CHAPTER – I

WORKING CAPITAL MANAGEMENT- AN OVERVIEW
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1.1. Introduction and its Background

India is well on its own way to become the premier manufacturing location for companies around the world (Manpreet and Ravi, 2008)\(^1\). India's share of industrial sector in GDP is 26 per cent (FICCI survey, 2012-2013)\(^2\). Among which manufacturing sector is considered to be the most important sector in the overall economic growth, so the sector needs to have a deep analysis at industry level as well as firm level.

There are a number of factors that affect the profitability of an enterprise. Their influence differs with the aspects of both short term, and long term. Understanding these factors will be very helpful in managing a business entity. In one hand the performance can be determined using the micro level and macro level factors. On the other hand, there will be some internal as well as external factors too, which decides the effectiveness of the organisational profitability. At the same time an important role falls with the manager of the enterprise, who should take all efforts to improve the financial performance of the company. Finance is the nerve centre of every economic activity; therefore it is considered to be vital for efficiency and growth of a business. Every Business concern undertakes an establishment, promotion, and expansion activity which requires adequate financial resources. Hence an effective utilisation of capital is essential to increase the rate of development and to enhance the efficiency of production system of a business. Capital in a business is inclusive of both fixed and working capital. But then working capital should be given due importance than the fixed capital. However working capital management is considered to be an inseparable segment of overall financial management.

Working capital is the major source of Financing that a manufacturing firm needs to deal with (Kim and Hyun, 2013)\(^3\). According to Horne and Wachowitz (2000)\(^4\) working capital management efficiency is crucial especially for manufacturing firms; hence a major part of assets is composed of current assets. Working capital is identified as one of the life giving forces for any economic unit and its management is considered to be the most important function of corporate management. All corporate entities irrespective of size and nature of business whether profit oriented or not, requires necessary amount of working capital for their survival. Working capital management is the most decisive factor for maintaining liquidity, solvency and profitability of business (Mukhopadhyay, 2004)\(^5\). The firms may likely to face insolvency, if
there is no any trade-off between liquidity and profitability with reference to working capital management (Kargar and Blumenthal, 1994). Working capital management plays distinctive role for making the liquidity and profitability comparisons among various firms which includes the decision making composition of current assets financing. The proportion of the liquid assets should be high, so that lesser will be the risk of running out of Current asset and Liquid assets, being all other things equal. The components of working capital such as marketable securities, receivables, inventory and cash management play a critical role in the performance of any firm. (Eljelly, 2004).

1.2. Operational Definition and meaning of working capital

According to Guthmann and Doughall (1955) working capital is the excess of current assets over current liabilities. Similarly Gerstenberg (1959) stated “Any comprehensive discussion on the working capital includes the excess of current assets over current liabilities”. This view is completely endorsed by (Accountants Hand Book). Working capital typically means the firms holding of current or short-term assets such as cash, receivables, inventory and marketable securities (V. K. Bhalia. 2004).

A Business unit needs to optimize and manage the working capital without effecting profits and sales volume. The issue with the working capital management is that the investments in working capital resources cannot be reduced to minimum level as it is affecting the other operational areas. The study of Dev Strischer (2001) states that improving collection practices, Inventory control and trade credit practices, will help in efficient management of working capital and cash flows of company, bankers and Investors. However inventory constitutes a major portion of current Assets. Wang (2002) points out that if the inventory levels are reduced too much then the firm will have to face a risk of losing increased volume of sales and also, a significant reduction of the trade credit granted may provoke a reduction in sales from customers requiring credit. Similarly, increasing supplier financing may result in loss of discount for the early payments. Even then the opportunity cost may exceed, depending on the discount percentage and discount period granted.

