Working Capital Management & Profitability

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ABSTRACT

The growth and development of any business depends upon availability and management of financial resources. A business concern acquires fund from various sources and invest in its current and noncurrent assets. Current assets help in running of day to day operation of business whereas non current assets help in production or trading activities. Current assets ensure the liquidity in the business which has impact on profit earning of the business. An excess or shortage of liquidity both has adverse impact on profitability. So the decision regarding investment and management in current assets, which is also known as working capital management, is very crucial for all business. The efficiency of firm to earn profit largely depends on working capital management. A tradeoff between profitability and liquidity always necessary. In our study, it is seen liquidity position of the MMTC Ltd was not satisfactory during study period, and the profitability position was little in favor but not good. This study also reveals that there is a positive correlation coefficient exists between liquidity and profitability of the company. On the basis of testing, it is seen liquidity has impact on profitability.

Keywords-- working capital, current assets, current ratio, liquidity, profitability

I. INTRODUCTION

As without air and water no living organism can survive on this earth, similarly a business cannot run without adequate working capital. An efficient management of working capital is must for smooth running of various operation of the business. Whatever be the size, nature or type of business, all needs an adequate level of liquidity and current assets block to run its day to day operation. This optimum level of working capital depends upon the operating cycle of a business. Adequate level of working capital needed to protect the business against the short term liabilities and any emergency situations. But at the same time excess or shortage of workings capital, both the situations are dangerous for a business. Excess of working capital reduces the assets turnover and profitability of assets on the other hand shortage of working capital results in disruption or stoppage of operation of business in lack of liquidity. Thus working capital position also impact on the profitability of a firm. Planning for a optimum working capital and thus investment in current assets and liquidity is one of the crucial part of financial planning. The planning for adequate level of working capital needs a detail tradeoff between risk and return.

There are two important concepts of working capital management, first, gross working capital and second, net working capital. Gross working capital is the total investment in current assets of business whereas excess of current assets over current liabilities is net working capital. Net working capital indicates liquidity of a firm. This liquidity is necessary to earn profit but higher liquidity is reduces the utilization rate of assets. But when a firm manage its liquidity at adequate level, its profitability and assets utilization rate also improve. This can be achieved only through an efficient working capital management.

II. REVIEW OF LITERATURE

A number of researches have been carried out on working capital management so far. Different researcher has analysed working capital and financial performance of firm from different perspectives.

The first and foremost formal study conducted on working capital management in India by National Council of Applied Research in Economics in 1966, NCAER, “Structure of Working Capital”, page 1-6; which reveals working capital policy was highly unplanned in Indian industries. This study highlights the significance of suitable and appropriate working capital management policy in the success of business.

Venkatachalam (1995),have made “An Empirical analysis in working capital and profitability”. Taking the example of sugar industry for the period of 1982 to 1992,
correlation and regression analysis have been applied to measure the impact of working capital ratios on the profitability. Liquidity ratio and cash turnover ratio have negatively influenced profitability.

Sharma and Charry (1999), in “working capital management in VST, An appraisal” has conducted study on VST industry reveals that workings capital management was inefficient. The company did not follow any consistent policy with respect to financing of working capital. The study reveals that due to inefficient management of workings capital, the company earned lower profit during study period.

Arindam Gosh (2007), “Working Capital practices in some selected industries in India- A case study of impact of working capital ratio on profitability in cement industry”- the study attempt to examine the efficiency of working capital management of the Indian cement companies during 1993 to 2003 and its impact on profit of the business. The study is based on 20 large cement companies in India.

III. COMPANY PROFILE

Metals and Minerals Trade Corporation (MMTC Limited) is a central public sector company under ministry of commerce and Industry, Govt. of India. The company was incorporated in the year 1963 and starts its operation from 1st October 1963 with trade of primary products such as coal, iron ore and fertilizers. Today the companies operation covers the following seven business ie. Minerals, precious metals, fertilizers, metals, agro products, coal and hydrocarbon, general trading.

The company is one of the largest trading houses with a vast network with Asian, African, European and Australian countries. On the basis of its performance in domestic and international trade, today MMTC Limited achieved miniratna cpsu status by government of India. Today the company is operating from its head office and thirteen regional offices in different parts of India and its two subsidiaried, Neelanchal Ispat Nigam Limited, an iron and steel plant with 1.1 MT capacity and MMTC Transnational Pte Limited, based in Singapore.

