ST.MARY'S UNIVERSITY
SCHOOL OF GRADUATE STUDIES

THE IMPACT OF WORKING CAPITAL MANAGEMENT ON FIRMS' PERFORMANCE: A STUDY ON BREWERIES IN ETHIOPIA

MBA Thesis Submitted to the School of Graduate Studies of St. Mary's University in Partial Fulfilment of the Requirements for the Award of the Degree Master of Business Administration (MBA) in Finance

BY
ENDALE TILAYE

DECEMBER, 2015
ADDIS ABABA, ETHIOPIA

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Under the Guidance of

AREGA SEYOUM (PhD)

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APPROVED BY BOARD OF EXAMINERS

As member of the Board of Examiners of the MBA Thesis Open Defense Examination, We certify that we have read, evaluated the Thesis prepared by Endale Tilaye and examined the candidate. We recommended that the Thesis be accepted as fulfilling the Thesis requirement for the Degree of Master of Business Administration in Accounting & Finance.

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STATEMENT OF AUTHOR

I, the undersigned, declared that this thesis is my original work, prepared under the guidance of Dr Arega Seyoum. All sources of material used for thesis have been duly acknowledged. I further confirm that the thesis has not been submitted either in part or in full to any other higher learning institution for the purpose of earning any degree.

Declared by
Name: Endale Tilaye
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Place: Addis Ababa, Ethiopia
Date of Submission: Dec 2015

ENDORSEMENT

This thesis has been submitted to St. Mary's University, School of Graduate Studies for examination. As a university advisor, I hereby certify that I have read and evaluated this thesis prepared, under my guidance, by Endale Tilaye, entitled "The Impact of Working capital Management on Manufacturing Firms Performance: A Study on Breweries in Ethiopia". I recommend that it be submitted as fulfilling the thesis requirement.

Advisor's Name	**Signature& Date**
Dr AREGA SEYOUM ASFAW	_____

ABSTRACT

An optimal working capital management is expected to contribute positively to the profitability of firms. The purpose of this study was to evaluate the Impact of working capital management and firm's performance in the case of Breweries in Ethiopia. The study used secondary data obtained from audited financial statements of two Brewery firms registered and work in Ethiopia. The financial statements from the firms were analyzed to determine the effect of cash conversion cycle, inventory conversion period, day's sales outstanding and day's payables outstanding on the gross operating profit. The data was analyzed using SPSS (Version 20.0) Software. Estimation equation by both correlation analysis and pooled panel data regression models of cross-sectional and time series data were used for analysis. The result revealed that there is statistically insignificant negative relationship between inventory conversion period, day's sales outstanding, day's payable outstanding and the profitability of the firms. Also, there is statistically insignificant positive relationship between cash conversion cycle and profitability. According to the results of the study, it is suggested that breweries' can increase profitability by maintaining an optimal level of working capital. The firms can wait longer to pay the accounts payables and collecting payments from customers earlier, and keeping product in stock less time, are all associated with an increase in the firm's performance. It is also recommended that manufacturing companies should adopt efficient and effective working capital management policies to keeping working capital at optimal level. The brewery firms shall reduce the number of days of credit sales, payable period and inventory to improve their profitability. The study concluded that there is no significant relationship between and no strong influence or impact of working capital management on profitability of Breweries in Ethiopia.

Key Words: *Profitability, Working Capital, Working Capital Management Policy*

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ACRONYMS & ABBREVIATIONS

CA	**=**	Current Assets
CCC	**=**	Cash Conversion Cycle
CR	=	Current Ratio
DR	=	Debt Ratio
ICP	=	Inventory Conversion Period
LOS	=	Size of the firm (Simple Logarithm of Sales)
FATA	=	Financial Asset to Total Assets
NWCM	=	Net Working Capital Management
GOP	=	Gross Operating Profit
ROA		Return on Asset
ROI	**=**	Return on Investment capital
SPSS	=	Statistical Package for Social Science
VIF	=	Variance Inflation Factor
WC	**=**	Working Capital

CHAPTER ONE

1. INTRODUCTION

1.1. Background of the Study

Literatures relating to corporate finance and accounting have centered mostly on long-term financial decisions, mainly on investment, capital structure, dividends or company valuation decisions. However, needless to mention short-term assets and liabilities are important components of total assets and therefore need to be analyzed (Talat and Nazir, 2011). In view of their importance, there is the need for careful and systematic investigation of these short term assets and liabilities, since they play a vital role for firm's profitability, risk as well as its value (Smith, 1980). Efficient and effective management of working capital is an important component of overall corporate strategy to create value for the business. Companies always attempt to maintain an ideal stage of working capital that maximizes their value (Howorth and Westhead, 2003; Deloof, 2003; Afza and Nazir, 2009).The working capital management, therefore, encompasses the overall idea of management of current assets and current liabilities. The importance of working capital management is reflected in the fact that financial managers spend a great deal of time in managing current assets and current liabilities. Making arrangement for quicker financial solutions, obtaining an ideal term of credit, ensuring smooth cash operation, making sure receivables accounts are collected at the right time and ensuring an acceptable inventories level constitute the routine roles of financial managers (Prasana, 2000).

Excessive levels of current assets may have a negative effect on the firm's profitability whereas a low level of current assets may lead to lower level of liquidity and stock outs resulting in difficulties in maintaining smooth operations (Van Horne and Wachowicz, 2004). Traditional concept of working capital is the different between assets and current liabilities. Thus working capital management is an attempt to manage and control the current assets and the current liabilities in order to maximize profitability and proper level of liquidity in business. In modem financial

management, administration of working capital is an important and challenging task due to high proportion of working capital in a business and some of its peculiar characteristics. The management of current assets (normally converted into cash within an accounting year) and current liabilities (generally discharged within a year) and the interrelationship that exists between them may be termed as working capital management.

Liquidity and profitability are two important and major aspects of corporate business life (Dr. K.S. Vataliya, 2009). The problem is that 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 (liquidity and profitability) of firms. One objective should not be at the cost of the other because both have their own importance. If firms do not care about profit, they cannot survive for a longer period. In other round, if firms do not care about liquidity, they may face the problem of insolvency or bankruptcy. For these reasons managers of firms should give proper consideration for working capital management as it does ultimately affect the profitability of firms. As a result company can achieve maximum profitability and can maintain adequate liquidity with the help of efficient and effective management of working capital.

In manufacturing firms the large portion of assets are composed of current assets, so management of working capital and its importance is unquestionable. Therefore, the following and other related research questions are raised different time by different researchers. How working capital is managed affects the liquidity and profitability (Raheman and Nasr, 2007). Excellent management of working capital decreases the dependence on external financing due to more internal flow of cash, which decreases the possibility of failure in an organization (Deloof, 2003).

Manufacturing industry in Ethiopia started in 1920s with a simple processing technology that produces agriculture-based products. But the sector is still infant, dominantly semi-processing, and performs at an average of nearly 43pc capacity. For example, average capacity utilization of the textile, leather, agro-processing and pharmaceutical industries in 2009/10 was at 40pc, 10pc, 60pc and 30pc, respectively. The manufacturing industry has neither transformed itself to high tech

processing nor is competitive in the international market. Ethiopia ranked 121 out of 144 countries, according to the recent global competitiveness index. The sector has persistently faced high production cost, severely constrained supply and poor quality raw materials and technology, both mainly imported, witnessing little improvements in the main areas of challenges over the years. (http://addisfortune.net/columns/reimagining-ethiopian-manufacturing-timely/).This will eventually leads to the reduction of the sector's profitability.

When we came to Breweries, the first company engaged in manufacturing Brewery product was Saint George. In the official web site of St. George Brewery [http://www.addismap.com/bgi-ethiopia] clearly described that, according to some source, the founder of St. George Brewery is Mussie Dawit Hale who is Belgian and in some other sources the brewery was owned and operated by a German company. In fact, the brewery was set up by Mussie Dawit Hale who lately sold it to a German company. Some 43 years ago, the Ethiopian Trade Journal, (Vol. 1, No. 1, August 1960) wrote: The St. George Brewery is situated near the Mexico Square. Addis Ababa, and occupies an area of 20,000 Sq. Meters of land. The beer factory was started 36 years ago by a German Company and an Ethiopian Company took it over six years ago.

Nuru Mohammed (2011) posits that poor management of working capital results in unnecessary investment in unproductive assets or inadequate investment in current assets. Unnecessary investment in current assets will tie up funds idle and hence reduces firms' ability to invest in productive assets such as plant and machinery, thereby reducing profitability in Ethiopia. Therefore, there is a strong certainty that, there is a need to build up research on this ever-lasting effective management of working capital globally and especially in a developing economy like Ethiopia, where little has been done so far, and little has so far been achieved.

1.2. Statement of the Problem

Working capital management is an important issue in any organization. This is because without a proper management of working capital components, it's difficult for the firm to run its operations smoothly. That is why Brigham and Houston (2003) mentioned that about 60 percent of a typical

financial manager's time is devoted to working capital management. Hence, the crucial part of managing working capital is maintaining the required liquidity in day-to-day operation to ensure firms smooth running and to meet its obligation (Eljelly, 2004).

Most of the researchers also identify significant association between working capital management and firms' performance. However, it has been discovered that some methods that managers use in practice to make working capital decisions do not rely on the principles of finance, rather they use vague rules of thumb or poorly constructed models (Emery, Finnerty and Stowe, 2004). This, however, makes the managers not to effectively manage the various mix of working capital component which is available to them, and as such, the organization may either be overcapitalized or undercapitalized or worst still, liquidate.

Egbide (2009) finds that large number of business failures in the past has been blamed on the inability of the financial manager to plan and control the working capital of their respective firms. These reported inadequacies among financial managers are still practiced today in many organizations in the form of high bad debts, high inventory costs etc., which adversely affect their operating performance (Egbide, 2009).

Lack of proper research study on the area gives a chance for Ethiopian companies' managers to have limited awareness in relation to the impact of working capital management on firm's profitability. For instance, if firm has higher level of account receivable due to the generous trade credit policy, it will bring high profitability, but it would result to longer cash conversion cycle. In this case, the longer cash conversion cycle will increase profitability and thus, the traditional view of managers cannot be applied to all circumstances. In effect, most company managers thought regarding working capital management is, to shorten the cash conversion cycle (traditional views) to increase firm's performance.

Working capital management has been major issue especially in developed countries. As a result, in order to explain the relationship between working capital management and firm's performance, different researches have been carried out in different parts of the world of developed countries.

However, despite the above importance this issue failed to attract the attention of most researchers in Ethiopia. And, whether searching on internet, browsing through the books and journals the researcher didn't find sufficient directly related research outputs carried out in Ethiopia. But currently, the study is very important for a country like Ethiopia because, the government's Growth and Transformation Plan II (GTP II, 2015-20), to be launched later this year, has as its ultimate goal for Ethiopia to reach middle-income status by 2025. GTP II targets 11 percent growth per year (underpinned by strong manufacturing and exports), an improved external balance, and higher foreign reserves. Specially, the government gives high attention to the big manufacturing firms like; Brewery, textile, and other big manufacturing sectors and, of course, particularly to small and medium manufacturing, to increase value added and job creation. According to the federal democratic republic of Ethiopia central statistical agency annual report September 2015, Large and Medium Scale Manufacturing Industries are manufacturing industries that employ 10 or more persons and use power – driven machines for production. Therefore, the researcher strongly believes that the problem is not sufficiently addressed and there is a knowledge gap on the area.

Hence, the lack of clear-cut evidence on the effect of the components of working capital management on firm's performance in Ethiopia provide a strong motivation for evaluating the relationship between working capital management and firm performance in detail (Mekonnen, 2011). Therefore, the current study will focus on evaluating the impact of working capital management on the financial performance of manufacturing firms. This study will include all breweries in Ethiopia based on the data for the last ten years period (2005 – 2014). Therefore, by keeping the above problem in mind, the study will try to find out the impact of working capital management on breweries financial performance in Ethiopia.

1.3. Objectives of the Study

1.3.1. General Objective

The objective of this study is to examine the impact of working capital management on firms' financial performance (profitability) of breweries in Ethiopia.

1.3.2. Specific Objectives

This study seeks to investigate the impact that effective working capital management has on the financial performance (profitability) of breweries in Ethiopia. Specifically, the study tries:

1. To evaluate the implication/effect of inventory conversion period on profitability of manufacturing companies.
2. To assess the various ways by which working capital components can be managed to enhance profitability.
3. To evaluate the need for the management of working capital cycle as well as the cash conversion cycle and the extent of influence they have on a firm's profitability.
4. To examine the nature of the relationship that exists between/among working capital components.

1.4. Research Hypotheses

For the purpose of this study, the hypotheses statements that attempted to test.

Ho1: There is no statistically significant relationship between Cash Conversion Cycle (CCC) and profitability as measured by Gross Operating Profit (GOP) of Brewery factories in Ethiopia.

H_o2: There is no statistically significant relationship between inventory conversion period (DIO) and profitability as measured by Gross Operating Profit (GOP).

H_o3: There is no statistically significant relationship between Days Sales Outstanding (DSO) and profitability of Breweries in Ethiopia as measured by Gross Operating Profit (GOP).

H_o4: There is no statistically significant relationship between Days Payable Outstanding (DPO) and profitability of Breweries in Ethiopia as measure by Gross Operating Profit (GOP).

1.5. Implications and Significance of the Study

Working capital is so important for business day-to-day operations. A decision made on one of the working capital components has an impact on the other components. In order to maximize the

performance of a business, the working capital management should be integrated into the short-term financial decision making process (Crum, Klingman, & Tavis, 1983).

Therefore, the findings of this study helps in the first place the management of the target companies to make a better decision in the future on their working capital. Also, it uses as a reference for other companies who are trying to- make decision regarding the working capital reform model. It also serves as a base for other researchers who want to do a further research on this topic.

1.6. Scope of the Study

This study delimited to investigate the impact of working capital management on firms' performance of Brewery manufacturing companies in Ethiopia. It's because the researcher couldn't found any related study, regarding the working capital management for such huge manufacturing firms in the country that contributes significantly to the economy.

