Average Receivable (in millions)	513.53	619.23	598.12	491.37	439.45
Debtors Turnover Ratio (in times)	27.28	23.98	19.92	27.38	26.34

(Source: computed with the help of statistics published by the Mawana Sugar Mill in its annual report)

Table no. 1.5 exhibits that Debtors Turnover Ratio in Mawana Sugar Mill Limited showed a decrease in first three year of study up to 2016-17. Thereafter it increased in 2017-18. However, in 2018-19 it again decreased. It indicating that there is lack of uniformity in collection from debts in time.

CREDITORS TURNOVER RATIO

In the course of business operations, a firm has to make credit purchases and incur short term liabilities. A supplier of goods, i.e., creditor, is naturally interested in finding out how much

time the firm is likely to take in repaying its trade creditors. The ratio is calculated with the help of the following formula:

$$Creditors\ Turnover\ Ratio = \frac{Net\ Credit\ Purchases}{Average\ Payables}$$

The following Table No. 1.6 shows the Creditors Turnover Ratio in respect of Mawana Sugar Ltd.

***TABLE NO. 1.6* Showing Creditors Turnover Ratio in Mawana Sugar Mill.**

Year	31 Dec 2014	2015-16 (for 15 months)	2016-17	2017-18	2018-19
Net Credit Purchases (in millions)	11148.48	11052.82	7912.32	9724.76	10254.53
Average Payable (in millions)	6554.93	6859.34	5730.97	4838.29	6040.47
Creditors Turnover Ratio (in times)	1.70	1.61	1.38	2.01	1.70

(Source: computed with the help of statistics published by the Mawana Sugar Mill in its annual report)

Table no. 1.6 exhibits that Creditors Turnover Ratio in Mawana Sugar Mill Limited showed a decrease in first three year of study up to 2016-17. Thereafter it went on increasing in 2017-18. However, in 2018-19 it again decreased.

Working Capital Turnover Ratio

Working Capital of a concern is directly related to sales. The working capital is the excess of current assets over current liabilities. This ratio is calculated with the help of the following formula:

$$Working\ Capital\ Turnover\ Ratio = \frac{Net\ Sales}{Working\ Capital}$$

The following Table No. 1.7 shows the working capital turnover ratio in respect of Mawana Sugar Ltd.

TABLE NO. 1.7 Showing Working Capital Turnover Ratio in Mawana Sugar Mill

Year	31 Dec 2014	2015-16 (for 15 months)	2016-17	2017-18	2018-19
Net Sales (` in millions)	14006.56	14846.37	11913.05	13454.73	11577.13
Working Capital (in millions)	(7886.52)	(5594.08)	(210.22)	(2408.51)	2135.80
Working Capital Turnover Ratio (in times)	-1.78	-2.65	-56.67	-5.59	5.42

(Source: computed with the help of statistics published by the Mawana Sugar Mill in its annual report)

The Table no. exhibits that Working Capital Turnover Ratio of Hindustan Petroleum Corporation Limited fluctuated between a range of -56.67 times in 31st December 2014 to 5.42 times in 2018-19. The working capital of the company shows negative working capital in four years out of five year of study which is not fair from the point of view of business. The Fixed capital of the company is positive but working capital is negative which is not favourable in business.

Current Assets Turnover Ratio

Current Assets Turnover Ratio indicates that the current assets are turned over in the form of sales a greater number of times. This ratio is calculated with the help of the following formula:

$$Current\ Assets\ Turnover\ Ratio = \frac{Net\ Sales}{Current\ Assets}$$

The following Table No. 1.8 shows the working capital turnover ratio in respect of Mawana Sugar Ltd.

TABLE NO. 1.8 Showing Current Assets Turnover Ratio inMawana Sugar Mill.