MMTC Ltd has achieved highest exporter target for export of chemical and allied products. The company is also a largest importer of fertilizer products for agriculture in India. Companies business involved direct marketing of fertilizer like urea, rock phosphate, area and other fertilizer and farming products.

MMTC Ltd is a largest importer of precious metal and stones like gold, silver, platinum, rough diamond and precious stones like ruby, emerald etc. The company is involved in readymade jewelry sale and organizing jewelry exhibition in different part of India.

MMTC Ltd is one of the importers of non ferrous metals like copper, nickel, tin, zinc, aluminum, magnesium, silicon etc and largest seller to the Indian manufacturers. The company also involved in the trade of silk and silk building materials, textile materials, pharma raw materials and chemicals, hydrocarbon, coal and coke etc.

The followings are few distinguish achievements of MMTC Limited in last five decades for India;
- It is the largest exporter of minerals.
- Largest importer and trader of gold, silver and other precious metals.
- Biggest importer and seller of non ferrous metals like copper, zinc, tin, lead, magnesium etc.
- India’s largest importer of coal.
- Largest importer of fertilizers and chemicals for Indian agriculture.
- Largest traders of agro based product both in export and import.
- Second highest foreign exchange earner for India after State Trading Corporation.

IV. OBJECTIVES OF THE STUDY

1. To study the profitability position of MMTC Limited.
2. To study the working capital position of MMTC Limited.
3. To study the correlation between liquidity decision and profit earning ability of the company.

V. METHODOLOGY OF STUDY

The study is based on secondary data from annual report of MMTC Limited. Data exclusively taken from the financial report for the five years period ie from 2011-12 to 2015-16. Data are edited and tabulated as per requirement of the research and study.

Accounting Ratio is used as a tool for analysing profitability and liquidity position. Finally for assessing the trend of ratios and their reliability arithmetic means, average annual growth rate and standard deviation has been used.

Spearman rank correlation and Student’s t-test (as n<30) have been used to test the third objectives of this research which is explained in null hypothesis. Microsoft Excel sheet and SPSS software has been used for statistical calculation like standard deviation, Average annual growth rate, arithmetic mean and t-test etc.

VI. HYPOTHESIS OF THE STUDY

Null Hypothesis (Ho): There is no significant differences exist between liquidity and profitability of the company.

Alternative Hypothesis (Ha): There is significant differences exist between liquidity and profitability of the company.
VII. ANALYSIS OF PROFITABILITY POSITION OF MMTC LIMITED

Profitability means profit earning ability of a firm. This profitability is the indicator of percentage of return in the form of profit on investment. A high percentage shows higher profitability and efficient management of the firm.

There are many different ways to analyse the profitability or revenue generating ability of a firm like net profit margin, gross profit margin, operating profit margin, return on assets and return on capital employed or ROCE etc. Here for the purpose of research, operating profit margin is used to test the profitability for different study period. Operating profit ratio is the accounting ratio between operating profit (Earnings before interest and taxes or EBIT) and net sales (total sales minus sales return minus sales tax).

Table: 01

<table>
<thead>
<tr>
<th>Year</th>
<th>EBIT (Rs Crore)</th>
<th>Net Sales (Rs Crore)</th>
<th>Operating Profit Ratio (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015-16</td>
<td>135.66</td>
<td>12460.47</td>
<td>1.09</td>
</tr>
<tr>
<td>2014-15</td>
<td>134.17</td>
<td>18241.50</td>
<td>0.74</td>
</tr>
<tr>
<td>2013-14</td>
<td>345.58</td>
<td>24074.40</td>
<td>1.38</td>
</tr>
<tr>
<td>2012-13</td>
<td>299.75</td>
<td>28415.62</td>
<td>1.06</td>
</tr>
<tr>
<td>2011-12</td>
<td>276.62</td>
<td>65920.11</td>
<td>0.42</td>
</tr>
<tr>
<td>Arithmetic Mean</td>
<td>238.25</td>
<td>30024.24</td>
<td>0.94</td>
</tr>
<tr>
<td>Average Annual Growth Rate (%)</td>
<td>-9.10%</td>
<td>-31.90%</td>
<td>45.87%</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>87.32</td>
<td>18780.66</td>
<td>0.32</td>
</tr>
</tbody>
</table>

Interpretation

The above table indicates MMTC has highest operating profit ratio in the year 2013-14 (1.38%) and lowest is in the year 2011-12 (0.42%) with a mean value of 0.94 percent during study period. The average annual growth rate of operating profit margin is 45.87 percent with a low standard deviation 0.32. The operating profit was highest in the year 2013-14 (Rs 345.58 crore) and lowest in the year 2014-15 (Rs 134.17 crore) in absolute figure with an average of Rs 238.25 crore and average annual growth rate of 9.10% (negative). When we look at sales, it is highest sales in 2011-12 and lowest in 2015-16 with an average of Rs 30,024.24 crore and average annual growth rates of 31.90 % (negative). The standard deviation of EBIT and net sales are Rs 87.32 crore and Rs 18,780.66 crore respectively.