The study incorporate all Brewery manufacturing enterprises found in Ethiopia. The variables delimited to four types: profitability, liquidity, working capital policy and control variables, which are specific to the firm and/or general to the economy as a whole and clearly pinpointed in the methodology part. As a measurement of profitability the study applied only gross operating profit (GOP) since its result allows the researcher to find all income generated from operation (of course before other income & expenses) by deducting only costs related to the activities. However, it does not account for a number of very important expenses, such as marketing or employees salary. At last the methodology limited to quantitative method with diagnostic statistics, correlation and econometrics analysis tools.

1.7. Structure of the Thesis

This Study paper consists of five chapters. That is the Introduction chapter having Background of the Study, Statement of the Problem, Objectives of the Study (general objective, specific objective and general hypothesis), Implication and Significance of the Study, research methodology (research design and research sample selection) and Scope and Limitations of

the Study. The second chapter has Literature review and the third chapter presents methodologies which consists of research design, population of the study, research sample selection, data collection, data analysis and presentation procedures. The fourth and fifth chapter contains analysis, conclusion and recommendations.

1.8. Operational Definitions

The followings points, phrases and ideas should be understood and read by the users throughout this research paper.

- The performance of a firm according to this study means, the profitability of the firm and the ability to have liquid cash to solve current obligation.
- Day's sales outstanding means the average number of days receivable not collected from credit ales.
- Day's payable outstanding means the average number of day's account payable couldn't pay by the firms.

CHAPTER TWO

2. REVIEW OF RELATED LITERATURE

2.1. Introduction

Working capital is the difference between current assets and current liabilities (Arnold, 1998). Working capital thus means net currents assets or net current liabilities (if current liabilities exceed current assets). It is the investment a company makes in assets which are in continual use and are turned over many times in a year. Working capital encompasses of short term resources (inventory, debtors, investment, and cash) less short term liabilities (trade creditors, short term borrowing, other credit payable within a year).

Working capital management is the decision relating to working capital and short term financing, and this includes managing the relationship between the company's short term assets and its short term liabilities. This enables the company to continue operations and to have enough cash flow at its disposal to satisfy both maturing short-term debts and upcoming operational expenses, which is the major objective of working capital management.

The purpose of this chapter is to review the evidence on working capital management and profitability measures of a firm. Hence, the chapter is arranged into three sections. The first section presents the theoretical review of working capital management while the second section reviews the empirical evidence pertaining to working capital management.

2.2. Theoretical Review

The term working capital originated with the old Yankee peddler, who would load up his wagon and then go off to peddle his wares. The merchandise was called working capital because it was what he actually sold, or "turned over," to produce his profits. The wagon and horse were his fixed assets. He generally owned the horse and wagon, so they were financed with "equity" capital, but he borrowed the funds to buy the merchandise. These borrowings were called working capital loans, and they had to be repaid after each trip to demonstrate to the bank that the

credit was sound. If the peddler was able to repay the loan, then the bank would make another loan, and banks that followed this procedure were said to be employing “sound banking practices” (Brigham and Ehrhardt, 2002).

The term working capital implies a company’s investment in short term assets like cash, short term securities, accounts receivables and inventories (Weston and Brigham, 1977). Precisely, these assets are financed by short-term liabilities like accounts payable and short term borrowings. Working capital may also be defined as a financial metric which represents operating liquidity available to an organization or other entity, including governmental entity (Deloof, 2003). Also, the term working capital refers to the short term funds required for financing the duration of the operating cycle in a business often known as “accounting year” (Salanki, 2009). Similarly, Investopedia sees working capital as a measure of both a company's efficiency and its short-term financial health.

The term working capital is commonly used for the capital required for day-to-day working in a business concern, such as for purchasing raw material, for meeting day-to- day expenditure on salaries, wages, rents rates, advertising and the like. But, still there is much disagreement among various financial authorities (Financiers, accountants, businessmen and economists) as to the exact meaning of the term working capital.

Working capital is defined as “the excess of current assets over current liabilities and provisions”. However, as per accounting terminology, it is difference between the inflow and outflow of funds. In Arnold (2008) working capital is defined as it includes “stocks of materials, fuels, semi-finished goods including work-in-progress and finished goods and by-products; cash in hand and bank and the algebraic sum of various creditors as represented by outstanding factory payments e.g. rent, wages, interest and dividend; purchase of goods and services; short-term loans and advances and sundry debtors comprising amounts due to the factory on account of sale of goods and services and advances towards tax payments”.

On the other hand, the term working capital is often referred to “circulating capital” which is frequently used to denote those assets which are changed with relative speed from one form to

another i.e., starting from cash, changing to raw materials, converting into work- in-progress and finished products, sale of finished products and ending with realization of cash from debtors (Weston and Brigham, 1977). Further, Shin and Soenen (1998) defined working capital as a "time lag between the expenditure for the purchase of materials and the collection for the sale of the finished products".

The total working capital requirement of a firm is determined by a wide variety of factors and these factors affect different organizations differently. Paramasivan and Subramanian (2009) posit that the factors influencing working capital decisions of a firm may be classified as internal factors and external factors. The internal factors are factors that the companies will take in to account while determining the optimal level of working capital needed for the business concern by looking inherent to factors related to the business. Internal factors include the nature and size of the business, the firm's production policy, the firm's credit policy and the growth and expansion of the firm.

In summary, working capital means the funds (i.e. capital) available and used for day to day operations of an enterprise. It consists broadly of that portion of assets of a business which are used in or related to its current operations. Further, it refers to funds which are used during an accounting period to generate a current income of a type which is consistent with major purpose of a firm existence. In light of the above definition of working capital the following discussions present components of working capital, types of working capital, factors determining working capital requirement, working capital management, working capital policy, profitability and liquidity measures and trade off between liquidity and profitability in an orderly manner.

2.2.1. Concept of Working Capital

The concept of working capital has its roots in the distinction between Fixed and Circulating Capital at the beginning of the 20th, century. As then defined, fixed capital was the money expended in the purchase of that which was sunk once for all into the business, while circulating capital was defined as such items as stock in trade, which are parted with and replaced by others in the ordinary course of business (Journal of management science, 1997). Paton writing as far back as 1922, made a distinction between fixed Assets and Current Assets. A fixed asset will

remain in the enterprise for two or more periods while current assets will be used more rapidly; fixed assets may be charged to expense over many periods, while current assets are used up more quickly; and fixed assets are used entirely to furnish a series of similar services, whereas current assets are consumed.

Thus, working capital has moved over the years, from merely being a measure of the debtor's ability to meet his obligation in case of liquidation. Then, the prime concern was with whether or not the current assets were immediately realizable and available to pay debts in case of liquidation. Today, the focus has shifted towards the “operating cycle” point of view. This view emphasizes the ability of the firms to pay its maturing obligations from the Funds generated by current operations.

To understand working capital it is better to have basic knowledge about various features of working capital. To start with, there are two concepts of working capital known as gross and net.

2.2.2. Gross Working Capital (GWC)

According to this concept, gross working capital refers to the company’s outlay in current assets. Current assets are those assets which can be transformed into cash during an accounting period and comprise cash, short-term securities, receivable, loan & advance and inventory. According to Paramasivan and Subramanian (2009) gross working capital is the total cash, and cash equivalent that a business has on-hand to run the business. Cash equivalents may include inventory, account receivable and investments, on marketable securities, which may be liquidated within the calendar year. The sum of current liabilities is not subtracted from the total of current assets. This concept views Working Capital and total of Current Assets as two identical terms. This concept is also treated as `Current Capital' otherwise `Circulating Capital'. One additional facet (aspect) of the gross working capital points to the call for arranging finances to funding current assets. Whenever a requirement for working capital funds occurs owing to the escalating (growing) intensity of company operation or for any supplementary reason, funding arrangement ought to be made immediately. Similarly, if suddenly, some spare sources occur these should not be permitted to stay idle, but must be invested in temporary securities. Thus the financial executive

is supposed to have information about the origin and sources, of working capital funds as well as alternative outlay where redundant sources may be for the time being, are invested.

2.2.3. Net Working Capital (NWC)

According to this concept, net working capital refers to the difference between current assets and current liabilities. Current liabilities are those claims of outsiders, which are likely to be paid within a financial year and usually comprise creditors, bills payable, bank loans and outstanding expenditure (Brealey and Myers, 2006). This can be mathematically presented as:

Working Capital = Current Asset-Current Liabilities

Net working capital may be positive or negative. According to Brigham and Houston (2003) both (positive or negative NWC) aspects have equal importance for management. Therefore, positive WC focuses the attention on the optimum investment in and financing of the current assets, while negative WC indicates the liquidity position of the firm and suggests the extent to which working capital needs may be financed by permanent sources of funds. Net working capital is a qualitative concept. It shows the liquidity situation of the company and presages the level to which working capital requirements will possibly be financed by fixed sources of funds. Current assets supposed to be adequately in surplus of current liabilities to provide an edge or buffer for meeting obligations within the normal operating cycle of a company's operation. Sequentially to defend their interests, short-term creditors always like a company to preserve current assets at an upper level than current liabilities. However the distinction of current assets ought to be well thought-out in deciding the stage of current liabilities. However, the superiority of current assets ought to be measured in deciding the level of current assets *vis-a-vis* current liabilities. Poor liquidity situation poses a danger to the solvency of the company and makes it insecure. A negative working capital leads to negative liquidity, and possibly will confirm to be dangerous for the company's goodwill. Too much liquidity is also not good. It possibly will be owing to negligence in management of current assets. Therefore, without delay and appropriate action ought to be taken by administration to get better and correct the imbalances in the liquidity position of a company. Net working capital concept also covers the query of well judged blend of long-term and short-term sources for funding current assets. For each company, there is a small amount of

net working capital which is fixed. Therefore, a segment of the working capital ought to be funded with the equity share capital, debentures, long-term loans, preference share capital or plough back of profits. Administration may, therefore, take a decision to the extent by which current assets ought to be funded with equity capital and/or on loan capital.

The two concepts of working capital-gross and net are not exclusive; relatively these have equivalent importance from the administration viewpoint. The gross working capital concept concentrates notice on aspects of current assets management as to how to optimize outlay in current assets and how to finance the current assets. The contemplation of the altitude of outlay in current assets should be just at optimal level, not more nor less, to the requirements of the company. Too much outlay in current assets ought to be avoided since it impairs the company's viability, as inoperative outlay produces nothing. Alternatively, insufficient amount of working capital can intimidate solvency of the company since its incapability to pay its current liabilities. It ought to be sensed that the working capital requirements of the company may be changeable with varying operational activities. It possibly will cause surplus or scarcity of working capital recurrently. The administration should be quick to kick off an action and set the imbalances right. In a nutshell it may be pertinent, to note that both gross and net concepts of working capital are evenly significant for the resourceful administration of working capital. There is no short cut way to decide the accurate quantity of gross or net working capital for any company. The data and problems of every company ought to be analyzed to decide the quantity of working capital. There is no precise regulation as to how current assets ought to be funded. It is not viable to put into practice, the financing of current assets by short-term funds only. Keeping in mind the parameters of the company, a well judged blend of long and short-term funds ought to be invested in current assets. In view of reality, those current assets occupy cost of funds; these ought to be put to creative use.

2.2.4. Types of Working Capital (WC)

Most businesses experience seasonal or cyclical fluctuations. For example, construction firms have peaks in the spring and summer, retailer's peak around Christmas, and manufacturers who supply both construction companies and retailers follow similar patterns. Similarly, all businesses

must build up current assets when the economy is strong, but they then sell off inventories and reduce receivables when the economy slacks off. Hence, based on time, working capital may be classified into two important types' as permanent and temporary working capital (Paramasivan and Subramanian, 2009) and briefly discussed bellow.

2.2.4.1. Permanent Working Capital

It's also known as fixed working capital and it refers to a minimum amount of investment in all working capital which is required at all times to carry out minimum level of business activities (Brigham and Houston, 2003). In other words, it represents the current assets required on a continuing basis over the entire year. Further, working capital has a limited life and usually not exceeding a year, in actual practice some part of the investment in that is always permanent. Since firms have relatively longer life and production does not stop at the end of a particular accounting period some investment is always locked up in the form of raw materials, work-in-progress, finished stocks, book debts and cash. Investment in these components of working capital is simply carried forward to the next year. This minimum level of investment in current assets that is required to continue the business without interruption is referred to as permanent working capital (Fabozzi and Peterson, 2003). It's financed through long term debt and common stock.

2.2.4.2. Temporary Working Capital

It's also known as the circulating or transitory working capital. This is the amount of investment required to take care of the fluctuations in the business activity. Fabozzi and Peterson (2003, p. 678) they defined as a rises of working capital from seasonal fluctuations in a firm's business. Because firms do not have to maintain this form of working capital throughout in the year, or year after year, it may be better to use short-term (bank credit) rather than long-term sources of capital to satisfy temporary needs. In other words, it represents additional current assets required at different times during the operating year. For example, extra inventory has to be maintained to support sales during peak sales period (seasonal working capital). Similarly, receivable also increase and must be financed during period of high sales. On the other hand investment in inventories, receivables and the like will decrease in periods of depression (special working

capital). Temporary working capital fluctuates over time with seasons and special needs of firm operations, whereas, permanent WC changes as firms sizes increases overtime. Further, temporary WC is financed by short term debt.

2.3. Factors Determining Working Capital Requirements

The total working capital requirement of a firm is determined by a wide variety of factors. These factors affect different organizations differently and they also vary from time to time. In general factors influencing working capital decisions of a firm may be classified as two groups, such as internal factors and external factors (Paramasivan and Subramanian, 2009). The internal factor includes nature of business, size of business, firm's product policy, credit policy, and growth and expansion of business. The external factors include business fluctuations, changes in the technology, infrastructural facilities, import policy and the taxation policy. These factors are discussed in brief in the following lines:

2.3.1. Internal Factors

These are factors that the companies will take in to account while determining the optimal level of working capital needed for the business concern by looking inherent factors related to the business and they are presented as follows:

Nature and size of the business: The working capital requirements of a firm are basically influenced by the nature and size of the business. Size may be measured in terms of the scale of operations. A firm with larger scale of operations will need more working capital than a small firm. Similarly, the nature of the business influences the working capital decisions. Trading and financial firms have less investment in fixed assets. But require a large sum of money to be invested in working capital. Retail stores, business units require larger amount of working capital, whereas, public utilities need less working capital and more funds to invest in fixed assets.