Year	31 Dec 2014	2015-16 (for 15 months)	2016-17	2017-18	2018-19
Net Sales (` in millions)	14006.56	14846.37	11913.05	13454.73	11577.13
Current Assets (` in millions)	4136.57	5550.12	6622.96	5619.17	8431.5
Current Assets Turnover Ratio (in times)	3.39	2.67	1.80	2.39	1.37

(Source: computed with the help of statistics published by the Mawana Sugar Mill in its annual report)

Table no. 1.8 reveals that Current Assets Turnover ratio of Hindustan Petroleum Corporation Limited fluctuated between a range of 1.37 times to 3.39 times. The Current Assets Turnover Ratio was ever highest in 31st December 2014 when it figured to be 3.39 times. It is also observed that Current Assets Turnover Ratio has been decreased to 1.37 times in 2018-19 from 3.39 times in 31st December 2014.

Return on Capital Employed

Return on capital employed implies finding out ratio of net profit on capital employed in the firm. This is the only satisfactory measure of examining the overall operating efficiency or profitability of a business entity. The ratio can be calculated with the help of the following formula:

$$Return\ on\ Capital\ Employed$$
$$\frac{Profit\ (Before\ Tax)}{Capital\ Employed} \times 100$$

The following Table No. 1.9 Shows the Return on Capital Employed in respect of Mawana Sugar Ltd.

TABLE NO. 1.9 Showing Return on Capital Employed in Mawana Sugar Mill.

Year	31 Dec 2014	2015-16 (for 15 months)	2016-17	2017-18	2018-19
Net Profit (before tax) (` in millions)	(1806.09)	22.14	4566.79	137.69	706.84
Capital Employed (` in millions)	(2656.29)	(575.87)	3541.05	4651.33	6045.03
Return on Capital Employed (in times)	-67.99	-3.84	128.97	2.96	11.69

(Source: computed with the help of statistics published by the Mawana Sugar Mill in its annual report)

Table no. 1.9 reveals that return on capital employed in Mawana Sugar Limited was highest in 2016-17 when it figured to be 128.97 percent. It was -67.99 percent being the lowest in 31st December 2014. However, the situation was brought under control by virtue of the intensive efforts on behalf of the management in 2016-17 when the corporation started to achieve positive return on capital employed. The entire situation can be shown at a glance with the help of the following graph:

Working Capital Growth

Working Capital Growth has been calculated in respect of Mawana Sugar Ltd. by taking Working Capital in absolute terms so as to judge the absolute growth of net assets and shown in Table No. 2.0

TABLE NO. 2.0 Showing Working Capital Growth in Mawana Sugar Mill.

Year	31 Dec 2014	2015-16 (for 15 months)	2016-17	2017-18	2018-19
Current Assets (` in millions)	4136.57	5550.12	6622.96	5619.17	8431.5
Current Liabilities (` in millions)	12023.09	11144.20	6833.18	8027.68	6295.70
Working Capital	(7886.52)	(5594.08)	(210.22)	(2408.51)	2135.80
Working Capital Growth	100	70.93	2.67	30.54	127.08

(Source: computed with the help of statistics published by the Mawana Sugar Mill in its annual report)

Table No. 2.0 reveals that Turnover in Hindustan Petroleum Corporation Limited registered a growth of 1.27 times over a period of five years under study.

Table 2.1 showing Analysis of Correlation between the measures of Liquidity Management and the Profitability Ratio in Mawana Sugar Limited.

Simple Correlation Coefficient between	
Current Ratio and ROCE	0.55276
Quick Ratio and ROCE	0.142321
Absolute Liquidity Ratio and ROCE	0.705652
Inventory Turnover Ratio and ROCE	-0.6763
Debtors Turnover Ratio and ROCE	-0.87157
Creditors Turnover Ratio	-0.59725
Working Capital Turnover Ratio and ROCE	-0.87017
Current Assets Turnover Ratio and ROCE	0.68236

INTERPRETATION OF DIFFERENT RATIOS

- There is positive moderate coefficient of correlation between current ratio and return on capital employed which represents that current ratio and return on capital employed is increasing moderately so profitability position of the concern is good but the concern is unable making a good liquidity position.
- In concern of coefficient of correlation between quick ratio and return on capital employed its very low degree which denotes that quick ratio effects very low on return on capital employed.
- There is positive moderate coefficient of correlation between cash ratio and return on capital employed that show that Net profit and cash and cash equivalents both are increasing moderately.

