



## DETERMINANT FACTORS OF WORKING CAPITAL MANAGEMENT PRACTICES ON SELECTED MANUFACTURING ENTERPRISES

**BAMLAKU  
KASSIE**

LECTURER IN COLLEGE OF BUSINESS AND ECONOMICS, UNIVERSITY OF GONDAR, ETHIOPIA

**ABSTRACT** This paper is aimed at the determinant factors of working capital management practices on selected manufacturing enterprise.

**Objective:** The general objective of this study is determinant factors of working capital management practices of the selected manufacturing enterprises in Addis Ababa depends on historical analyses of enterprises financial report.

**Methodology:** This study makes use of descriptive nature. The study were used both primary and secondary data by using both qualitative and quantitative data types. The secondary data were collected mainly from various news papers, magazines, Internet and audited financial report. To supplement secondary data, the researcher was collected some primary data through observation and unstructured interview (discussion with managers and various departments). And finally, the collected data were analyzed by using descriptive statistical tools.

**Major Findings:** The finding shows, in our country there is bad practical activity of managing working capital. Enterprise holding huge amount of cash or deposited the cash amount in the bank. They focused on deposited cash rather than invest in other investment area. Most firms valued their performance based on profitability rather than financial analyses measurement, customer satisfaction, receivable management and inventory management. Finally, the finding concludes that moderate amount of working capital indicates efficient and effective management of working capital, and it leads to trade off between profitability and liquidity of firms.

**KEYWORDS :** Working Capital, Net working Capital, Profitability, Liquidity, Manufacturing Enterprises

### 1. INTRODUCTION

Organization's success wholly depends on the operating efficiency and optimum utilization of the scarce capital and other resources. In this process financial management plays a crucial role in channeling the funds in proper direction and in reducing the wastages within the firm. Working capital Management is one of the important areas of Financial Management. Most manufacturing enterprises have to face financing problems and it reflects the need to study the financial conditions of this enormous and significant size class of enterprises.

In the inflationary environment, where traditional sources of financing have been constricted, strict attention to working capital management is of most importance to organizations of all sizes and financial condition. Manufacturing enterprises are viewed as an essential element of a healthy and exciting economy. They are seen as vital to the promotion of an enterprise culture and to the creation of jobs within the economy (Mulu and Eyerusalem, 2010).

According to data 2009/2010 presented by Central Statistics Authority, manufacturing sector contributed total value added of Br.8.59 billion and it shows their contribution for the national economy is relatively low, with value added share of less than 15 percent of the GDP. However, it is one of the dynamic modern sectors showing promising changes.

The basic objective of working capital management is to manage firm's current assets and current liabilities, in such a way that, working capital are maintained, at a satisfactory level. Working capital should be neither more nor less, but just adequate. Working capital management plays an important role in a firm's profitability and risk as well as its value (Nazir and Afza, 2009). As shown by Rahim et al(2009) the way in which WC is managed will have a significant impact on the profitability of companies.

Manufacturing enterprise comprise the largest share of enterprises and employment in the non-agricultural sector in Ethiopia. Therefore, manufacturing enterprise have been a special focus of the government and the promotion and development of manufacturing was emphasized as one of the most effective means for achieving faster development and creating job opportunities, especially for women and the youth. So it is vital to our country development or economy well being.

CSA (2009/2010) reported about manufacturing enterprise that the entry rate significantly exceeds the exit rate. This evidences that supported there is a strong increase of Ethiopia manufacturing enterprise in quantity and significance as well. Nevertheless, from evidence of Ethiopia Manufacturing Industry Associations, the

number of liquidations is still considerable and displays the importance of studying manufacturing enterprise with regard to financial aspects. Manufacturing enterprises not success is due to management problem specially working capital management. Due to the above factor, this paper was mainly focused on working capital management practices of manufacturing enterprises.

Efficient management of working Capital is one of the pre-conditions for the success of an enterprise. Efficient management of working capital means management of various components of working capital in such a way that an adequate amount of working capital is maintained for smooth running of a firm. An optimal working capital management is expected to contribute positively to the creation of firm value.

To reach optimal working capital management firm manager should control the tradeoff between profitability and liquidity accurately. Managing of working capital is efficient and effective, the company (enterprise) production and service will increase and generating profit and it assess the good performance of the enterprise. In the other case inefficient and ineffective management of working capital lead to loss to the enterprise and it leads to loss of community satisfaction and poor performance of the enterprise. And finally the enterprise goes to bankruptcy.