Firm's production policy: The firm's production policy (manufacturing cycle) is an important factor to decide the working capital requirement of a firm. The production cycle starts with the purchase and use of raw material and completes with the production of finished goods. On the

other hand production policy is uniform production policy or seasonal production policy, also influences the working capital decisions. If the company maintains continues or uniform production policy, there is a need of regular working capital. If the production policy of the company depends upon the situation or conditions like season, working capital requirement will depend upon the conditions laid down by the company and changing demand.

Firm's credit policy: The credit policy of a firm influences credit policy of working capital. A firm following liberal credit policy to all customers requires funds. On the other hand, the firm adopting strict credit policy and grant credit facilities to few potential customers will require less amount of working capital.

Growth and expansion of business: Working capital requirement of a business firm tend to increase in correspondence with growth in sales volume and fixed assets. A growing firm may need funds to invest in fixed assets in order to sustain its growing production and sales. This will, in turn, increase investment in current assets to support increased scale of operations. Thus, a growing firm needs additional funds continuously.

2.3.2. External Factors

Some time firm's working capital requirement can be affected by external factor which will not be controlled through the business internal administration and management process and they are discussed as follows:

Business fluctuations: Most firms experience fluctuations in demand for their products and services. These business variations affect the working capital requirements. When there is an upward swing in the economy, sales will increase, correspondingly, the firm's investment in inventories and book debts will also increase. Under boom, additional investment in fixed assets may be made by some firms to increase their productive capacity. This act of the firm will require additional funds. On the other hand when, there is a decline in economy, sales will come down and consequently the conditions, the firm try to reduce their short-term borrowings. Similarly, the seasonal fluctuations may also affect the requirement of working capital of a firm.

Changes in the technology: The technological changes and developments in the area of production can have immediate effects on the need for working capital. If the firm wish to install a new machine in the place of old system, the new system can utilize less expensive raw materials, the inventory needs may be reduced there by working capital needs may be affected.

Taxation policy: The amount of tax to be paid is determined by the prevailing tax regulations and very often taxes have to be paid in advance. Hence, the tax policies of the Government will influence the working capital decisions. If the Government follows regressive taxation policy, i.e. imposing heavy tax burdens on business firms, they are left with very little profits for distribution and retention purpose. Consequently the firm has to borrow additional funds to meet their increased working capital needs. When there is a liberalized tax policy, the pressure on working capital requirement is minimized. In general, if tax liability increases, it will lead to an increase in the level of working capital and vice versa.

In summary, firm's financial manager should have to take in to account the above determinants while deciding on the optimal level of working capital needed and the timing for day to day activities of the business operations.

2.4. Working Capital Management

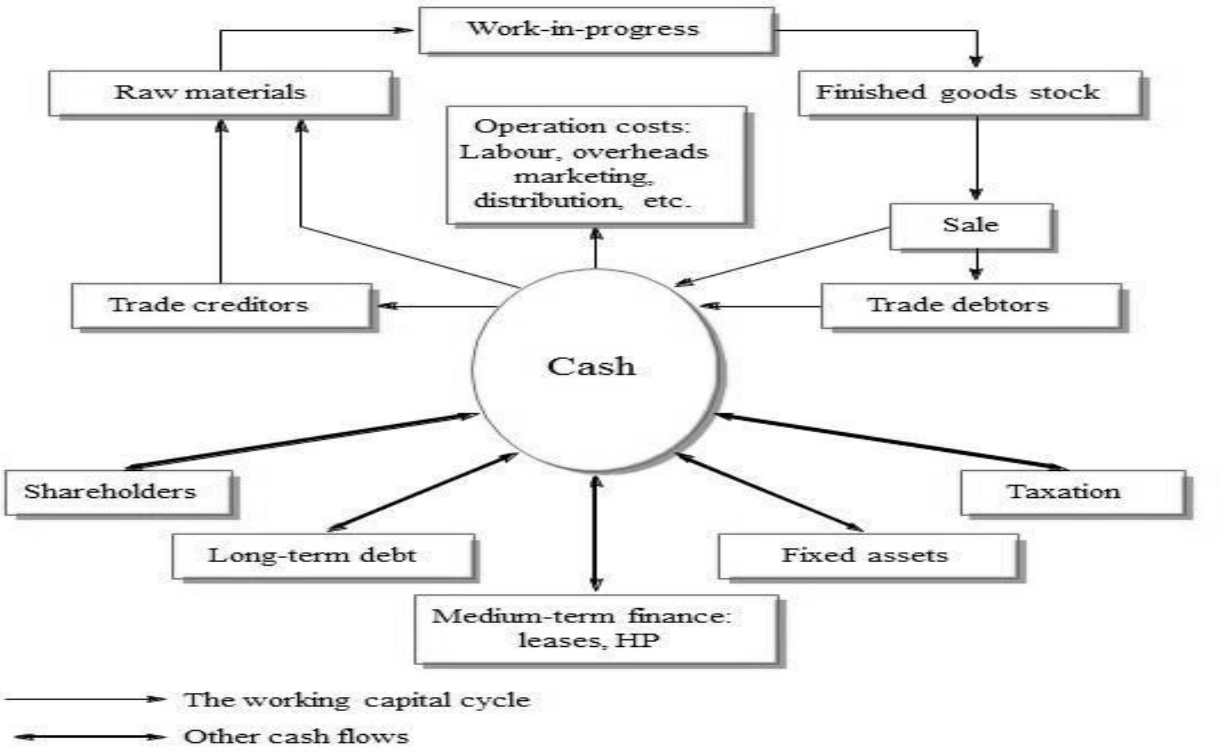
Working capital is an important tool for growth and profitability for a business. If the levels of working capital are not enough, it could lead to shortages and problems with the day-to-day operations (Horne and Wachowicz, 2000). Working capital is also called net working capital and is defined as current assets less current liabilities (Hillier et al., 2010).

Net working capital = Current assets – current liabilities

Both components of the working capital formula above can be found on the balance sheet. Current assets can be found on the left side of the balance sheet and are those assets that generate cash within one year. Current assets are normally divided in cash and cash equivalents, short-term investments, trade and other receivables, prepaid expenses, inventories and work-in-progress. Current liabilities can be found on the right side of the balance sheet and are obligations

which have to be met within one year. Current liabilities are divided in trade payables, short-term debt and accrued liabilities.

Figure 2.4 1 A typical working capital cycle and other cash flows



(Source: Adopted from Arnold, 2008:530)

To illustrate the working capital of a firm, the working capital cycle will now be discussed and can be seen in figure 1.2 on the previous page. The cycle begins with the purchase of raw materials which can be found in the inventory. Later on, these raw materials are transformed in finished goods. These goods are stocked in the inventory until they are sold to a customer. The sale can be purchased by cash or by trade credit. This trade credit provides a delay until the cash is received. With every step of the cycle there are associated costs, which are direct costs and opportunity costs.

The direct costs are the cost of capital invested in each part of the cycle, for example interest on the debt finance to sustain trade creditors. The opportunity costs are represented by the possible returns forgone by investing in working capital instead of some alternative investment opportunity (Berry and Jarvis, 2006).

The above discussed working capital and the cycle that it forms is managed by what is called Working Capital Management (WCM). WCM is part of the financial management of a firm, other parts are e.g. capital budgeting and capital structuring. The first two are mainly focused on the managing of long-term investments and returns. But, WCM mainly focuses on the short-term financing and short-term investment decisions of firms (Sharma and Kumar, 2011). Working capital management is vital for a firm, especially for manufacturing, trading and distribution firms, because in these firms WCM directly affect the profitability and liquidity. This is because for these firms it accounts for over half their total assets (Raheman and Nasr, 2007). It is possible that inefficient WCM can lead to bankruptcy, even if the profitability of a firm is constantly positive (Kargar and Bluementhal, 1994). A reason for this could be that excessive levels of current assets can easily lead to a below average return on investment for a firm (Raheman and Nasr, 2007). An efficient WCM has to manage working capital in such a way that it eliminates risks of default on payment of short-term obligations on one side and minimizes the change of excessive levels of working capital on the other side (Eljelly, 2004).

In the 1980's and prior to that period, working capital management was compartmentalized (Sartoris and Hill, 1983). WCM was divided in cash, account payables and account receivables. In most firms, these compartments were managed by different managers on various different organizational layers (Sartoris and Hill, 1983). But Sartoris and Hill (1983) argued that there was a need for an integrated approach, where all the three compartments are combined. This led to the integration of the management of inventories, account payables and account receivables, called Working Capital Management (WCM), these parts will now be discussed individually.

2.5. Cash Management

Brealey and Myers (2003) indicated that cash is the oxygen which enhances a survival and prosperity, and is the basic indicator of business health. Cash includes both cash in hand and cash

at bank. A company needs cash for transaction and speculation purposes. It also provides the liquidity to the company but the question is why company should have cash reserves when it has an option to utilize it by investing it in short term securities. The answer to this question is that it provides more liquidity than marketable securities. Cash should be considered as an inventory which is very important for the smooth running of the business. No doubt a company can earn some interest if cash is invested in some marketable securities but when it has to pay its liabilities it needs cash and in order to convert marketable securities into cash it has to pay some transaction cost. So, there is a fair possibility that cost of holding marketable securities might exceed their benefit.

Holding a cash reserve is justifiable for all the businesses but how much cash a company should have? It is a big and very important question because too little cash might push a company in a situation where it will not be able to pay its current liabilities. On the other hand having high cash balance will not produce any return. The minimum level of cash reserve depends on the ability of a company to raise cash when it is required, future cash needs and companies will to keep cash to safeguard future unexpected events. Companies also want to have enough cash reserve to exploit the investment opportunities available in the future but having a very high level of cash reserve can turn out to be an idle resource. The maximum level of cash reserve depends on investment opportunities available in the future, return on these investments and transaction cost of making the investments (Gallagher and Joseph, 2000).

2.6. Receivable Management

Businesses have either products or services to sell to their customers; they also want to maximize their sales. So, in order to increase the level of their sales they use different policies to attract customers and one of them is offering a trade credit. Trade credit basically refers to a situation where a company sells its product now to receive the payment at a specified date in the future. Fabozzi and Peterson (2003 p. 651) mentioned that when a firm allows customers to pay for goods and services at a later date, it creates accounts receivable or refers to trade credit. Account receivables (trade credit) also have opportunity cost associated with them, because company can't invest this money elsewhere until and unless it collects its receivables. More account

receivables can raise the profit by increasing the sale but it is also possible that because of high opportunity cost of invested money in account receivables and bad debts the effect of this change might turn difficult to realize. Hence, it calls for careful analysis and proper management is compulsory task of company's credit managers.

Lazaridis and Tryfonidis (2006) find the negative relationship between number of day's accounts receivables and profitability measured by gross operating profit. This negative result demonstrated that companies can increase their profitability by decreasing credit term giving to their customers.

Deloof (2003) find the significant negative relation between the average number of days accounts receivable and gross operating income as a measure of profitability. Boisjoly (2009) provide the evidence that companies have focused on improving the management of accounts receivable as their accounts receivable turnover increase over the 15 year time period for 1990-2004. Several techniques can be applied such as strengthen their collection procedures, offer cash discount and trade credit, and use receivables factoring (Boisjoly, 2009).

Since, the goal of receivables management is to maximize the value of the firm by achieving a tradeoff between risk and profitability. For this purpose, the finance manager has to obtain optimum (non-maximum) value of sales, control the cost of receivables, cost of collection, administrative expenses, bad debts and opportunity cost of funds blocked in the receivables. Further, financial manager has to maintain the debtors at minimum according to the credit policy offered to customers, offer cash discounts suitably depending on the cost of receivables and opportunity cost of funds blocked in the receivables (Gallagher and Joseph, 2000). Indeed trade credit management has to look through cost and benefit analysis including credit and collection policies of companies in maintaining receivable.

Monitoring Accounts Receivable

Companies can monitor how well accounts receivable are managed using aging schedules and financial ratios. In aging analysis, a company's account receivables are classified into different categories based on number of days they are past due after sales such as 1 to 30 days, 31 to 40

days, 41 to 50 days and so on and it helps managers to get a more detailed picture of collection efforts. The schedule can represent the receivables according to how many there are in each age group or according to the total dollars the receivables represent in each age group. Hence, the higher the numbers of accounts or dollars in the shortest term groups, the faster the collection or efforts are made (Fabozzi and Peterson, 2003 p. 660). Whereas, financial ratio can be used to get an overall picture of how fast credit manager collect accounts receivable. Therefore, the average collection period (ACP) represents the average number of days for which a firm has to wait before its debtors are converted into cash. It is calculated by dividing accounts payable by purchases and multiplying the result by 365 and written as:

Average collection period (ACP) = Receivables / (Sales/365)

This ratio measures the quality of debtors. A short collection period implies prompt payment by debtors. It reduces the chances of bad debts. Similarly, a longer collection period implies too liberal and inefficient credit collection performance. It is difficult to provide a standard collection period of debtors (Brigham and Houston, 2003, p. 691). But, according to Berry and Jarvis (2006) firms setting up a policy for determining the optimal amount of account receivables have to take in account the following:

- The trade-off between the securing of sales and profits and the amount of opportunity cost and administrative costs of the increasing account receivables.
- The level of risk the firm is prepared to take when extending credit to a customer, because this customer could default when payment is due.
- The investment in debt collection management

2.7. Accounts Payable Management

Account payable is defined as a debt arising from credit sales and recorded as an account receivable by the seller and as an account payable by the buyer. Firms generally make purchases from other firms on credit, recording the debt as an account payable. Accounts payable is the largest single category of short-term debt, representing about 40 percent of the current liabilities of the average nonfinancial corporation (Brigham and Houston, 2003).