FINDINGS, SUGGESTIONS AND RECOMMENDATION

- The short-term liquidity position of the company was not sound as the current ratio is 1.34 times quick ratio is 0.13 times and absolute liquidity ratio is 0.039 times in 2018-19 which does not match with their accepted norms.
- The highest current ratio was found in the year 2018-19 i.e., 1.34 times and lowest was registered in the year 2014 i.e., 0.34 times which is in the favour of concern. The current ratios are continuously improving except 2017-18.
- The maximum liquidity ratio of the company was recorded in the year 2016-17 at 0.32 times and minimum in the year 2014 at 0.10 times.
- Profitability ratio Return on Capital Employed showed a fluctuating trend. Highest ROCE was found in the year 2016-17 i.e., 128.97 percent. The lowest ROCE was recorded in the year 2014 i.e., -67.99 percent. However Net Profit (before tax) and Capital employed both are increasing continuously. Net Profit (before tax) was `-1806.09 crores in 2014 and became `706.84 crores in 2018-19 and Capital Employed was `-2656.29 crores in 2014 and became `6045.03 crores in 2018-19.
- Highest Inventory Turnover was recorded in the year 2014 i.e.,3.66 times. Moreover, lowest Inventory Turnover Ratio was found in the year 2018-19 i.e.,1.19 times. The high inventory turnover ratio indicates better inventory management but there is poor inventory management as Inventory turnover ratio is declining continuously in place of improving.
- The highest debtors' turnover ratio was recorded at 27.38 times in 2017-18. It was minimum in 2016-17 i.e., 19.92 times. High Debtors' Turnover Ratio indicates an efficient management of receivables but it is fluctuating moderately under the period of study.
- Under the period of study, it is observed that in most of the year Current Liabilities is more than Current Assets while according to the accepted norms Current Assets should be twice of Current Liabilities which is not in the favour of firm in concerned of short-term solvency position of the concern. The management should take corrective measurement to increase the short-term solvency position of the concern.
- It has been also observed that cost of goods sold has been decreased in 2016-17 and in 2018-19 it shows efficient management system of inventory.
- In order to enhance profitability of the concern, the management should focus on increase the sales and minimise the cost of goods sold.
- In order to improve current ratio, the company must reduce its reserve and surplus instead of increasing current liabilities. The company may raise fund from reserve and surplus.
- In order to enhance the efficiency ratios, company should reduce its cost of goods sold.
- The company might issue equity shares, took long term loan, sells unutilised fixed assets or sold Long term investment to overcome the shortage of working capital, by doing so the condition of working capital

may be improved and the short-term solvency position also be improved.

- The company should reduce its current liabilities by properly sale of fixed assets and from this paying current liabilities.
- The company can delay paying its creditors and it can accelerate the process of collecting debts

REFERENCES

- Foulke, Roy A.; "Practical Financial Statement Analysis", Me Graw- Hill, New Delhi, 1981.
- Gole, V.L. "The Management of Working Capital" The Australia Accountants, Melbourne, 1980.
- Guthmann, Harry G., "Analysis of Financial Statements" Prentice Hall, India, 1966.
- Business Standard.
- Economic Times.
- Financial Express.
- Southern Economist.
- www. Investopedia .com
- www. Money control.com
- www. Encyclopedia.com
- www. Mawana Sugar mill.in
- Annual Report of Mawana Sugar Limited
- Chartered Accountant.
- Economic Survey- Various issues.
- Economic Times.