### 2. Research Objectives

1. Analyze the impact of cash management practices, Receivable management practices, inventory management practices and trade credit management practices on enterprise profit.
2. Evaluate the firm's efficiency and effectiveness in WCM.
3. Examination of the WCM in the manufacturing enterprise.
4. Analyses the tradeoff between profitability and liquidity
5. Examine factors that contributes to working capital requirement
6. Assess firms to improve working capital management

### 2. Measurements of Working capital Components

- Days Working Capital (DWC) is an accounting and finance term used to describe how many days it will take for a company to convert its working capital into revenue. The faster a company does this, the better. It is calculated by the following formula;

$$DWC = \frac{\text{Receivables} + \text{Inventory} - \text{Payables}}{\text{Sales}/365}$$

- Days Sales Outstanding (DSO) is a key figure which measures the average amount of time that a company holds its account receivable. It is calculated by the following formula;

$$DSO = \frac{\text{Accounts Receivable}}{\text{Sales}/365}$$

- Days Sale Inventory (DSI) is a key figure which measures the average amount of time that a company holds its inventory. It is calculated by the following formula;

$$DSI = \text{Inventory} / (\text{Cost of good Sold} / 365)$$

- Days Payables Outstanding (DPO) is a key figure which measures the average amount of time that a company holds its accounts payable. It is calculated by the following formula;

$$DPO = \text{Accounts Payable} / (\text{Cost of good Sold} / 365)$$

- Cash Conversion Cycle (CCC) is the time between the acquisition of a raw material and the receipt of payment for the finished product. It also a measure for the efficiency of working capital management as it indicates how quickly current assets are converted into cash. It is calculated by the following formula (Abel, 2008);

$$CCC = DSO + DSI - DPO$$

**2.1 Working Capital management and its cycle**

Working capital management implicates the administration of current assets as well as current liabilities (Mathur et al, 2010). It is the main part of a firm's short-term financial planning since it encompasses the management of cash, inventory and accounts receivable (Fabozzi and Pamela, 2003). These three components and the way in which they are managed determine some of a company's most vital financial ratios, e.g. the inventory turnover, the average collection period and the quick ratio. Hence, working capital management reflects a firm's short-term financial performance. Given that current assets usually account for more than half of a company's total assets – an average 60% of the total assets of this study's sample enterprises.

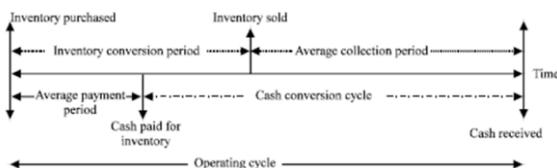
In a business cycle, cash flows into, around and out of the business. Cash is life blood of a business (Segun, 2009), and a manager's key mission is to assist in keeping it to flow and to take the advantage of the cash-flow in making profits. A business that is operating profit is generating cash surpluses. If it does not generate surpluses, then the business ultimately will run out of cash and expire. The faster a business expands, the more cash it will need for working capital and investment. The cheapest and best sources of cash exist as working capital right within business. Good management of working capital will generate cash will help improve profits and reduce risks (Qayyum et al, 2010). The cost of providing credit to customers and holding stocks can represent a substantial proportion of a firm's total profits.

There are two elements in the business cycle that absorb cash - Inventory (stocks and work-in-progress) and Receivables (debtors owing you money). The main sources of cash are Payables (your creditors) and Equity and Loans.

**Figure 2.1:** Working Capital Cycle



**Figure 2.2** Operating and cash conversion cycles.



Source: Ross et al (2003).

Phuong (2010) investigated listed firms in Vietnam stock market for

the period of 2006-2008. The researcher investigated the relationship existing between profitability, the cash conversion cycle and its components for listed firms in Vietnam stock market. He shows that there is a strong negative relationship between profitability, measured through gross operating profit, and the cash conversion cycle.

Afza and Nazir (2009) made an attempt in order to investigate the traditional relationship between working capital management policies and a firm's profitability for a sample of 204 non-financial firms listed on Karachi Stock Exchange (KSE) for the period 1998-2005. The study found significant different among their working capital requirements and financing policies across different industries. Moreover, regression result found a negative relationship between the profitability of firms and degree of aggressiveness of working capital investment and financing policies. They suggested that managers could create value if they adopt a conservative approach towards working capital investment and working capital financing policies.