Arnold (2008 pp.479-482) described that account payable is the cheapest and simplest way of financing an organization. Accounts payable are generated when a company purchases some products for which payment has to be made no later than a specified date in the future. Accounts payable are a part of all the businesses and have some advantages associated with it e.g. it is available to all the companies regardless of the size of the company and earlier payment can bring cash discount with it. Companies not only need to manage their account payables in a good way but they should also have the ability to generate enough cash to pay the mature account payables. This is because, in case if a company fails to generate enough cash to fulfill the mature account payables then such a situation will pass the negative signal to the market and it will directly affect the share price, relationship with creditors and suppliers. Hence, in this situation it will be difficult for the company to raise more funds by borrowing money or get more supplies from the suppliers. Such a financial distress will lead to the death of the non living entity. Therefore, one way of monitoring accounts payables is by the Average payment period (APP) or day's payables outstanding ratio which measures the average length of time between the purchase of materials or labor and the payment of cash for supplies (Brigham and Houston 2003, p. 720). It can be calculated as:

Average Payment period (APP) = Payables / (Cost of Goods Sold/ 365)

In general, if a company has a small number of accounts payable days, it could mean that the company is paying the bills very early or is taking advantage of purchase discounts (requiring early payment). On the other hand, if a company has a large number of accounts payable days, it could mean that the company has low cash flows not sufficient to pay bills on time.

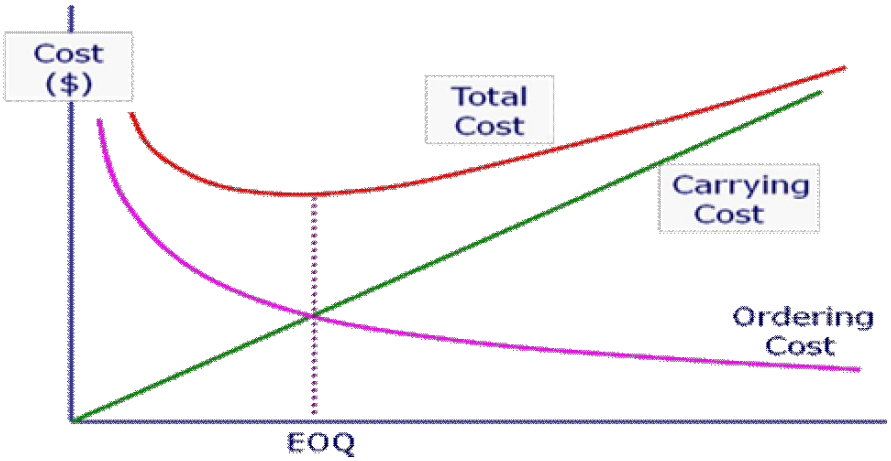
2.8. Inventory Management

Inventory is an important component of current assets. It is the stock of physical goods for eventual sale. It consists of raw material, work-in-process, and finished goods available for sale. As is the case with accounts receivable, inventory levels depend heavily upon sales. However, whereas receivables build up after sales have been made, inventory must be acquired ahead of sales. This is a critical difference, and the necessity of forecasting sales before establishing target inventory levels makes inventory management a difficult task (Brigham and Houston, 2003).

Inventory management refers to an optimum investment in inventories. It should neither be too low to effect the production adversely nor too high to block the funds unnecessarily. Excess investment in inventories is unprofitable for the business and both excess and inadequate investments in inventories are not desirable (Fabozzi and Peterson, 2003, p. 658). Hence, the firm should operate within the two danger points. Additionally, proper inventory management requires close coordination among the sales, purchasing, production, and finance departments. The sales/marketing department is generally the first to spot changes in demand. These changes must be worked into the company's purchasing and manufacturing schedules, and the financial manager must arrange any financing needed to support the inventory buildup. Lack of coordination among departments, poor sales forecasts, or both, can lead to disaster (Brigham and Houston, 2003, p. 707). In general, the purpose of inventory management is to determine and maintain the optimum level of firm's investment on inventory. At the same time, it helps to hold the costs of ordering and carrying inventories to the lowest possible level.

As it can be discussed in the above section, it is not necessary for a firm to hold high level of raw material inventory, in fact a firm can order raw material on the daily basis but the high ordering cost is associated with firms' policy. Moreover, the delay in supply might stop the production. Similarly, firm can reduce its finished goods inventory by reducing the production and by producing the goods only to meet the current demand. However, such a strategy can also create trouble for the company if the demand for the product rises suddenly. Further, such a situation might cause the customer dissatisfaction and even a loyal customer can switch to the competitors brand. Therefore, the firm should have enough inventories to meet the unexpected rise in demand but the cost of holding this inventory should not exceed its benefit (Brealey and Myers, 2003, p.821). Companies want to keep the inventory at a level which maximizes the profit and this level is known as optimal level, but what is an optimal level of inventory for a company? In order to answer this question finance managers analyze the cost associated with inventory i.e. carrying cost and ordering cost using economic order quantity (EOQ) as follow:

Figure 2.8.1 Economic Order Quantities (Behavior of ordering, carrying and total cost)



$$EOQ = \sqrt{\frac{2(An\ isage in\ Unit)(ordering\ cost)}{Annual\ carring\ cost\ per\ unit}}$$

Source: *Paramasivan and Subramanian (2009, p.169)*

Monitoring Inventory Management

Companies can monitor its inventory by looking through its financial ratios like that of monitoring receivables. Inventory turnover ratio in days (ITID) indicates the number of time the stock has been turned over sales during the period and evaluates the efficiency with which a firm is able to manage its inventory. This ratio indicates whether investment in stock is within proper limit or not (Brigham and Houston, 2003). Hence, the ration is calculated by dividing inventory by cost of goods sold and multiplying with 365 days and depicted as follows:

Inventory Turnover in Day (ITID) = Inventory / (Cost of sales/365)

In general there is no rule of thumb or standard for interpreting the inventory turnover ratio. The norms may be different for different firms depending upon the nature of industry and business conditions. However the study of the comparative or trend analysis of inventory turnover is still useful for financial analysis.

2.9. Working Capital Policy

Working capital policy can be best described as a strategy which provides the guideline to manage the current assets and current liabilities in such a way that it reduces the risk of default (Afza & Nazir, 2009). Working capital policy is mainly focusing on the liquidity of current assets to meet current liabilities. Liquidity is very important because, if the level of liquidity is too high then a company has lot of idle resources and it has to bear the cost of these idle resources. However, if liquidity is too low then it will face lack of resources to meet its current financial liabilities (Arnold, 2008). Current assets are key component of working capital and the WCP also depends on the level of current assets against the level of current liabilities (Afza & Nazir, 2007). On this base the literature of finance classifies working capital policy into three categories as defensive or hedging, aggressive and conservative working capital policy (Arnold, 2008 pp.535-36) and discussed as follows:

Defensive policy: Company follows defensive policy by using long term debt and equity to finance its fixed assets and major portion of current assets. Under this approach, the business concern can adopt a financial plan which matches the expected life of assets with the expected life of the sources of funds raised to finance assets (Paramasivan and Subramanian, 2009). Inventory expected to be sold in 30 days could be financed with a 30- day bank loan; a machine expected to last for 5 years could be financed with a 5-year loan; a 20-year building could be financed with a 20 year mortgage bond; and so forth (Weston and Brigham, 1977).

Defensive policy reduces the risk by reducing the current liabilities but it also affects profitability because long term debt offers high interest rate which will increase the cost of financing (Arnold, 2008, p.530). This means a company is not willing to take risk and feel it appropriate to keep cash or near cash balances, higher inventories and generous credit terms. Mostly companies that are operating in an uncertain environment prefer to adopt such a policy because they are not sure about the future prices, demand and short term interest rate. In such situation it is better to have a high level of current assets. Which means, keeping higher level of inventory in the stock, to meet sudden rise in demand and to avoid the risk of stoppage in production.

This approach gives a longer cash conversion cycle for the company. It also provides the shield against the financial distress created by the lack of funds to meet the short term liability but as the researcher discussed earlier long term debt have high interest rate which will increase the cost of financing. Similarly, funds tied up in a business because of generous credit policy of company and it also have opportunity costs. Hence, this policy might reduce the profitability and the cost of following this policy might exceed the benefits of the policy (Arnold, 2008).

Aggressive policy: Companies can follow aggressive policy by financing its current assets with short term debt because it gives low interest rate. However, the risk associated with short term debt is higher than the long term debt. Paramasivan and Subramanian (2009) pinpointed that in aggressive policy the entire estimated requirement of current assets should be financed from short-term sources and even a part of fixed assets financing be financed from short- term sources. This approach makes the finance mix more risky, less costly and more profitable. Furthermore, few finance managers take even more risk by financing long term asset with short term debts and this approach push the working capital on the negative side.

Managers try to enhance the profitability by paying lesser interest rate but this approach can be proved very risky if the short term interest rate fluctuates or the cash inflow is not enough to fulfill the current liabilities (Weston and Brigham, 1977). Therefore, such a policy is adopted by the company which is operating in a stable economy and is quite certain about future cash flows. A company with aggressive working capital policy offers short credit period to customers, holds minimal inventory and has a small amount of cash in hand. This policy increases the risk of default because a company might face a lack of resources to meet the short term liabilities but it also gives a high return as the high return is associated with high risk (Arnold, 2008, p.536).

Conservative policy: Some companies want neither to be aggressive by reducing the level of current assets as compared to current liabilities nor to be defensive by increasing the level of current assets as compared to current liabilities. So, in order to balance the risk and return these firms are following the conservative approach. It is also a mixture of defensive WCP and aggressive WCP. In these approach temporary current assets, assets which appear on the balance sheet for short period will be financed by the short term borrowings and long term debts are used

to finance fixed assets and permanent current assets (Weston and Brigham, 1977). Thus, the follower of this approach finds the moderate level of working capital with moderate risk and return. It is called as “low profit low risk” concept (Paramasivan and Subramanian, 2009). Moreover, this policy not only reduces the risk of default but it also reduces the opportunity cost of additional investment in the current assets.

On the other hand apart from the above points the level of working capital also depends on the level of sale, because, sales are the source of revenue for every companies. Sales can influence working capital in three possible ways (Arnold, 2008).

- As sales increase working capital will also increase with the same proportion so, the length of cash conversion cycle remains the same.
- As the sales increase working capital increase in a slower rate.
- As the sales increase the level of working capital rises in misappropriate manner i.e. the working capital might raise in a rate more than the rate of increased in the sale.

Company with stable sale or growing sale can adopt the aggressive policy because it has a confidence on its future cash inflows and is confident to pay its short term liabilities at maturity. On the other hand a company with unstable sale or with fluctuation in the sale can’t think of adopting the aggressive policy because it is not sure about its future cash inflows. In such a situation adoption of aggressive policy is similar to committing a suicide. Hence, searching other method might be the best choice.

2.10. Profitability and Liquidity Measures

Profitability ratio is a measure of profit generated from the business and is measured in percentage terms e.g. percentage of sales, percentage of investments, percentage of assets. High percentage of profitability plays a vital role to bring external finance in the business because creditors, investors and suppliers do not hesitate to invest their money in such a company (Fabozzi and Peterson, 2003). There are several measures of profitability which a company can use. Few measures of profitability are discussed here:

Net profit margin (NPM): It calculates the percentage of each sale dollar remains after deducting interest, dividend, taxes, expenses and costs. In other words it calculates the percentage of profit a company is earning against its per dollars sale. Higher value of return on sale shows the better performance (Gitman, 1999).

NPM = (Earnings available for common stakeholder / Net sales)*100

Return on asset (ROA): This ratio explains that how efficient a company is to utilize its available assets to generate profit. It calculates the percentage of profit a company is earning against per dollar of assets (Weston and Brigham (1977). The higher value of ROA shows the better performance and it can be computed as follows:

ROA = (Earnings Available For Common Stockholders / Total Asset)*100

Gross operation profit (GOP): this ratio explains that how efficient a company is to utilize its operating assets. This ratio calculates the percentage of profit earned against the operating assets of the company (Weston and Brigham, 1977).

Gross operating profit = (Sales – CGS) / (Total asset –financial asset)

On the other hand, Liquidity ratio measures the short term solvency of financial position of a firm. These ratios are calculated to comment upon the short term paying capacity of a concern or the firm's ability to meet its current obligations (Fabozzi and Peterson, 2003) and they are discussed as follows:

Current ratio: is defined as the relationship between current assets and current liabilities. It is a measure of general liquidity and it is the most widely used to make the analysis for short term financial position or liquidity of a firm (Fabozzi and Peterson (2003). Current ratio can be calculated by dividing the total current assets by total current liability.

Current ratio = current asset / current liability

Acid test ratio or quick ratio: it is the true liquidity refers to the ability of a firm to pay its short term obligations as and when they become due. It is the ratio of liquid assets to current liabilities.

Quick ratio = Current asset – Inventory / Current Liabilities

It is very useful in measuring the liquidity position of a firm. It measures the firm's capacity to pay off current obligations immediately and is more rigorous test of liquidity than the current ratio.

On the other hand, debt ratio is one part of financial ratio which is used for debt management used by different company. Hence, it is ratio that indicates what proportion of debt a company has relative to its assets. The measure gives an idea to the leverage of the company along with the potential risks the company faces in terms of its debt-load (Fabozzi and Peterson, 2003). It can be calculated as dividing total debt by total asset.

2.11. Relationship between Liquidity and Profitability

Finance manager has to take various types of financial decisions like investment decision, finance decision, liquidity decision and dividend decision, in different time. In every area of financial management, the finance manger is always faced with the dilemma of liquidity and profitability. He/she has to strike a balance between the two (Eljelly, 2004). Liquidity means the firm has to have adequate cash to pay bills as and when they fall due, and it also have sufficient cash reserves to meet emergencies and unforeseen demands, in all time. On the other hand, Profitability goal requires that funds of a firm should be utilized as to yield the highest return. Hence, liquidity and profitability are conflicting decisions, when one increases the other decreases. More liquidity results in less profitability and vice versa. This conflict finance manager has to face as all the financial decisions involve both liquidity and profitability.