Companies that have shortened their payment terms too much had difficulties in selling their products. Most of the customers will allow a longer payment period, in order to improve their
working capital, and also to maintain their product quality. Similarly, by deferred payments the company can acquire heavy financing rate on their credit terms and may even lose the discounts given for prompt payments. Also by minimizing the inventory levels a company might not enjoy the benefits of rapid growth in their demand and sales. The metrics and drivers which are used in a company are industry specific such as some industries like manufacturing sectors the operating cycle time may be much longer, than compared with the retail firms the cycle terms are very prompt. There is also a wide Inter - Industry variation in the operating activities of liquidity of the corporate enterprises. This leads to a situation where there is a need to study about working capital at Sector – wise which has been taken into consideration for the purpose.

1.3. The Concept of Working Capital Management

According to Bhattacharya (2009)\(^{14}\) the concept of working capital was perhaps first evolved by Karl Marx, though in a fairly different form and the term he used was “variable capital”. Park and Gladson (1963)\(^{15}\) elaborated working capital as current assets minus current liabilities. This is also known as “Net working capital”. Current assets are called “Gross working capital”. The current assets are studied as four primary components: (i) Cash and cash equivalents; (ii) Marketable Securities (iii) Accounts receivable and (iv) Inventory. The three major items of current liabilities are: (1) Accounts payable; (2) Expenses payable, including accrued wages and taxes and (3) Notes payable (Cheng et al., 2009)\(^{16}\). Narrower definition for working capital is Inventory + Accounts receivable – Payables. This definition emphasizes on operating efficiency of a firm. Making decisions that affect working capital is called working capital management.

1.4. The Importance of working capital management

Working capital management is a significant feature of financial management. Its importance stems from two reasons. Current Assets Investments represent a substantial portion of total Investment. Management of working capital refers to the management of current Assets and current liabilities. The foremost drive of course, is on the management of current Assets. Working Capital involves the proportion of the assets of a business, that are used, in current operation, which includes receivables, inventories (raw materials, work-in-progress and finished goods) merchandise, bill receivable and cash. The goal of working capital management is to manage, current asset in such a manner so that the satisfactory level would be maintained.
Working capital management is an important function of financial management. Its function in an organization is similar to that of heart in a human body. The financial manager must determine the satisfactory level of working capital funds and also the optimum mix of current assets and current liabilities. The management should ensure sources of funds which is used to finance working capital and should also see whether short term obligation of the business are met well in time. Whereas, liquidity is a precondition to ensure the firm’s ability to meet its short-term obligations and its continued flow can be guaranteed from a profitable undertaking.

There had been much of research work in the field of working capital management and its influence on overall profitability. Working capital management is important because of its effects on the firm’s profitability and risk, and consequently its value (Smith, 1973). Every business firm should maintain adequate working capital to meet its operational requirements. The management has to see that funds invested as working capital in their organization earn return at least as much as they would have earned return if it is invested anywhere else. At the time of increasing capital costs and scarce funds, the area of working capital management assumes added importance as it deeply influences a firm's liquidity and profitability.

1.4.1. The Need for Working Capital

Working capital management is a very important component of corporate finance because it directly affects the liquidity profitability and solvency of a business entity, which includes current assets and current liabilities. The research study on Working capital management is important due to various reasons.

(i) The current assets of a typical manufacturing firm accounts for over half of its total assets.

(ii) The objective of the financial decision making to maximize the shareholder wealth which is used to generate sufficient profits.

(iii) The extent to which profits earned will naturally depend upon the other things among the magnitude of sales. Therefore, there is a need for immediate realization of cash against goods sold. Hence sufficient working capital is necessary to sustain sales activity. The term cash cycle refers to the length of the working capital components to complete the following cycle of Events. They include (i) Conversion of cash to Inventory (ii) Conversion of Inventory to Receivables (iii)
Conversion of Receivables into Cash. Since Cash inflows and outflows contradict each other, firms have to essentially keep cash or invest in short-term securities, in order to meet the short-term obligations. Similarly firms must have adequate inventory to guard against the possibility of not being able to meet demand for their company’s products. Adequate Inventory therefore provides a cushion against being out of stock. If firms have to be competitive, they must sell goods to their customers on credit which necessitates the holding of accounts receivable. It is in these ways that an adequate level of Working capital is absolutely necessary for smooth sales activity which in turn, enhances the proprietor’s wealth.