**3. METHODOLOGY**

The study was conducted in Addis Ababa which is the capital city of Ethiopia. The researcher also focused on Addis Ababa manufacturing enterprises because Addis Ababa is the center of our country and different types of manufacturing enterprises are found in this city (Industrial center in Ethiopia). A complete investigation of the analysis of assessing working capital management practices of manufacturing enterprises in case of Addis Ababa is somewhat broad. As a result of this, implementing sampling techniques was indispensable.

The researcher selected manufacturing companies because manufacturing companies have an important sector to analyze working capital management because all three components; cash, receivable and inventory usually play an important role in the manufacturing sector and therefore comparability of the sample companies are enhanced. Service companies, for instance, most probably hold less inventory and account receivable and also manufacturing companies are an important sector for the Ethiopia economy. From the given number of Addis Ababa manufacturing enterprises (36 types), the researcher has selected five manufacturing enterprises based on purposive technique. Because have sufficient and adequate information. To come up with pertinent findings and provide credible recommendations, this study has utilized both primary and secondary source of data (Financial statement) by using both qualitative and quantitative data types. Descriptive method of analyses was used to measure components of working capital and profit. The descriptive data analysis is backed up with basic statistical tools.

**4. Result and Findings**

**4.1 Account receivable management and Profitability**

Day sale outstanding (DSO) can apply to the analysis of accounts receivables to assist in judging their quality. It gives an indication of their quality and management efficiency in collecting receivables if it is short period. It is often converted into the number of days receivable and outstanding before cash is collected.

Mostly, this finding agrees the empirical part of the literature, studied by Ramachandran and Muralidharan (2009). They stated that, there is a significant (-)ve relation between gross operating profit and the number of days of accounts receivable, inventories and accounts payables. As Abel (2008) described short DSO is the sign of good performance and long DSO is the sign of bad performance. But this study shows the shortest DSO year was not indicated the best performance of the firm and the longer one was not also indicated bad performance.

Specially, in 2006 the enterprise was inefficient and had low performance. Generally, the finding shows Shortest DSO indicated good profitability and efficient performance of the firm. When compared its NPM with the industrial average, most companies were good performance in 2009 and 2010 because in those years NPM had greater than the international ratio.

But when the researcher discussed with selling department of different enterprises, they sell in cash and on account and they fixed their collection period but it differs from enterprise to enterprise. Most enterprises export their products to different European countries. Those exports have on credit base by using letter of credit (LC) for a fixed period of 60 days. But when they sale in local market, most of the time they used in cash base because of experience (fear) of bad debt.

This is due to weak credit and collection policies.

In their past experience they hold receivable which has resulted in Carrying costs (bad debt), however, increase in line with the credit extension since these costs incurred due to the cash collection delay, the relative cost of capital tie-up, the increased probability of bad debt losses and the costs of managing credit. Due to these factors most of the time, enterprises uses sell in cash but it increases opportunity costs because credit is not extended to customers and customers are not attracted to the company which lowers sales.

**4.2 Inventory management and Profitability**

For this inventory analysis, the study used DSI as a measurement. It is a financial measure of a company's performance that gives investors an idea of how long it takes a company to turn its inventory into sales. Generally, the lower (shorter) the DSI is the better, but it is important to note that the average DSI varies from one company to another.

Generally, when compared sample enterprises DSI with the international standard, factories DSI were longer than the benchmark. It shows factories did not given due emphasis to its inventory management. So factories inventory management ware worst.

But when the researcher discussed with production department of each sample enterprises, they have given a great attention to its product and the production process has continuously monitored by using latest technology. Those activities have mainly carried out at the central control room by controlling each step so as to ensure smooth flow of production. From the discussion there are two divisions under this department;

1. Quality control- under this quality control division there is a chemist who has a responsible to control the product quality before and after production.
2. Product limit -under this production limit division there is a person who has immense contact with the selling department, who knows the demand of customers and give information to those production limit personnel about how much the product is needed in the market for specific period of time. By using this information the production units decide about how much is produced and limit the quantity of products.

The basic problem of those enterprises are not giving due emphasis to safety stocks. Simply they order the raw material when they are needed. If the order takes more time and the store materials are finished (processed), their activity might be blocked until the ordered materials are received

**4.3 Account payable management and profitability**

In order to analyze this, the researcher use DPO. It is an indicator of how long a company is taking to pay its creditors. For enterprise performance DSO is shorter than DPO is the best.