Creditors of the company always want the company to keep the level of short term assets higher than the level of short term liabilities; this is because they want to secure their money. If current assets are in excess to current liabilities then the creditors will be in a comfortable situation. On the other hand managers of the company don’t think in the same way, obviously each and every manager want to pay the mature liabilities but they also know that excess of current assets might

be costly and idle resource which will not produce any return. For example, having high level of inventory will raise warehouse expense. So, rather than keeping excessive current assets (cash, inventory, account receivable) managers want to keep the optimal level of current assets, to a level which is enough to fulfill current liabilities. And also managers want to invest the excessive amount to earn some return. Hence, managers have to make a choice between two extreme positions; either they will choose the long term investments, investments in non current asset such as subsidiaries (equity), with high profitability i.e. high return and low liquidity. On the other hand to choice short term investment with low profitability i.e. low return and high liquidity.

However, creditors of the company want managers to invest in short term assets because they are easy to liquidate but it reduces the profitability because of low interest rate. On the other hand, if the managers prefer the long term investment to enhance the profitability then in case of default lenders or creditors have to wait longer and bear some expense to sell these assets because the liquidity of long term investment is low. In reality, none of the managers choose any of these two extremes instead they want to have a balance between profitability and liquidity which will fulfill their need of liquidity and gives required level of profitability (Arnold, 2008).

2.12. Review of Empirical Studies

Many researchers have studied working capital from different views and in different environments. The following ones were very useful for our research:

Abbasali and Milda (2012) with a view to finding the empirical evidence about the impact of working capital management on profitability and market evaluation studied a sample of companies listed on the Tehran Stock Exchange for a period from 2006 to 2010. Return on assets and return on invested capital ratio were used to measure the profitability of firms, and Tobin Q ratio to measure the market value of companies. The variables of cash conversion cycle as working capital management criteria, current ratio, current assets to total assets ratio, current liabilities to total assets ratio and total debt to total assets ratio were used. Their result indicates that there is a significant relationship between working capital management and profitability.

Hassan, Liaqat, Ch. Abdul and Muhammad (2011) set out to examine the impact of working capital management on the profitability of the firm without compromising the liquidity of the firm. Using data for sixty five companies randomly selected from Karachi Stock Exchange, and a set of variables Tobin's Q, proxy used for determining the market value of the firm, return on assets & return on invested capital, were used to measure financial performance of the firm. Five financial ratios, cash conversion cycle, current ratio, current asset to total asset ratio, current liabilities to total asset ratio and debt to asset ratio, were used as variables against which changes in dependent variables were measured by applying correlation and multiple regression techniques. Their findings revealed that significant correlations exist between working capital components with firms' market value and firms' profitability.

Muhammad and Syed (2011) investigated the impact of working Capital Management on firms' performance for non-financial institutions listed in Karachi Stock Exchange (KSE-30) Index. A panel data of 21 firms listed in KSE-30 Index for a period of years 2001 to 2010 was analyzed. Results were obtained using canonical correlation analysis for identifying the relationship between working capital management and firms' performance. The findings show that working capital management has a significant positive impact on firms' performance. They concluded that managers can increase value of shareholder and return on asset by reducing their inventory size, cash conversion cycle and net trading cycle.

Abbasali Pouraghajan and Milad Emamgholipourarchi empirically tested the impact of working capital management on profitability and Market evaluation of the Tehran Stock Exchange listed companies. Keeping in mind this objective, they studied a sample of companies during the years 2006 to 2010 registered in Tehran Stock Exchange and analyzed them. Also, they used various variables to measure these two factors. The estimated result of the research shows that there is a significant positive relationship between the effective working capital management and profitability of company. Also, the results of the study show that management can enhance the profitability of company through minimizing cash conversion cycle and the total debts to total assets ratio.

Okwo, Ugwunta and Agu (2012) examined the factors that determine the profitability of the Nigerian beer brewery firms. Multiple regressions were applied to annual data generated from the annual reports of the sampled beer brewer y firms covering a period of 2000 to 2011.The results show that the ratios of inventory to cost of goods sold, account receivable to sales, and sales and general expenses to sales have significant impact on gross profit margin.

In the contrary similar to the study hypothesis, Ganesan (2007) studied the 2001-2007 period financial statements of 349 telecommunication equipment companies, and analysed the effects of working capital management. Ganesan found negative correlations between working capital management and profitability and liquidity. It was reported that average collection period had no significant effect on profitability and return of assets. According to Ganesan (2007) this was resulted from that the sector required fixed assets investment to a large extent. In addition, Ganesan didn't find any significant statistical evidence that telecommunication equipment industry managed all of the components of working capital management equally.

2.12.1. Cash Conversion Cycle

A popular measure of Working Capital Management (WCM) is the cash conversion cycle, i.e. the time lag between the expenditure for the purchases of raw materials and the collection of sales of finished goods. The longer this time lag, the larger the investment in working capital (Deloof, 2003). A longer cash conversion cycle might increase profitability because it leads to higher sales. However, corporate profitability might also decrease with the cash conversion cycle, if the costs of higher investment in working capital rise faster than the benefits of holding more inventories and/or granting more trade credit to customers. This discussion of the importance of working capital management, its different components and its effects on profitability leads us to the problem statement which the researcher will be analyzing.

Padachi et al. (2006) published a positive correlation between CCC and ROA using a fixed asset model.111 several specifics of this case must nevertheless be considered when analyzing this result. First, a very small (Deloof, 2003,; Lazaridis & Tryfonidis, 2006; Padachi, 2006) sample of only 58 companies serves as basis for the statistics used. Second, a market with unique

conditions was chosen: Mauritius. Accordingly, Padachi et al. (2006) explain the contradictory results mainly due to the small firm sizes. They assume that smaller firms maintain a lower fixed asset base and rely mostly on current assets to increase profits. Also, when a pooled OLS regression was used, the correlation turned negative. Notwithstanding, the authors emphasize that there is a pressing need for further investigation, especially among SMEs.

Hasan, etal (2011) studied panel data of companies in the Istanbul Stock Exchange for the period of 2005 – 2009 to shed light on the empirical relationship between efficiency of working capital management and corporate profitability. The findings revealed that reducing the cash conversion cycle (CCC) a measure of working capital management positively affects return on assets (ROA) a measure of profitability.

The analysis of WCM of Nigerian firms on the other hand shows that a well designed and implemented working capital management is expected to contribute positively to the creation of firm's value E. Organdie, (2012). The study conducted by Olufisayo (2011) show that sales growth, cash conversion cycle, account receivables and inventory period affect firm positively, while leverage and account payable affect firm profitability negatively. In another study of selected firms in Nigerian shows that firm's profitability is reduced by lengthening the number of day's accounts receivable, number of days of inventory and number of days accounts payable. The result shows that shortening the CCC improves the profitability of the firms Akinlo (2012).

On the other hand, Rahman and Mohamed (2007) studied the effect of different variables of working capital management including average collection period, inventory turnover in days, average payment period, cash conversion cycle, and current ratio on the net operating profitability of Pakistani firms. They found that as the cash conversion cycle increases, it leads to decreasing profitability of the firm and managers can create a positive value for the shareholders by reducing the cash conversion cycle to a possible minimum level. Falope and Ajilore (2009) utilized panel data econometrics in a pooled regression, where time-series and cross-sectional observations were combined and estimated. They found a significant negative relationship between net operating profitability and the average collection period, inventory turnover in days, average payment period and cash conversion cycle for a sample of fifty Nigerian firms listed on

the Nigerian Stock Exchange. Mathuva (2009) established that there exists a highly significant positive relationship between the time it takes the firm to pay its creditors (average payment period) and profitability.

Also, Lazaridis and Tryfonidis (2006) studied the correlations between working capital and profitability with the data of 2001-2004 period obtained from 131 companies in Athens Stocks Exchange. They found a statistically significant correlation between profitability and cash conversion cycle. Lazaridis and Tryfonidis (2006) reported that managers could increase profitability by keeping working capital components at an optimum level.

2.12.2. Inventory Conversion Period

Padachi (2006) examined the trends in working capital management and its impact on firm's performance. The results proved that a high investment in inventories and receivables is associated with lower profitability. Further, he showed that inventory days and cash conversion cycle had positive relation with profitability.

Usama (2012) extended the work of Rehman and Nasar regarding working capital management while taking the sample of 18 companies from other food sector listed on Karachi Stock Exchange for the period of 2006-2010. The researcher used different variables to measure working capital management such as average collection period, inventory turnover in days, cash conversion cycle, average payment period, debt ratio, firm size, current ratio, and financial asset to total asset. Using common effect model and pooled least square regression, the results indicated that working capital management has significant positive association with firm's profitability and liquidity. He also concluded that firm size and minimum inventory turnover in days has positive influence on firm's profitability.

On the other hand, account receivables days and account payables days correlated negatively with profitability. In another study, Dong and tyh-tay-su (2010) documented a study to find out the relationship between working capital management and profitability. They considered gross operating profitability as a dependent variable and account receivable ratio in number of days, account payable ratio in number of days, inventory turnover ratio in number of days, and cash

conversion cycle are independent variables. Size of the firms, debt ratio and fixed assets to total assets are control variables. They found that there is a negative relationship between account receivable in number of days and inventory in number of days and profitability. But there is positive relationship between account payable in number of days and profitability.

Kulkanya Napompech also reviewed the impact of working capital management on profitability. The primary objective of this research was to test the effects of working capital management on profitability. The regression analysis was calculated on a panel sample of 255 companies listed on the Stock Exchange of Thailand from 2007 to 2009. Therefore, the results showed an inverse relationship between the operating profits and inventory conversion period and the receivables collection period. However, there are no effects on profitability by extending the payables deferral period. The findings also demonstrated that industry characteristics have an impact on gross operating profits.

2.12.3. Day's Payable Outstanding

Deloof and Lazaridis et al. (2006) both observed a negative correlation between accounts payable and firm profitability, arguing in the same direction. In conclusion, Lazaridis et al. (2006) advocate greater attention to working capital management and the optimized handling of the various components of the CCC.

2.12.4. Independent Control Variables

Abdul and Mohamed (2007) studied the effect of different variables of working capital management and current ratio on the net operating profit of Pakistani firms. Their sample was made up of 94 Pakistani firms listed on Karachi Stock Exchange for a period of 6 years from 1999 – 2004. Pearson's correlation, and regression analysis (Pooled least square and general least square with cross section weight models) were used for the analysis. Their results show that there is a strong negative relationship between variables of the working capital management and profitability of the firm meaning that as the cash conversion cycle increases profitability decreases. They also found a significant negative relationship between liquidity and profitability,

that there is a positive relationship between size of the firm and its profitability, also, that there is a significant negative relationship between debt and profitability.

2.12.5. Day's Sales Outstanding

Malik Muhammad, Waseem Ullah Jan, and Kifayat Ullah empirically tested that effective Working capital management is very important for the success of a business because it has a direct positive impact on the profitability of the business. For this purpose, secondary data were collected from listed firms in Karachi stock exchange for the period of 2001-2006 with an attempt to examine the relationship between profitability, and working capital management criteria. The population of the study is Pakistan textile industry, and the findings of the study demonstrate that there is a strong positive relationship between profitability and cash, accounts receivable and inventory; but there is a negative relationship between profitability and accounts payable. Therefore, this indicates that increase in cash, inventory and credit sales will result in an increase in the profitability of firm.

Samiloglu and Demirgünes (2008) analyzed the effect of working capital management on firm profitability in Turkey for period of 1998-2007.Empirical results showed that account receivables period, inventory period and leverage significantly and negatively affect on profitability, while, firm growth significantly and positively. Raheman and Nasr (2007) selected a sample of 94 Pakistani firms listed on Karachi Stock Exchange for a period of 6 years from 1999-2004 to study the effect of different variables of working capital management on the net operating profitability. From result of study, they showed that there was a negative relationship between variables of working capital management including the average collection period, inventory turnover in days, average collection period, cash conversion cycle and profitability. Besides, they also indicated that size of the firm, measured by natural logarithm of sales, and profitability had a positive relationship.

Padachi (2006) examined the trends in working capital management and its impact on firm's performance. The results proved that a high investment in inventories and receivables is associated with lower profitability. Further, he showed that inventory days and cash conversion

cycle had positive relation with profitability. On the other hand, account receivables days and account payables days correlated negatively with profitability. In another study, Dong and tyh-tay-su (2010) documented a study to find out the relationship between working capital management and profitability. They considered gross operating profitability as a dependent variable and account receivable ratio in number of days, account payable ratio in number of days, inventory turnover ratio in number of days, and cash conversion cycle are independent variables. Size of the firms, debt ratio and fixed assets to total assets are control variables. They found that there is a negative relationship between account receivable in number of days and inventory in number of days and profitability. But there is positive relationship between account payable in number of days and profitability.

Deloof (2003) also found a significant negative relationship between gross operating income and number of days of inventory, accounts receivable and accounts payable of Belgian firms. These results suggest to managers to create value for their shareholders by reducing the number of day accounts receivable and inventories to a reasonable minimum. The negative correlation between accounts payable and profitability are contrary with the vision that the less profit-making firms make late payments of their bills.

2.13. Summary and Gaps in Literature Review

Working capital management requires the management of the most liquid resources of a firm with a view to maintain the firm's liquidity, enhance profitability and promote business growth. Working capital management concentrates on the management of inventories, cash and cash equivalents and accounts receivable. The proper management of these items is critical to the success of an organization

The management of inventories is aimed at determining the optimal level of stocks an organization should hold. It ensures that the organization is holding the right quantity of inventories at the right time and in the right location. Proper management of inventories is meant to check on costs associated with holding incorrect quantity of stocks which includes damages to

stocks, high capital tied up in stocks, stock holding costs and lost goodwill and profitability associated with being out of stocks.