The operating profit ratio is showing a fluctuating trend during the study period. The operating profit ratio of the company during study period is 0.94 which is very low and clearly result of low utilization of capital employed and assets of the company. So, performance of the company is not satisfactory and special attention required to improve ratio and to stabilize profitability position.

VIII. ANALYSIS OF WORKING CAPITAL POSITION OF MMTC LIMITED

1. Net Working Capital position

Working capital has two concepts, first gross working capital and second, net working capital. Aggregate investment in current assets is called gross working capital whereas excess of current assets over current liabilities called net working capital. Both the concept of working capital is important in liquidity management. Net working capital indicates safety margin available against any uncertainty towards short term liabilities. But at the same time an excess investment in current assets results low return on total assets, idle and unutilized current assets in the balance sheet of the firm.

Table: 02

<table>
<thead>
<tr>
<th>Year</th>
<th>Current Assets (Rs Crore)</th>
<th>Current Liabilities (Rs Crore)</th>
<th>Net Working Capital (Rs Crore)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015-16</td>
<td>3137.32</td>
<td>2453.08</td>
<td>684.24</td>
</tr>
<tr>
<td>2014-15</td>
<td>5456.48</td>
<td>4674.30</td>
<td>782.18</td>
</tr>
<tr>
<td>2013-14</td>
<td>4095.33</td>
<td>3315.11</td>
<td>780.22</td>
</tr>
<tr>
<td>2012-13</td>
<td>5980.64</td>
<td>5108.60</td>
<td>872.04</td>
</tr>
<tr>
<td>2011-12</td>
<td>9598.53</td>
<td>8785.20</td>
<td>804.33</td>
</tr>
<tr>
<td>Arithmetic Mean</td>
<td>5633.86</td>
<td>4867.258</td>
<td>766.602</td>
</tr>
<tr>
<td>Average Annual Growth Rate (%)</td>
<td>-19.0</td>
<td>-20.86</td>
<td>-3.81</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>2206.56</td>
<td>2176.38</td>
<td>42.12</td>
</tr>
</tbody>
</table>

Interpretation

MMTC Ltd has positive net working capital in all five financial year period which indicates safe position against claims of short term liabilities but as net working capital position showing a fluctuating trend. The average annual growth rate is low as 3.81 (negative) and a very low standard deviation seen in deviation of workings capital during study period. The position of current assets and current liabilities also showing a fluctuating trend, which cannot be said to be satisfactory, with negative annual average growth rate.

From the table it can be concluded that gross working capital and net working capital both are positive but low satisfactory to the company as fluctuation is seen. The company should invest sufficient fund in current assets and maintain a safe and stabilize position against current liabilities.

2. Statement of Current Ratio

Current ratio is a arithmetical ratio between current assets and current liabilities. Current ratio greater than one indicates firm has ability to pay off its current liabilities immediately, which is indicator of sufficient short term fund. A positive current ratio always indicates short term solvency and financial stability. Generally current ratio in 2:1 proportion is said to be good.
Table: 03

<table>
<thead>
<tr>
<th>Year</th>
<th>Current Assets (Rs Crore)</th>
<th>Current Liabilities (Rs Crore)</th>
<th>Current Ratio (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015-16</td>
<td>3137.32</td>
<td>2455.08</td>
<td>1.28</td>
</tr>
<tr>
<td>2014-15</td>
<td>5456.48</td>
<td>4674.30</td>
<td>1.17</td>
</tr>
<tr>
<td>2013-14</td>
<td>4695.33</td>
<td>3315.11</td>
<td>1.42</td>
</tr>
<tr>
<td>2012-13</td>
<td>5890.64</td>
<td>5108.60</td>
<td>1.15</td>
</tr>
<tr>
<td>2011-12</td>
<td>9599.93</td>
<td>8785.20</td>
<td>1.09</td>
</tr>
<tr>
<td>Arithmetic Mean</td>
<td>5633.86</td>
<td>4667.28</td>
<td>1.19</td>
</tr>
</tbody>
</table>