When compared each sample enterprises with the international standard, all enterprises were an average DPO. But From the discussion with purchasing department of enterprises, they used to purchase in cash and on account. The order placed to purchase raw materials depends on the level of future demand of the market. Most enterprises purchased material from abroad. In order to import raw materials enterprises uses LC and they consider the lead time (time elapsed between placing an order and receiving it) of 45 days. So purchases on account created liability for the enterprise and paid on time but the time is less than that receiving of their credit sell (receivables) which is danger to enterprises.

**4.4 Cash management and Profitability**

In order to analyze cash management of sample enterprises, description of cash management system of enterprises is given. In the sample manufacturing enterprises, there is cash budgeting and forecasting. There are some variations between actual cash and budgeted cash amounts. This is due to different factors. Some of those factors are as follows;

- Cost incurred for raw material is increased due to inflation
- Increasing of selling and administration expense
- The enterprises receivables are not collected on time
- Finance managers focus on the cash amount on the box not on the customers hand and day to day operations are done by these on hand amount

Sometimes actual cash may be greater than budgeted cash. It is positive direction of the enterprise performance but does not indicate the profitability of the enterprise. Most enterprises did not use those cash amount efficiently and effectively. They used some amount for employees bones and some part deposit in bank they did not invest it.

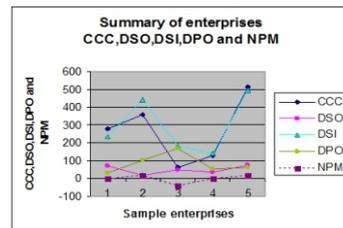
Generally form the discussion, most enterprises have not given due emphasis to cash reserve and investment rather they have concerned about yearly increasing of deposit. Those should results in a significant capital tie-up. So those do not make good performance of the business. This is due to the fact that the funds that have used to maintain the cash holding at a high level cannot be invested profitably. They can be exposed to create opportunity costs because of foregone longer-term investments.

The researcher used CCC (Cash Conversion Cycle) for cash management system (working capital management) of the enterprise and its impact on profitability and performance of enterprises. It measure how quickly a firms convert current assets, namely inventory and accounts receivable, into cash. In this respect, a short cash conversion cycle indicates a strong managing of cash (efficiency of working capital management) and good performance of the enterprises and vice versa. A strongly efficient working capital management thus implies that inventory and accounts receivable are quickly converted to cash. In order to calculate CCC the researcher use balance sheet of the enterprises. So CCC is a combination of DSO, DSI and DPO.

As it has been explained in the literature review CCC is the time between the acquisition of a raw material and the receipt of payment for the finished product. It also a measure for the efficiency of working capital management as it indicates how quickly current assets are converted into cash. And it is the basic indicator for company's profitability and its performances. So the shorter time is the positive performance of enterprises and more efficiency.

Generally, CCC is directly related with DSI, i.e. when DSI is longer the CCC is also longer and the inverse is true. And in some extent enterprise that has very long period CCC results in high profit. This may be due to increasing of receivable holding cost because the enterprise may be sold on credit and less managing of its short term debt. It summarized by using the following graph.

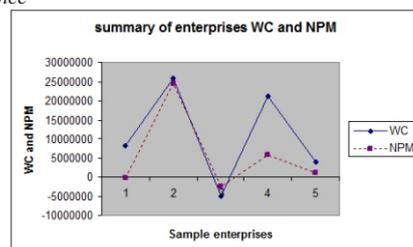
Figure 4.1 Assessment of CCC, DSO, DIO and DPO on enterprises profit (NPM)



Shortly, the above graph shows in all cases short CCC does not indicates high profit and good performance of the enterprise and long CCC does not also sign less profitability and bad performance of the enterprise. So moderate CCC is preferable and it is an indicator of profitability and good performance of the company.

Generally, the relation between working capital and gross profit is directly related. So this study agrees with the theory that is presented in the literature review. The following graph shows these relations by taking mean value of each sample enterprises.