The management of cash on the other hand is aimed at determining the optimal level of cash an organization should hold so that it can be able to meet its day to day operating expenses, meet its short term financial obligations, ensure that funds are available to ensure investments in expansion projects and that excess cash balances not immediately required for use are invested in income generating activities i.e. money market instruments. Cash should not be left idle in the bank accounts. This is because cash balance in the bank is a non earning asset. This cash should be converted into an earning asset by either investing in short term marketable securities or investing for business growth. Inadequate or excessive cash balance has negative impact on the operations of the firm. Inadequate balances causes financial distress to a firm leading high cost of finance, inability to meet profit targets and inability to undertake expansion projects which limits the overall performance. Excessive cash balances on the other hand leads to lost profitability due to forgone investment income that would have been earned if the idle cash were invested.

Accounts receivable management refers to the determination of the optimal level of debtors an organization should hold. It involves a cost benefit analysis of selling on credit. It involves evaluating the credit policies of an organization with a view of selecting and implementing a policy that yields the maximum benefits to a firm. A firm selling on credit terms increases it turnover therefore increases it profits, however there are costs associated with the credit sales. A trade off should therefore be made between the benefits of credit sales and the cost associates with such credit sales. An organization should carry out a cost benefit analysis of either selling in cash or on credit. Such a decision can only be done after evaluating the credit policy of the firm. Any policy adopted should be the one which leads to a lower cost associated with credit sales.

High level of debtors has high incidence of bad debts and debt administration costs. Low level of debtors on the other hand implies low level of sales therefore low profitability. Debtor's management policy impacts on the firm's profitability, liquidity, growth and the level of

operating and financial risk of an organization. A problem therefore arises as to what should be the optimal level of debtors and the credit policy that an organization should adopt in order to reap maximum benefits.

In general, the literature review indicates that working capital management has impacts on profitability of a firm. Having optimum level of working capital components will help firms to meet its day to day operations and vital for maximizing value and profitability.

Hence, almost all studies did in Ethiopia in the past focuses on the impacts on working capital on profitability studies for small and medium business firms. While, this study focuses on the big firms like breweries and try to find out the impact of working capital management on its profitability and performance.

Here also the study includes the following variables (day sales outstanding, days payable outstanding, cash conversion cycle, inventory conversion period, current ratio, size of the company and date ratio), running the regression by including all variables would enhance the reliability of the findings and fill the problem of missing important variables which was observed in previous studies. In general, the researcher believed that the above actions would fill the gap identified in this study.

CHAPTER THREE

3. RESEARCH METHODOLOGY

3.1. Introduction

This Chapter focuses on the research design and applicable methodology for this research. The main purpose of this study is to explore and analyze, in terms of profitability, the impact of Working Capital Components on firm's performance of Breweries currently operating in Ethiopia.

3.2. Research Design

The study adopts the diagnostic research design. The study is concerned with the effects of working capital components on profitability. It aims at identifying the impact of working capital components, that is, the Days Sales Outstanding (DSO); inventory conversion period (ICP); Days Payable Outstanding (DPO) and Cash Conversion Cycle (CCC) on profitability. Diagnostic research tries to determine the association of the subject matter with something else (Kothari, 2004). The design enables the researcher to identify the relationship that existed between the independent variables and the dependent variable. Examining data for the study required panel data analysis. Panel data (also known as longitudinal or cross sectional time-series data) is a dataset in which the behavior of entities is observed across time. Therefore this analysis helps us to find out the relationships that existed among the variables under study over a given period (Huang *et al*, 2008). In addition, Statistical Package for Social Science (SPSS) (Version 20.00) Windows Software was used to process and analyze the data collected.

3.3. Population of the Study

Population refers to all the members of a real or hypothetical set of people, events or objects to which we wish to generalize the results of our research. The population of this study included all Breweries in Ethiopia. All breweries are appropriate for the study since they are operating under

the strict government regulations, making their financial and accounting disclosures largely reliable. Currently, there are seven (7) Brewery companies functioning in Ethiopia 'http://hahudaily.com/the-complete-list-of-ethiopian-beer/".

3.4. Research Sample Selection

To select sample firms, the researcher plans to employ convenience and purposive sampling techniques. It is because of the following requirements: Convenience sampling involves drawing samples that are both easily accessible and willing to participate in a study. Theoretically, there are two types of convenience samples that are captive samples and volunteer samples. Purposive sampling techniques have also been referred to as non probability sampling or purposeful sampling or ''qualitative sampling.'' As noted above, purposive sampling techniques involve selecting certain units or cases ''based on a specific purpose rather than randomly'' (Tashakkori & Teddlie, 2003). Several other authors (e.g., Kuzel, 1992; LeCompte & Preissle, 1993; Miles & Huberman, 1994; Patton, 2002) have also presented typologies of purposive sampling techniques.

The researcher involves such sampling, because of the following requirements. The first criterion that is used to select sample units to be included in the study is the researcher conducted restriction criterion to arrive at defining the study population. The study considers breweries from the total population that, their head office is located in Addis Ababa convenient to reach them easily and relevant to the study.

Secondly, the data for the study period of ten years from 2005 – 2014 collected from secondary sources i.e. audited Annual reports of the companies. The reason for restricting to this period is that the latest data for investigation is available for these periods. As a result continuity and homogeneity in the available data is a prerequisite for studying the trend of working capital formation in breweries, hence those companies whose data is not available for the entire study period or whose financial years are not in uniform will be excluded from sample selection.

The researcher tried to make the sample representative of the population operating in Addis Ababa. The researcher, therefore, selected and collected two companies' financial statements, located in Addis Ababa. The use of the secondary data enabled the researcher to collect reliable

information from the target population. These reports enabled the researcher to save time in data collection; they were cost effective and contained the required information.

Motivation for the Selected Location

Since, Addis Ababa being the commercial capital city of Ethiopia and the most business concentrated part of Ethiopia with a good mix of trading and manufacturing companies including breweries. Second, the selection of location also influenced by the researcher; due to its nearness to the selected sample as compared to conducting the research outside Addis Ababa Region.

3.5. Data Collection Procedures

Approval of the study and request letter to get necessary support from the respected sample companies will be first obtained from the Saint Mary's University; Dean Office. Permission to collect relevant data from the finance managers was then secured from the Administrator's of the company by the study. The researcher then secured appointments with the finance managers of the respective firms on separate days, to collect data from the financial records of the companies for the stated financial periods. There is an agreement reached between the researcher and sample companies to don't disclose in anywhere of this paper the name of the organization due to high market competition between the firms. Therefore, due to such an agreement the researcher could not be mentioned in anywhere of the project paper the name of both firms.

3.6. Data Analysis and Presentation

The collected secondary data have been analyzed using descriptive statistics, correlation and multiple regression analysis to establish the relationship between the independent variables of working capital components viz., DSO, DPO, ICP and CCC and the dependent variable (Gross Operating Profit). The descriptive statistics enables us to describe (and compare) variables numerically by focusing on the central tendency and dispersion of the variables (Saunders et al., 2009). Accordingly, the descriptive statistics in terms of maximum, minimum, median, mean and

standard deviation of the dependent, independent and control variables have been worked out and presented in a table.

Correlation analysis, on the other hand, involves measuring the strength of a relationship between two variables. The Pearson Correlation Coefficient measures the degree to which there is a linear association between two intervally scaled variables. For this study, the Pearson Correlation Coefficient has been determined to measure the degree to which the dependent and independent variables are associated.

In addition to the descriptive statistics and correlation analysis, the study used multiple regression analysis. Regression analysis provides a tool that can quantify relationships between a dependent and one or more independent variable while at the same time it provides statistical control (Aaker et al., 2007). According to Kothari (2004), regression analysis is concerned with the study of how one or more variables affect changes in another variable.

3.6.1. Dependent Variable

Gross Operating Profit (GOP)

Gross operating profit (GOP) that is a measure of profitability of firm is used as dependent variable. It is defined as sales minus cost of goods sold, and divided by total assets minus financial assets. Hence, in this study, the general form of the multiple regression model given below has been used (Aaker et al., 2007):

$$\mathbf{GOP_{it}} = \beta o + \sum_{i=1}^{n} \beta_1 X_{it} + \varepsilon$$

Where,

$\mathbf{GOP_{it}}$ = Gross operating profit of a firm i at time t; i = 1, 2, 3…, 13 firms.

$\mathbf{Bo}$ = the intercept of equation

$\mathbf{X_{it}}$ = the different independent variables (DSO, DPO, CCC & ICP) for WCM of firm ***i*** at time ***t***.

t = time from 1, 2…, 5 years and

ε = error term

3.6.2. Independent Variables and their Measurements

The working capital components include: *Days Sales Outstanding (DSO*), *Inventory Conversion Period (ICP)*, *Days Payable Outstanding (DPO*), and *Cash Conversion Cycle (CCC).* As a result, Cash Conversion Cycle is measured the source of three parts; Number of Days Sales Outstanding, Inventory Conversion Period and Number of Days Payable Outstanding. All these parts of CCC help to examine the gathering, inventory conversion and policy of the payment on sectored basis.

Cash Conversion Cycle (CCC)

The Cash Conversion Cycle (CCC) used as a comprehensive measure of working capital management is another independent variable, and is measured by deducting Average Payment Period from Average Collection Period. To calculate CCC the researcher uses the following formula:

Cash Conversion Cycle (CCC) = DSO + ICP – DPO

Inventory Conversion Period (ICP)

It is average number of days to convert raw materials into finished products and then selling them to customers. Inventory period is calculated by dividing average inventory by average sales per day.

To calculate ICP

$$\textbf{Inventory Conversion Period (ICP)} = \frac{Average\ Inventory\ x\ 365}{Net\ Sales}$$

Days Sales Outstanding

The day's sales outstanding calculation, also called the average collection period or days' sales in receivables, measures the number of days it takes a company to collect cash from its credit sales. This calculation shows the liquidity and efficiency of a company's collections department.

In other words, it shows how well a company can collect cash from its customers. The sooner cash can be collected, the sooner this cash can be used for other operations. Both liquidity and

cash flows increase with a lower day's sales outstanding measurement.

To Calculate:

$$\textbf{Days Sales Outstanding} = \frac{Account\ Receivabe\ x\ 365}{Net\ \ sales}$$

Days Payment Outstanding

This is the number of days a company takes to pay off the accounts payable. The average of beginning and ending accounts payable are used to measure the average payment period (Deloof, 2003):

To calculate APP

$$Day's\ Payable\ Outstanding\ = \frac{Account\ Payable}{Net\ Purchase}\ x\ 365$$

Therefore, to test the hypotheses of the study, the following 4 models were used to analyze the relationship between the above variables:

The First Model: the first hypothesis test model; the relation between Days Sales Outstanding (DSO) and profitability:

$$Y_{it} = a + \beta 1(DSO)_{it} + \beta 2(LOS)_{it} + \beta 3(CR)_{it} + \beta 4(DR)_{it} + \beta 5(FATA)_{it} + e$$

The Second Model: the second hypothesis test model; the relation between Days Payable Outstanding (DPO) and profitability

$$Y_{it} = a + \beta 1(DPO)_{it} + \beta 2(LOS)_{it} + \beta 3(CR)_{it} + \beta 4(DR)_{it} + \beta 5(FATA)_{it} + e$$

The Third Model: the third hypothesis test model; the relation between inventory conversion period (ICP) and profitability:

$$Y_{it} = a + \beta 1(ICP)_{it} + \beta 2(LOS)_{it} + \beta 3(CR)_{it} + \beta 4(DR)_{it} + \beta 5(FATA)_{it} + e$$

The Fourth Model: the fourth hypothesis test model; the relation between Cash Conversion Cycle (CCC) and profitability:

$$Y_{it} = a + \beta 1(CCC)_{it} + \beta 2(LOS)_{it} + \beta 3(CR)_{it} + \beta 4(DR)_{it} + \beta 5(FATA)_{it} + e$$

Where:

a = Constant term for the independent variables

Y= Gross Operating Profit (Profitability)

DSO = Days Sales Outstanding

CR = Current Ratio

LOS = the size of the company

DR = Debt Ratio

FATA= Financial Assets to Total Assets

ICP = Inventory conversion period

DPO = Days Payable Outstanding

CCC = Cash Conversion Cycle

e = the error term

β = Regression model coefficient

3.6.3. Control Variables

Liquidity (CR): The companies with more Liquidity have more profitability, so Liquidity variable was used as control variable in order to make its effect on profitability neutral. Current ratio was used as Liquidity criterion.

$$\mathbf{CR=}\frac{\textbf{Current Asset}}{\textbf{Current Liabilities}}$$

The Company Size (LOS): The companies which have more sales naturally have more profitability too. So the company size variable will be used to control the effect of this. The company size is: natural logarithm (sale).

Financial Assets (FATA): Financial assets are bought for profitability purposes, and so they affect profitability. Therefore this variable used as control variable in order to make its effect neutral on the company profitability. Long term and short term investments in deposits, stock and bills of exchange of the companies are considered as financial assets.

$$\textbf{FATA} = \frac{\textbf{Financial Assets}}{\textbf{Total Assets}}$$

Debt Ratio (DR): used as proxy for Leverage and is calculated by dividing Total Debt by Total Assets:

$$\textbf{DR} = \frac{\textbf{Total Debt}}{\textbf{Total Assets}}$$

CHAPTER FOUR

4. DATA ANALYSIS, RESULT PRESENTATION AND DISCUSSION

4.1. Introduction

This chapter presents the results and analysis of the findings of the various indicators of performance of Brewery Companies in Ethiopia on the Impacts of working capital management on firms' profitability. The study selected Gross Operating Profit (GOP) as the measure of the firm's financial performance. On the other hand cash conversion cycle (CCC), inventory conversion period (ICP), Day' Sales Outstanding (DSO) and Day's Payables Outstanding (DPO) was used as the measure of working capital (or working capital variables) for the study. The approach adopted is first to present the outcomes of the different methods independently in this chapter. The results obtained under different methods are jointly analyzed in the subsequent chapter to address each research hypotheses. Empirical results from quantitative data analysis using Statistical Package for Social Science (SPSS) as well as presenting results from descriptive statistics, correlation matrix and regression results were used as the study's main statistical tools.