1.4.2. Scope of working capital management

The goal of working capital management is to manage the firm’s current assets and current liabilities in such a way to maintain the satisfactory level of working capital. If the firm cannot maintain a satisfactory level of working capital then it will run into difficulties in maintaining liquidity and if ill-liquidity persists over a long period even solvency related problems could arise. The Current Asset should be huge enough to cover its current Liabilities in order to ensure a reasonable liquidity. Each of the Current Assets should be efficiently managed in order to maintain liquidity of the firm. The role of financial manager in managing working capital efficiently is to ensure sufficient liquidity in the operations of the Business. Similarly, the liquidity of a business firm is measured by its ability to satisfy its short-term obligation as they become due.

1.5. Strategies of working capital management

While discussing the working capital management strategies, it is necessary to note that which definition of working capital is used. If the narrower definition is used, then working capital management means inventory management, receivables management and payables management. With broader net working capital definition current asset and current liability are managed.

In context of working capital management the inventory management means primarily deciding the size of inventory. Firms should have an optimum level of inventories and large inventory reduces the risk of a stock-out but it needs more working capital. In managing working capital delay in payments to suppliers can be used for flexible and inexpensive source of business financing. But late payments are also very costly if the firm is offered discount for early payment
Accounts receivables are the third area where providing time to the customer's in order to pay (trade credit) may stimulate sales as customers can evaluate product quality before paying it. Trade credit can also be a source of credit to firms that cannot get credit granted from financial institutions cheaply (Ibid). Trade credit is a widely studied area (Petersen and Rajan, 1997; Deloof and Jegers, 1996; Ng et al., 1999). There exists many theories about trade credit, and many researchers have been made to show if theories are right. Petersen and Rajan (1997) found that firms use trade credit more when credit from financial institutions is not available.

Different firms require different working capital management strategies.

According to Meszek and Polweski (2006), Net working capital strategies can be divided into aggressive, moderate and conservative strategies. This includes both Assets strategy and Liability strategy. Liability strategy (LS) is defined as, \( SL = \text{short-term liabilities (Current liabilities)} \) and \( TA = \text{Total assets} \). Assets strategy (AS) is defined as \( CA = \text{Current assets} \) (Ibid).

The aggressive strategy is maintaining a high level of short-term liabilities and a low level of current assets compared to the total assets. This results in a high income since net working capital level is negative but highly risky because firm has more short-term liabilities than assets. The conservative strategy is opposite to former (i.e.) firms maintain a low level of short-term liabilities and a high level of current assets in the total assets. The moderate strategy is between these two strategies.

Net working capital management could be noted that when narrow definition of working capital is minimized by maintaining inventories as low as possible, accounts payable as large as possible and accounts receivable as small as possible, this method leads towards aggressive net working capital management strategy. There are different definitions of working capital that do not cause conflict when forming a working capital management strategy. Hence this study adopted the narrower definition of the working capital management to test its relationship with profitability (Ibid).
1.6. Measuring the working capital management

Chakraborty (1974)\textsuperscript{24} drew special attention to each component of operating cycle rather than on the cycle itself claiming that component—wise computation was better than applying single operating cycle duration and deriving working capital needs from its turnover. There are various methods drawn by academicians on operating cycle such as Richards and Laughlin proposed a weighted cash conversion cycle (WCCC). This WCCC measures the weighted number of days funds are tied up in inventories and receivables less the weighted number of day’s cash payments are delayed to suppliers. Similar method was adopted by Pandey (1974)\textsuperscript{25} in his book ‘financial management’. Operating cycle concepts claim that money is blocked first in raw materials; labour and other conversion cost; selling and distribution costs comes in the end.