Figure 4.2 assessing WC practices on enterprise profit and performance



## 5. Conclusion and Recommendation

### 5.1 Conclusion

The study finding shows most enterprise holding huge amount of cash or deposited the cash amount in the bank rather than invested in other investment area. The study also indicated enterprises locally sale in cash by fearing bad debt. This is due to bad credit and collection policy. Even if enterprises have good quality control of inventory, they hold inventory more than a year. This may results in carrying obsolescent inventory and huge amount of inventory holding cost. But it is advantageous to satisfying customers. The study contradicted with some theoretical and other empirical studies. The empirical result have been presented: in all case huge amount of working capital; short period CCC, DSO, DSI; and long period DPO have not measured the good performance of firms. But up to some level the relation between working capital and gross profit are directly related. Finally, the finding concluded that moderate amount of working capital indicates efficient and effective management of working capital, and it leads to trade off between profitability and liquidity of firms.

### 5.2 RECOMANDETION

Based on the finding of the study the following recommendations are given: By holding appropriate amount of working capital, they will be solving those miss much between current assets and current liabilities. Most enterprises carried inventory more than one year. This resulted in increasing of holding cost of inventory and obsolete of inventory. This exhibits poor performance of inventory management. It is due to fear of sale on credit. So by establishing credit and collection policy, they will be solving such problem.

- <sup>1.</sup> Source: <http://www.planware.org/workingcapital.htm>
- <sup>2.</sup> LC is a draft drawn by a company on a bank ordering it to pay a specified amount at a specified time, accepted by the bank, to an individual or bearer.
- <sup>3.</sup> : *In the International benchmark DSI of 52.1 is average, 6 is best and greater than 159 is worst.*
- <sup>4.</sup> Safety stock is the minimum level of material that should be on hand to ensure that the company does not runout of materials.
- <sup>5.</sup> *Note: In the International benchmark DPO of 7- 79 is average, 267 is best and less than 7 is worst.*

## REFERENCES

1. Afza, T. and Nazir, M. S. (2007). Is It Better To Be Aggressive Or Conservative In Managing Working Capital? *Journal of Quality and Technology Management*, 3(2), 9-17.
2. Arnold, G. (2008). *Corporate financial management 4th edition*. Pearson education limited; New York
3. Arunkumar O.N & Ramanan T.R (2013) Working Capital Management and profitability: A Sensitivity Analysis. *International Journal of Research and Development: AManagement review*. Vol2, pp 48 –60.
4. Besley, S. & Meyer, R. L. (1987). An Empirical Investigation of Factors Affecting the Cash Conversion Cycle. Annual Meeting of the Financial Management Association, Las Vegas, Nevada.
5. Biger, N., Gill, A., Mathur, N. (2010). "The Relationship between Working Capital Management and profitability: Evidence from the United States". *Business and Economics Journal*, pp 15-23.
6. Brigham, F. and Houston, F. (2003), 'Fundamentals of financial management', 10th ed. McGraw-Hill Inc: New York.
7. Deloof M (2003), 'Does working capital management affect profitability of Belgian firms', *Journal of Business Finance and Accounting*, Vol 30, No. 3 &4, pp. 85-88.
8. Eljelly A. 2004, Liquidity-profitability tradeoff: an empirical investigation in an emerging market. *International Journal of Commerce and Management*, 14, 35-65.
9. Ethiopian revenue and customs authority, List of manufacturing large tax payers in Ethiopia, (September, 2013).
10. Fabozzi Frank, j. and Peterson Pamela P. 2003, 'Financial management and analysis', 2nd ed, John Wiley and Sons, Inc., publisher, New Jersey Canada. *Financial Management*. Spring, pg. 35-45.
11. Jordan, B.D., Ross, S.A., Westerfield, R.W. (2003). "Fundamentals of Corporate Finance". 6th Ed. McGraw-Hill Irwin Publications, New York. ISBN: 0-07-246974-9, pp 158.
12. Mathuva D. 2009, 'the influence of working capital management components on corporate Profitability: a survey on Kenyan listed firms', *Research Journal of Business Management*, 3, 15-22.
13. Mathuva, D. (2010). "The Influence of Working Capital Management Components on Corporate Profitability: A Survey on Kenyan Listed Firms". *Research Journal of Business Management*, 4:11, pp 10.
14. Raheman, A. and Nasr M., (2007). "Working Capital Management and Profitability – Case of Pakistani Firms". *International Review of Business Research Papers*, 3: 1, pp 101-220.
15. Sharma, A.K. & Kumar, S. (2011). Effect of Working Capital Management on Firm Profitability: Empirical Evidence from India. *Global Business Review*, 12(1), pp. 123 – 133.