4.2. Descriptive Statistics Result

The descriptive statistics are presented for 2 company year observations of Brewery factories in Ethiopia for the period of 2010 - 2014. For both dependent and independent variables value of minimum, maximum, mean and standard deviation are presented on table 4.2.1 below.

Table 4.2.1 Descriptive Statistics

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
GOP	2	0.35	0.56	0.455	0.14849
DSO	2	22.59	39.95	31.27	12.27537
ICP	2	104.88	125.19	115.035	14.36134
DPO	2	45.19	65.91	55.55	14.65125
CCC	2	82.28	99.23	90.755	11.98546
CR	2	1.01	3.01	2.01	1.41421
DR	2	0.43	0.56	0.495	0.09192
LOS	2	2.64	3.16	2.9	0.3677
FATA	2	0.06	0.11	0.085	0.03536

Source: *SPSS Output from Secondary Data (2010 – 2014)*

As it is displayed in table 4.2.1, the mean value of firms Gross operating Profit is 45.5 percent of total assets, and it deviates 14.85 percent. Its minimum value is 35 percent while the maximum is 56 percent. It means that value of the profitability can deviate from its mean to both sides by 14.85 percent.

The cash conversion cycle used as a proxy to check the efficiency in managing working capital is on average 91 days and standard deviation is 12 days. The minimum time taken by a company to convert its overall activity is 82 days and the maximum time taken by the firm for this purpose is 99 days. Firms receive payment against sales after an average of 31 days and standard deviation is 12 days. Minimum time taken by a company to collect cash from receivables is 23 days while the maximum time for this purpose is 40 days. It takes an average 115 days to sell inventory with standard deviation of 14 days. Here, maximum time taken by a company is 125 days, and the minimum to convert inventory into sales is 105 days. Firms wait an average 56 days to pay their purchases with standard deviation of 15 days. Here, minimum time taken by a company is 45 days, and maximum time taken for this purpose is 66 days.

4.3. Correlation Matrix Result

After descriptive statistics and before regression analysis result, it is important to check the correlation between different variables on which the analysis is built. Pearson's Correlation matrix is used for data to see the relationship between variables such as those between working capital management and firm financial performance (GOP).

Table: 4.3.1., below presents the result of the correlation analysis of Profitability Measures with cash conversion cycle, inventory conversion period, day's sales outstanding and day's payable outstanding period. It shows negative relationship between the Pearson's Correlation Coefficient Matrix and GOP with DPO, ICP, DR, and DSO at 5%. Furthermore, it shows the positive relationship with FATA, CR, LOS and CCC.

Table 4.3.1 Pearson's Correlation Coefficient Matrix

Correlations

		CCC	ICP	DPO	DSO	CR	LOS	FATA	DR	GOP
CCC	Pearson Correlation	1								
	Sig. (2-tailed)									
	N	2								
ICP	Pearson Correlation	.677	1							
	Sig. (2-tailed)	.032								
	N	2	2							
DPO	Pearson Correlation	-.435	-.022	1						
	Sig. (2-tailed)	.209	.951							
	N	2	2	2						
DSO	Pearson Correlation	.127	-.174	.576	1					
	Sig. (2-tailed)	.727	.631	.081						
	N	2	2	2	2					
CR	Pearson Correlation	-.060	-.173	-.014	.085	1				
	Sig. (2-tailed)	.868	.633	.969	.816					
	N	2	2	2	2	2				
LOS	Pearson Correlation	-.312	-.581	.500	.758*	.535	1			
	Sig. (2-tailed)	.381	.078	.141	.011	.111				
	N	2	2	2	2	2	2			
FATA	Pearson Correlation	.199	-.114	-.351	-.013	.031	-.099	1		
	Sig. (2-tailed)	.582	.753	.320	.972	.932	.786			
	N	2	2	2	2	2	2	2		
DR	Pearson Correlation	.107	.520	-.108	-.522	.283	-.402	-.490	1	
	Sig. (2-tailed)	.768	.124	.767	.122	.428	.249	.151		
	N	2	2	2	2	2	2	2	2	
GOP	Pearson Correlation	.210	-.301	-.545	-.022	.378	.244	.434	-.278	1
	Sig. (2-tailed)	.560	.398	.103	.951	.281	.497	.210	.437	
	N	2	2	2	2	2	2	2	2	2

*. Correlation is significant at the 0.05 level (2-tailed).

Source: *SPSS Output from Secondary Data (2010 – 2014)*

Table: 4.3.1 presents the result of the correlation analysis of Profitability Measures with cash conversion cycle, inventory holding period, account receivable conversion period and accounts payable period.

The analysis starts with cash conversion cycle which is a comprehensive measure of working capital and gross operating profit. In the methodology part of this study, it was hypostasized that, cash conversion cycle (CCC) has no statistically significant relation with firms' financial profitability. In agreement with the research hypothesis, and based on table 4.3 result even if there is positive correlation coefficient between cash conversion cycle and gross operating profit, there is no statistically significant relation between CCC and gross operating profit. Because, at the point the correlation coefficient of cash conversion cycle with gross operating profit is 0.210, the p value is (0.560). Mean, it is statistically insignificant at ά. = 5%.

On the other hand, at its clearly shown result of in the table the Correlation results between inventory conversion period, days sales outstanding period and days payable outstanding period with gross operating profit have negative result. It shows that any increase in any of these factors will reduce the profitability measure gross operating profit of the firms.

Regarding the hypothesis we stated in the methodology part of this study about Inventory, it was hypothesized that there is no statistically significant relation between Inventory conversion period and gross operating profit. In agreement with this hypothesis, the correlation table indicates that the at the result of correlation coefficients -0.301 and p value is (0.398). It shows that it is statistically insignificant at ά. = 5%.

Similarly in the chapter one of this study, it was hypothesized that there is no statistically significant relationship between day's payable outstanding profitability (measured by gross operating profit). Similar to the research hypothesis, the correlation matrix in the above table even if it has a negative relationship between day's payable outstanding and profitability measures. Which means if firms delay their payments they will earn less profits; the reason behind this is that firms can take the advantage of discounts by paying soon. But, as it is shown in the above table, when a day's payable outstanding correlation coefficients result is -0.545, the

p value became (0.103). It means there is no statistically significant relationship between DPO and GOP at ά. = 5%.

Finally, the other hypothesis was that, the way how credit sales are managed has effect on profitability of firms measured by gross operating profit. In agreement with the study hypothesis, the result of the correlation matrix table 4.3.1 shows that there is no statistically significant relationship between day's sales outstanding and measure of profitability (gross operating Profit). Even if the Pearson correlation between day's sales outstanding and measure of profitability is negative, i.e. -0.22, the p value is 0.951. That is really far from the default alpha value 5%.

Current ratio is a traditional measure of checking liquidity of the firm. In this analysis the current ratio has no significant but positive relationship with measurement of profitability of the firms. The coefficient is 0.378 and p-value of (0.281) with gross operating profit.

Also, even if there is a positive correlation exists between measure of profitability (GOP) and LOS (the measures of size), there is no significant relation between size of the firm and profitability. The coefficient is positive 0.244; with p-value of (0.497).

In agreement with the research hypothesis, the results of correlation analysis indicate that there is no statistically significant relationship between working capital management and performance of breweries in Ethiopia. In general, the overall correlations test results imply that the null hypotheses for Gross Operating profit (GOP) are confirmed as there is no statistically significant correlations between Working Capital components (i.e. cash conversion cycle, inventory conversion period, Account receivable period and Account payable period) and firm's profitability.

4.4. Regression Results

The previous section shows that some components of working capital correlate with company profitability. The weak side of the above section is that they do not allow identifying causes from consequences. To overcome this shortcoming, the researcher conducted regression analysis to determine how much of each of the variables of working capital impact on profitability. The results are presented below for each variable on the tables.

When more than two variables are involved it is often called multicollinearity. The primary concern is that as the degree of multicollinearity increases, the regression model estimates of the coefficients become unstable and the standard errors for the coefficients can get wildly inflated. To avoid the possibility of multicollinearity, it is important that the results from collinearity diagnostics should have tolerance value above 0.10 and variance inflation factor (VIF), which is the inverse of the tolerance value, less than 10 as the small value of tolerance indicate the high multiple correlation with other variables (Pallant, 2007).

The value of F test explains the overall significance of a model. It explains the significance of the relationship between dependent variables and all the other independent variables (Anderson et al., 2007).

In the case of a small sample, the adjusted R^2 Value should be considered as it provides more accurate estimation of the true population value (Pallant, 2007, p.158). There is a rule of thumb which can be used to determine the adjust R^2 value as follows: < 0.1: poor fit, 0.11 to 0.30: modest fit, 0.31 to 0.50: moderate fit, >0.50: strong fit (Muijs, 2004,).

To evaluate the study models, the value of R^2 has been considered to determine the amount of variance in the dependent variables which is explained by all variables in the formula (Pallant, 2007).

As the B coefficients have different scales, the absolute value of Beta parameter under Standardized Coefficients is used in order to compare and determine the influence of independent variables on the dependent variable (Muijs, 2004). The Significant value is used to measure the statistic significant unique contribution of each independent variable to the formula (Pallant, 2007). According to (Kohler, 1994), the values of Durbin Watson have upper limit of four and lower limit of zero. If the value of Durbin-Watson is equal to two then there exists no autocorrelation but if the value is less than two then there exists positive correlation and if the value is higher than 2 than there exist negative correlation.

From the analysis Table 4.4.1., CCC has a positive association with GOP but at 5% significant level the results that reject null hypothesis GOP statistically related with CCC.

Table 4.4.1 Regression Result from Cash Conversion Cycle

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	Durbin-Watson
					Sig. F Change	
1	.661[a]	.438	-.266	.096427	.695	1.638

a. Predictors: (Constant), FATA, CR, CCC, LOS, DR

b. Dependent Variable: GOP

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.725	1.081		.670	.539		
	CCC	.001	.002	.211	.523	.629	.862	1.160
	CR	.147	.165	.800	.892	.423	.175	5.727
	DR	-.765	1.116	-.693	-.685	.531	.138	7.272
	LOS	-.091	.229	-.398	-.398	.711	.141	7.114
	FATA	-.040	2.525	-.011	-.016	.988	.272	3.670

a. Dependent Variable: GOP

The Tolerance statistics were 0.862 and the Variance Inflation Factor (VIF) 1.160 for CCC. It is indicating that there were no multi-collinearity problems among the independent variables in the data.

The adjusted R2, otherwise known as the coefficient of multiple determinations is the percent of the variance in the dependent explained uniquely or jointly by the independent variables. The Adjusted R2 is 43.8% of GOP. It indicates that the formula is moderate fit at predicting the cash conversion cycle. The F-statistics is used to test significant of R, from the results, one can see that the model is not fit with F statistics 0.695 at p-value of 0.629 GOP. It shows insignificance level at 5%. So it can also be concluded in agreement with the study hypothesis, that there is no

statistically significant relation between the independent variables and measure of profitability (GOP).

In order to find out the autocorrelation in the residuals and in the regression, Durbin-Watson (DW) value of model 1 was computed. The result shows the value of 1638 of GOP. Concluded that there exist positive correlation in the regression GOP since the DW value 1.638 is less than to 2, Therefore, the independence of residuals assumption is violated.

In the regression model 1, the beta coefficient is 0.001 for cash conversion cycle which show that cash conversion cycle makes the last strongest contribution similar to ICP to predict the dependent variable GOP. The result of the variable shows it's statistically insignificant to GOP in model1.

Table 4.4.2 Regression Result from Inventory Conversion Period

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	Durbin-Watson
					Sig. F Change	
2	.639[a]	.408	-.332	.098908	.736	1.392

a. Predictors: (Constant), FATA, CR, ICP, LOS, DR

b. Dependent Variable: GOP

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
2	(Constant)	.889	1.115		.797	.470		
	ICP	-.001	.003	-.128	-.249	.816	.557	1.796
	CR	.147	.170	.799	.863	.437	.173	5.792
	DR	-.684	1.188	-.619	-.575	.596	.128	7.835
	LOS	-.115	.234	-.503	-.492	.648	.142	7.058
	FATA	.146	2.592	.042	.056	.958	.272	3.676

a. Dependent Variable: GOP

From the analysis table 4.4.2 showed above, ICP has a negative association with GOP at 5% insignificant with GOP. This results that accept null hypothesis GOP and confirm null hypothesis GOP are found to be statistically insignificant relationship with ICP.

The Adjusted R2 is GOP. It indicates that the formula is moderate fit, well at predicting the Inventory conversion period and. Model 2 is fit with F statistics 0.736 at p-value of 0.816 GOP. It shows insignificance level at 5%.

The Tolerance statistics were 0.557 and the Variance Inflation Factor (VIF) 1.796 for ICP. It is indicating that there were no multi-collinearity problems among the independent variables in the data.

The Durbin-Watson (DW) result shows that 1.392 GOP. It can be concluded that there is autocorrelation exist. Therefore, the independences of residuals assumption are violated.

In model 2, Beta coefficient is -0.001 for inventory conversion period which show that inventory conversion period makes the last strongest contribution to predict the dependent variable of GOP as mentioned above. The significant result of the variable (0.816) shows that it's statistically insignificant relation to GOP in model 2.

From the analysis table 4.4.3., shown below, likewise inventory conversion period day's sales outstanding and has a negative association with GOP at 5% insignificant with GOP. This results that accept the null hypothesis GOP but confirm null hypothesis GOP are found to be insignificantly related with day's sales outstanding.