Thus the cash blocked in raw materials last for the whole of operating cycle while manufacturing expenses blocked in work-in-progress stage, selling and distribution cost blocked in finished goods, storage and sales blocked in debtors would last from their sequential commitment to the remaining period of operating cycle. Hence the necessity for aggregate working capital could be more accurately derived by considering each component of working capital distinctly. It is doubtful whether in an ongoing business; expenses are incurred in such a sequential manner.

The technical measures for working capital are Number of day’s inventories means how many days it takes to turn over the value of entire inventory. Number of day’s accounts receivable and payable tells how long on an average a company takes to get payment and also to its pay invoices. Working capital requirement comes directly from the narrower definition of working capital. (Chiou and Cheng, 2006)\textsuperscript{26}.

A popular measure of Working Capital Management is the cash conversion cycle, the cash conversion cycle is a form presented by Jose et al. (1996)\textsuperscript{27} the time lag between the expenditure for the purchases of raw materials and the collection of sales of finished goods. The extension in the time lag, the greater will be the investment in working capital (Deloof,2003)\textsuperscript{28}. A longer cash conversion cycle might increase profitability because it leads to increased sales volume. On the other hand, corporate profitability might also decrease with an increased cash conversion cycle. If the cost of investment in working capital increases then the benefits of holding more
inventories and granting more trade credit to customers will also increase. Reducing cash conversion cycle to a reasonable minimum generally leads to increased profitability. Amount of working capital can change during a financial year of a firm. Usually numbers at the end of financial year are good estimates, but if the operation of a firm is very seasonal they can be misleading. The cash conversion cycle is a popular measure of working capital management used in many studies. According to Jose et al. (1996)\textsuperscript{29}, the cash conversion cycle was introduced by Gitman (1974)\textsuperscript{30} and later refined by Gitman and Sachdeva (1982)\textsuperscript{31}.

Large inventory and a generous trade credit policy may lead to high sales. Trade credit may stimulate sales because it allows customers to assess product quality before paying (Long et al., 1993)\textsuperscript{32}(Deloof and Jegers, 1996)\textsuperscript{33}.

Another component of working capital is accounts payable. Delay in the payments to vendors allows a firm to assess the quality of bought products, which can be inexpensive and flexible source of financing for the firm. However, late payment of invoices can be very costly if the firm is offered a discount for early payment. The three basic measures of firms overall liquidity are (i) The current Ratio (ii) The Acid Test Ratio and Net Working capital. Current ratio is ratio between short-term assets and liabilities. A value under one could mean liquidity problems. Quick ratio is similar to take account of the fact that it may take time to convert inventory into cash.

Working Capital Management is a very sensitive area in the field of financial management (Joshi, 1994)\textsuperscript{34}. It involves the decision of the amount and composition of current assets and the financing of these assets. Current assets comprises of all those assets that a normal course of business return in the form of cash within a short period of time, normally within a year and such temporary investment may be readily converted into cash upon need. The Working Capital Management of a firm in a part affects its profitability. The ultimate objective of any industrial unit or an entity is to maximize the profit. However, conserving liquidity of the firm is an important objective too. The difficulty in increasing profits at the cost of liquidity can bring serious problems to the firm. Therefore, there must be a trade-off between these two objectives of the firms. The initial objective should not be at cost of the other because both have their importance. If care is not taken to increase profit, a firm cannot survive for a longer period. On
the other hand, if there is illiquidity then a firm may face the problem of insolvency or bankruptcy. To avoid these two situations working capital management should be given proper consideration which will ultimately affect the profitability of the firm.

Considering the importance of working capital management the researchers focused on evaluating the working capital management and profitability relationship such as (Uyar, 2009\textsuperscript{34}; Samiloglu and Demirgunes, 2008\textsuperscript{36}; Vishnani, 2007\textsuperscript{37}; Shah and Sana, 2006\textsuperscript{38}) concentrated on the oil and gas sector and estimated the relationship using small sample of 7 firms. Raheman, A. and M. Nasr(2007)\textsuperscript{39} analyzed profitability and the working capital management performance of 94 firms listed on Karachi Stock Exchange for the period 1999-2004. However this study stressed on the context that each firm has its unique characteristics but ignored sector wise analysis of working capital management performance of manufacturing firms. Lack of evidences on the sector-wise performance on the working capital management provides a strong motivation for evaluating the relationship between working capital management and profitability in India. Many researchers have studied working capital from different views and in different environments.