Average Annual Growth Rate (%) = -19.58
Standard Deviation = 2206.56

Interpretation

In the above table highest current ratio is in the 2015-16 and lowest in 2011-12. It has a average annual growth rate is 4.27 and low standard deviation 0.067. Here it is clear from the table current ratio position is not adequate as arithmetic mean of the ratio for the study period is only 1.19 times which is much below to the ideal standard of 2:1. The current ratio of each year is also much below to the ideal standard. Again, current ratio position of the period is not satisfactory as it is showing a fluctuating trend. So a special attention is required by the company to invest in current assets.

3. Statement of Quick Ratio

Although current ratio is there, quick ratio is more rigorous test of firm’s ability to pay its current liabilities in short time. Quick Ratio is the measure of how well a firm is able to meet short term financial liabilities. It is the arithmetical relationship between (Cash+ Cash equivalent & marketable securities+ Accounts receivables)/ Current liabilities (quick assets /current liabilities). Generally quick ratio in the proportion of 1:1 is said to be good.

Table: 04

<table>
<thead>
<tr>
<th>Year</th>
<th>Quick Assets (Rs Crore)</th>
<th>Current Liabilities (Rs Crore)</th>
<th>Quick Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015-16</td>
<td>2340.55</td>
<td>2453.08</td>
<td>0.95</td>
</tr>
<tr>
<td>2014-15</td>
<td>3199.05</td>
<td>4674.30</td>
<td>0.68</td>
</tr>
<tr>
<td>2013-14</td>
<td>2207.89</td>
<td>3315.11</td>
<td>0.67</td>
</tr>
<tr>
<td>2012-13</td>
<td>3685.01</td>
<td>5108.60</td>
<td>0.72</td>
</tr>
<tr>
<td>2011-12</td>
<td>5624.07</td>
<td>8785.20</td>
<td>0.64</td>
</tr>
<tr>
<td>Arithmetic Mean</td>
<td>3411.11</td>
<td>4897.26</td>
<td>0.73</td>
</tr>
</tbody>
</table>

Average Annual Growth Rate (%) = -20.76
Standard Deviation = 1233.76

Interpretation

In above table, quick assets showing a fluctuating trend during study period with highest block of quick asset in the year 2011-12 and least in 2013-14. The average is Rs 3411.11 crore with annual average growth rate of 20.76%(negative). On the other hand, Quick ratio is also showing a fluctuating trend from 2011 to 2015 with highest ratio 0.95 percent in 2015-16 and least in 2011-12, 0.64 percent. The average of all quick ratio is only 0.73 with annual average growth rate of 11.69. Generally a standard of 1:1 ratio is said to be good, but here in case of MMTC Limited, quick ratio in all the study period is lower than one. This is due to low current ratio or low investment in current assets, mainly in those current assets which are considered as cash and cash equivalent. Here the company is required to put its attention and take steps to improve the situation.

Finally it can be concluded that quick ratio is also not satisfactory as it is below one and showing a fluctuating trend over study period.

4. Cash to Total Assets

This ratio measures what proportion of total assets is in form of cash and cash equivalent. Cash and cash equivalent is the most liquid asset of a company and show the immediate payment capacity. Higher ratio indicates low risk and ability to meet emergency payment whereas a shortage of cash balance indicates unfavorable situation. Maintenance of optimum cash balance is necessary as liquidity has impact on profitability.

Table: 05

<table>
<thead>
<tr>
<th>Year</th>
<th>Cash &amp; cash equivalent (C) (Rs Crore)</th>
<th>Total Assets (Rs Crore)</th>
<th>Cash to Assets Ratio (times)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015-16</td>
<td>188.89</td>
<td>3889.37</td>
<td>0.0488</td>
</tr>
<tr>
<td>2014-15</td>
<td>418.15</td>
<td>6300.16</td>
<td>0.0664</td>
</tr>
<tr>
<td>2013-14</td>
<td>646.08</td>
<td>5064.57</td>
<td>0.1276</td>
</tr>
<tr>
<td>2012-13</td>
<td>1701.55</td>
<td>8827.58</td>
<td>0.1922</td>
</tr>
<tr>
<td>2011-12</td>
<td>2852.82</td>
<td>12773.42</td>
<td>0.2233</td>
</tr>
<tr>
<td>Arithmetic Mean</td>
<td>1161.50</td>
<td>6971.01</td>
<td>0.143</td>
</tr>
</tbody>
</table>

Average Annual Growth Rate (%) = -48.12
Standard Deviation = 991.61

Interpretation

The above table indicates company policy to maintain a very low proportion of cash and cash equivalent of total assets. The average of ratio of the study period is only 0.143 which is very low amount in total assets. On the other hand ratios is also showing a fluctuating trend over the study period which cannot be said satisfactory.