Table 4.4. 3 Regression Result from Day's Sales Outstanding

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	Durbin-Watson
					F Change	
3	.660[a]	.436	-.269	.096566	.618	1.387

a. Predictors: (Constant), FATA, DSO, CR, DR, LOS

b. Dependent Variable: GOP

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
3	(Constant)	.494	1.250		.395	.713		
	DSO	-.002	.004	-.392	-.511	.636	.240	4.169
	CR	.092	.202	.501	.456	.672	.116	8.584
	DR	-.555	1.190	-.503	-.466	.665	.121	8.236
	LOS	.020	.340	.088	.059	.955	.064	15.538
	FATA	.619	2.729	.176	.227	.832	.234	4.274

a. Dependent Variable: GOP

The Tolerance statistics were 0.240 and the Variance Inflation Factor (VIF) 4.169 for DSO. It is indicating that there were no multi-collinearity problems among the independent variables in the data.

The Adjusted R2 is 43.6% of GOP. It indicates that the formula is again moderately fit, at predicting the day's sales outstanding and Model 3 is fit with F statistics 0.618 at p- value of 0.636 GOP. It shows insignificance level at 5%.

The Durbin-Watson (DW) results show that 1.387 of GOP and will have negative correlation, since the result is less than two.

In model 3, Beta coefficient is -0.002 for day's sales outstanding which show that it makes the second strongest contribution to predict the dependent variable of GOP. The statistically insignificant are found in days sales outstanding at 0.5. It suggests that these variables make insignificant contributions to predict the dependent variable GOP.

Finally, from the analysis of table 4.4.4.5, Day's payable outstanding same as ICP and ARP has a negative association with GOP but at 5% insignificant with GOP. This results that accept the null hypothesis GOP and confirm the null hypothesis GOP are found to be insignificantly related with DPO.

Table 4.4.4 Regression Result from Day's Payable Outstanding

Model Summaryb

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	Durbin-Watson
					Sig. F Change	
4	.834[a]	.695	.313	.071031	.291	1.779

a. Predictors: (Constant), FATA, CR, DPO, DR, LOS

b. Dependent Variable: GOP

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
4	(Constant)	.082	.870		.094	.930		
	DPO	-.004	.002	-.814	-1.969	.120	.446	2.242
	CR	-.010	.147	-.053	-.067	.950	.120	8.326
	DR	.078	.927	.070	.084	.937	.108	9.233
	LOS	.168	.218	.733	.769	.485	.084	11.890
	FATA	.904	1.898	.257	.476	.659	.261	3.824

a. Dependent Variable: GOP

The Tolerance statistics were 0.446 and the Variance Inflation Factor (VIF) 2.242 for days payable outstanding. It shows that there were no multi-collinearity problems among the independent variables in the data.

4.5. Analysis of the Empirical Data

Once we saw the result of each variable now let's we proceed to analyze and discuss it. Here, we analyze the empirical data, interpret and discuss the empirical results. Furthermore compare the empirical finding with the theory and evidence from previous empirical studies.

4.5.1. Inventory Conversion Period

The study finds out that there is statistically insignificant but negative relation between inventory conversion period and gross operating profits of the assessed firms. Holding inventories incurs costs to the firm, such as the funds which are tied up in inventories, cannot have the interest earnings. Instead, storage and insurance costs have to be paid, furthermore, spoilage, damage and loss of goods lead to the costs to firms. The findings were consistent with those of Roumiantsev and Netessine (2005b) who did not find a relationship between return on assets and inventory levels but instead found that superior earnings are associated with the speed of change/responsiveness in inventory management.

Roumiantsev and Netessine (2007) also reported that the relationship both between days of work in process inventory and ROS and between days of finished goods inventory and ROS is statistically insignificant. However, they contradict the findings of Chen et al. (2005, 2007) who reported that firms with abnormally high inventories have abnormally poor long-term stock returns and Gaur et al. (2005) who equally reported that inventory turnover for retailing firms is positively associated with both capital intensity and sales surprise, and is negatively associated with gross margins. Hyder et al. (2007); Raheman and Nasr (2007) have also reported a negative relationship between Inventory period and profitability.

Inventories are the core of beer manufacturing firms and the companies might have to maintain the sufficient inventory level to avoid either the stock-outs or the excess balance. They require raw material and work-in-process for their production and finished goods for sale to customers which affect them to have higher inventory balance and longer inventory period. On the other hand, the excess balance would also cost the company such as loss of benefit from short-term investment, having long outstanding stocks and obsolete inventories. In addition, Since Breweries manufacturing process a bit complicated, the company require efficient inventory management, supply chain management, procurement and production. Without these systems, the companies may unable to manage their inventory (raw material, work in process and finished goods) effectively which result in high inventory balance and long inventory period.

4.5.2. Days Sales Outstanding

In the literature of working capital, research findings indicated that, days sales outstanding is related with profitability of firms both positively and negatively, (Dong and tyh-tay-su, 2010; E. Organdie, 2012 and Padachi, 2006). The empirical result of the study shows that there is a negatively relation between the GOP and DSO, but it is insignificant. This result is consistent with the findings from previous studies conducted by (Ganesan, 2007; Lazaridis and Tryfonidis, 2006 & Deloof, 2003) that provide the evidence of the negative relation between GOP.

The implication of the result is that, the increase or decrease in days sales outstanding will have negative relationship with profitability of the firms, but it is insignificant. It means that the shorter the firm's days sales outstanding, the higher will be the profitability and vice versa.

4.5.3. Days Payable Outstanding

The results from regressions model suggests that there is a negative relation between the GOP and DPO, but it is also insignificant. This finding is in consistent with the finding of some prior researches such as (Abbasali Pouraghajan and Milad Emamgholipourarchi, 2012) Lazaridis and Tryfonidis, 2006). On the contrary, studies by (Usama, 2012; Raheman and Nasr, 2007) indicated a positive relationship between DPO and Profitability of firms..

A negative significant relationship between accounts payable period and profitability can be explained by the benefits of early payment discounts. On the other hand, positive significant relationship between accounts payable period and profitability can be explained by the increased availability of funds caused by the delayed payment of accounts payable. Such funds can thus be used for productive purposes that can increase profitability.

4.5.4. Cash Conversion Cycle

Here, the empirical result of the table suggests there is no statistically significant but positive coefficient relation between the Gross Operating Profit and cash conversion cycle; which is similar to the results found in the prior studies (Deloof 2003; Padachi, 2006; Hasan, et al.,2011; Lazaridis & Tryfonidis; 2006). But it is in contrast with the studies of (Falope and Ajilore, 2009; Mohamad and Saad, 2010; Rahman and Mohamed, 2007) found strong negative relationship

between cash conversion cycle as a measure of working capital management and firms profitability. This study clearly implies that the period between the expenditure for the purchases of raw materials and the collection of sales from finished goods has an impact on the profitability of manufacturing companies. Considering the components of the cash conversion cycle (i.e., inventory period, accounts receivable period or accounts payable period) the positive result with cash conversion cycle points out that an increase in profitability is associated with a higher in the cash conversion cycle. It shows that the profitable companies tend to have the higher cash conversion cycle which indicates to efficient working capital management. This might be affected by either inventory period, accounts receivable period or accounts payable period.

CHAPTER FIVE

5. CONCLUSIONS AND RECOMMENDATIONS

The basic intent of this chapter is to present the overall overviews of the research by summing the main findings of the analysis part and give future research directions. Therefore, this chapter has three main topics that are conclusion about the findings, recommendations and the other is suggestion for the future research direction from the researcher about the study.

5.1. Conclusions

The study used four measures of working capital to test whether working capital management has statistically insignificant effect on profitability. In agreement with the hypothesis of the study, the above findings indicated clearly that 'one of the measures cash conversion cycle and the control independent variables, financial asset to total asset, credit ration, and size of the firms in the research have positive sign of coefficient but insignificant relation effect with profitability of Brewery firms in Ethiopia.

Notwithstanding the variables day's payable outstanding, Inventory Conversion period, debt ration and days sales outstanding in the study have negative coefficient but statistically insignificant effect on profitability of Breweries in Ethiopia. The control independent variables that are debt ratio and financial to total asset ration also have similar result with the above variables.

The conclusion indicates that managers of manufacturing companies must employ efficient and effective working capital management practices to ensure the survival of the business. Also the study observe that the negative relationship between days payable outstanding and profitability may be due to that, lower gross operating profit is associated with an increase in the accounts payable days. This means the less profitable firms wait longer to pay their bills taking advantage of credit periods granted by their suppliers. Also, the result of negative relationship between days sales outstanding and profitability may be due to that, lower gross operating profit is associated

with the inability to reinvest the cash in the organization. This means less profitability of the firm, due to there is less effort to familiar the product to the users and the distributers can't reached at optimal sale point. Therefore, the firm should do more effort to sell the product, could be advertisement or other means; the entire firm to sell their product in bulk through their distributers to make the firm profitable.

Generally, this empirical study concluded that there is no significant relationship between and no strong influence or impact of working capital management on profitability of Breweries in Ethiopia, when it is measured by the number of days credit sales are outstanding, the number of day's payables are outstanding, the number of days inventory are held, and the cash conversion cycle-CCC), on profitability measured by gross operating profit of breweries in Ethiopia using financial data for the past ten years period (2005 – 2014).

5.2. Recommendations

The study recommends that manufacturing companies should adopt efficient and effective working capital management policies to keep working capital at optimal level. Despite the statistically insignificant relationship result of this study, the working capital management of Breweries firms in Ethiopia has not been effective and efficient. Nevertheless, the researcher recommends that there will be other factors and the involvement of additional brewery firms in the study might give us different results and, hence, conclusion.

Otherwise, based on the result of the study the recommendations of the research were premised as follows:

1. The researcher recommended that inventories are used to provide moderately so that the purchasing, production, and sales functions can proceeds at their own optimum paces. Further, breweries in Ethiopia marketing, purchasing and manufacturing departments should have create strong linkage and communications so as to feed each other in their firms' operations and minimize costs.

2. Breweries must develop an explicit procedure for collecting theirs receivables. In following its collection procedures the circumstance handling good customers and be competitive in the market should take into consideration, considering the current high completion of breweries in Ethiopia. Otherwise, the firms may not be able to survive in the market at all. Also, they should have a best marketing department in selling and collecting effort.

3. The researcher recommended that even if let payment have its own advantage to increase the profitability of the firm, Breweries' have to pay their debts on time that not losing their venders in the long run.

4. The researcher recommended that lowering working capital cycle as a measure of efficient working capital management is the one to be appraised. This means that Investment in working capital could be optimized and cash flows could be improved by

reducing the time frame of the physical flow from receipt of raw material to shipment of finished goods, i.e. inventory management, and by improving the terms on which firm sells goods as well as receipt of cash.

In general, the results of the correlation and the regression model of the study suggest that brewery firms must reduce the number of days of credit sales, payable period and inventory to improve their profitability.

5.3. Suggestions for Further Research

The study incorporate sample Brewery manufacturing firms found in Ethiopia. The variables enclosed to two type of variables: profitability, and variables which are specific to the firm and/or general to the economy as a whole and clearly pinpointed in the methodology part. At last the methodology will be limited to quantitative method with diagnostic statistics, correlation and econometrics analysis tools.

This research tried to meet the gap between the existing literatures but it also has its own limitations and those limitations can be addressed by other researchers in the future. For instance this research observes few breweries exposure for the purpose of this study. Also, the findings of this study could only be generalized to brewery firms those that were included in this research. Further, the researcher used one measure to measure the profitability of a firms' i.e. gross operating profits. However, there are lots of measures of profitability (return on asset (ROA), return on asset (ROI)). Consequently, the results can differ from this study by the use of different measures of profitability and working capital management.

COMPANY DATA

	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
Company x										
Sales	4,906.15	4,189.39	3,426.31	2,616.57	1,686.46	1,552.60	1,174.52	710.85	405.30	217.90
CGS	2,506.78	2,202.75	1,904.12	1,607.22	979.18	802.87	595.66	411.88	250.58	134.72
Gross pofit	2,399.37	1,986.63	1,522.19	1,009.36	707.27	749.73	578.86	298.97	154.73	83.19
Account Receivable	271.52	293.16	213.56	98.28	131.12	172.65	125.63	9.39	10.87	12.58
Inventory	1,293.23	1,201.05	843.40	651.37	434.34	415.26	274.50	252.36	115.99	93.32
Financial Assets	508.10	260.84	472.54	230.59	148.46	245.76	90.85	36.76	29.31	23.38
Current Asset	2,072.85	1,755.05	1,529.50	980.24	713.92	833.67	490.98	298.50	156.17	129.27
Total Assets	4,877.80	3,512.26	2,951.39	2,337.19	1,759.45	1,168.45	803.08	548.99	369.02	370.78
Creditors - Account Payable	566.27	412.11	324.11	311.44	415.72	117.93	102.27	86.45	52.97	32.46
Current Liabilities	1,360.72	412.21	611.52	542.63	565.03	289.47	225.94	200.92	112.40	76.71
Total Debt	1,932.29	829.57	1,018.13	981.92	818.83	373.06	303.97	288.23	220.51	210.59

Company Y	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
Sales	1,301.84	1,111.53	919.04	559.62	362.31	318.67	296.63	245.60	205.16	175.98
CGS	800.20	653.60	513.86	367.56	272.16	232.83	206.59	155.02	121.00	105.00
Gross pofit	501.64	457.93	405.18	192.06	90.15	85.84	90.04	90.58	84.16	70.98
Account Receivable	410.31	185.86	110.00	42.86	30.62	29.85	25.48	14.06	10.40	7.69
Inventory	397.28	295.25	219.42	166.61	167.89	158.12	141.67	76.58	61.02	48.62
Financial assets	126.13	95.01	71.57	4.77	5.18	10.95	4.89	22.19	23.03	23.90
Current Assets	934.13	576.12	400.99	214.23	205.62	198.92	172.04	112.84	94.45	80.21
Total Assets	2,528.70	1,153.80	893.99	490.13	497.13	466.15	387.80	227.91	207.81	191.25
Accounts Payable	439.63	311.22	150.00	71.99	89.86	65.62	30.12	31.10	23.40	17.60
Total Current Liabilities	852.77	527.25	327.10	266.93	270.03	230.26	189.74	105.84	85.35	68.96
Total Debt	937.31	631.71	433.57	368.07	375.06	344.08	265.74	105.84	85.35	68.96

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