This study will focus on the ratio analysis (i.e) traditional model for analyzing the study. The model constitutes of working capital operating cycle periods, liquidity measures and solvency ratios were used to evaluate the impact of working capital management on profitability. In the statistical studies, working capital management includes financial data such as number of day’s inventories; accounts receivable, accounts payable and cash conversion cycle are usually drawn as a measure of working capital components. This discussion on the importance of working capital management and its effects on profitability lead to the problem statement and research questions which the study will be analyzing in the following chapters.

**1.7. Research Questions**

1. The present study is attempted to answer the question whether working capital management at manufacturing sectors in India has a significant impact on the profitability or not?

2. To examine the components of working capital (cash, debtors, inventory) on profitability in the sample units.
3. To access the effectiveness of liquidity management on profitability in the selected 15 sectors.
4. To investigate to what extent working capital management impact profitability of the sectors in the study.
5. At the same time, what are the metrics should the Industrial sector focus on while investing in working capital?

1.8. Research problem


1.9. Objective for the study

Broad Objective


Specific Objective

- To analyze the sector-wise relationship between Debtors conversion period and Net operating Profitability.
- To study the sector-wise relationship between Inventory turnover period and Net operating Profitability.
- To enquire into the sector-wise relationship between Average payment period and Net operating Profitability.
- To analyze the sector-wise relationship between Cash conversion cycle and Net operating Profitability.
To examine the sector-wise relationship between Current Ratio and Net Operating profitability of the firm.

To look into the sector-wise relationship between Quick Ratio and Net Operating profitability of the firm.

To study to what extent the working capital management impacts the Net Operating profitability of the selected 15 sectors.

1.10. Hypothesis for the study – (Individual Test of hypothesis for selected 15 sectors)

H1: There is no relationship between Debtors conversion period and Net Operating profitability.

H2: There is no relationship between Inventory turnover period and Net Operating profitability.

H3: There is no relationship between Average payment period and Net Operating profitability.

H4: There is no relationship between Cash conversion period and Net Operating profitability.

H5: There is no relationship between Current Ratio and Net Operating profitability.

H6: There is no relationship between Quick Ratio and Net Operating profitability.

1.11. Limitations

- There are various factors which impact the profitability of a firm they include fixed asset management, cost of capital and capital structure. But the present study has been framed to study only the impact of working capital management on profitability.
- The secondary data was drawn for a period of 6 years from (2006-2012), for analysing the selected manufacturing units listed in NSE India.
- Further the study is limited to 15 sectors alone. There are more than 20 sectors listed under S&P CNX 500 companies but consistent data were available only for these 15 sectors. The 15 sectors consist of 162 companies. Hence only top 162 out of S&P CNX 500 companies from CMIE Prowess database were considered for the study.
• Due to the time constrainthe primary study was restricted to manufacturing units in Chennai city only. From 162 selected samples of India, only 42 companies were available in Chennai out of which the researcher could cover only 34 companies.

1.12. Scheme of Chapterization

The entire study has been organized into six chapters.

The first chapter deals with an introduction of working capital management and its background, concepts, importance, need, scope, strategies of working capital management with research questions, problem statement, objective and hypothesis of the study also been discussed. The second chapter includes research and conceptual studies made in the field of working capital management and profitability, reports from planning commission to manufacturing sector, components of working capital management etc., which helps in finding out the operational performance of manufacturing and the effect of changing working capital requirements, approaches and policies. The third chapter contains methods and materials, which deal with population, sample selection process, data collection process (primary and secondary), statistical tools used etc. The fourth chapter deals with a results and discussion of secondary data. The fifth chapter deals with the results and discussion of primary data. The Sixth chapter summarizes the findings, recommendations and conclusion of the study.
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