Here the company is required to invest in current assets specially in cash or cash equivalent assets for continuous operation and sale and to reduce the problem of liquidity. Inadequate investment in cash may disturb operation of the business as the firm is operates in trading business, but at the same time excess investment in current assets may reduce the profitability of the assets. Generally what should be the optimum investment in current assets is depend upon the operating cycle.

5. Net Sales to Workings Capital

The overall efficiency in working capital management is measured with the help of working capital
turnover ratio. This ratio is the arithmetical relationship between net sales and net working capital. A high working capital turnover ratio reveals that a low investment in working capital has resulted in high sales. It is an indicator of efficient management of working capital. On the other hand, a low degree of ratio speaks of achieving a low sales by investing high amount in working capital. This situation indicates managerial inefficiency.

Table 06 reveals sales generated over working capital. The highest ratio was in the year 2011-12 (81.93 times) and least ratio in 2015-16 (27.46 times). The overall average is 41.69 with average annual growth rate of 0.21(negative) and a high degree of standard deviation 20.32. A decreasing trend may be observed in working capital turnover ratio during study period. This is probably due to decrease in net sales over the years. The company may improve the situation by improving the sales and attention towards investment and utilization of working capital. However the present situation may be said to be fair but not good if we look at each year and more important is the company put attention on cost of production, sales and to stabilize the ratio.

6. Analysis of Liquidity & Profitability

To test the degree of correlation between liquidity decision of MMTC Limited and its profitability Spearman’s Rank Correlation has been used here. Rank Correlation measures the degree of similarities between ranking of liquidity and ranking of profitability for MMTC Limited for study period 2011-12 to 2015-16. Spearman’s Rank Correlation (r);

\[
1 - \left( \frac{6 \Sigma d^2}{n(n^2 - 1)} \right)
\]

Where, \(d\) = difference between ranking of liquidity and profitability (R1-R2) \(R = \text{Rank} \); & \(n\) = number of period in years

Here, Spearman Rank Correlation Coefficient (r )= 0.4

Interpretation

Quick Ratio has been used a measure of liquidity and operating profit margin as profit earning ability of the company. There is a positive correlation (r =0.40) exist between liquidity and profitability of MMTC Limited. This indicates, higher the degree of liquidity, there is high profit earned and vice versa.

Test of Hypothesis

“t” test is based on t distribution and it is considered as appropriate test for judging the significance of difference between the means of two samples. In case two samples are associated, we use this test for judging the significance of means of difference between two related samples. This test can also be used for judging the significance of coefficient of correlation and degree of correlation exist. “t” test is only applied in case of small samples (n<30) when population variance is unknown. Test of statistics;

\[
t = \frac{r \sqrt{n - 2}}{\sqrt{1 - r^2}}
\]

Where, \(r = 0.40\) (rank correlation between liquidity and profitability) & \(n = 5\) (number of periods).

After putting value of variables in the above equation we got, computed value of “t” = 0.76.

Table value of “t” at 5% level of significance at degree of freedom 3 ie (n-2) is equals to 2.35.
Since the computed value of “t” (0.76) is lower than table value, null hypothesis is accepted. Thus it can be concluded here that liquidity decision of MMTC Limited has a significant impact over the profitability. Correlation exists between liquidity of the company and profitability. With increase in liquidity, profitability also increases and vice versa.

IX. RECOMMENDATION

In the above study, it is seen that there is a high degree of correlation exist between the liquidity and profitability of the company. So, it is recommended that the company should use various working capital policies to improve its present liquidity position and try to maintain an optimum level of working capital for better profitability. An improvement, stability and consistency is requires in present working capital position for maximizing future profit and growth of the firm.

X. LIMITATION OF THE STUDY

The following are few limitation of this study;
1. Only secondary data from published annual report is used for this research.
2. The study covers only five financial years from 2011-12 to 2015-16.
3. Only selective ratios are used to evaluate the working capital position of the company.

REFERENCES