
**ADDIS ABABA UNIVERSITY**

COLLEGE OF BUSINESS & ECONOMICS DEPARTMENT OF ACCOUNTING & FINANCE

Postgraduate Program in Accounting and Finance

# The Impact of Working Capital Management on Profitability of Selected Real Estate Companies in Addis Ababa.

A Research Project Submitted to Addis Ababa University, College of Business & Economics, Department of Accounting & Finance in Partial Fulfillment of the Requirements for Master's Degree in Accounting & Finance

**BY: MIHRET KIBROM**

**ADVISOR- ALEM HAGOS (PhD)**

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**ADDIS ABABA, ETHIOPIA**

# Declaration

I therefore certify that I am the author of this thesis, which is titled "The Impact of Working Capital Management on Profitability of Selected Real Estate Companies in Addis Ababa. "The information derived from the literature has been duly acknowledged in the text and a list of references provided. No part of this thesis was previously presented for another master degree at this or any other institution.

Declared by: Mhiret Kbirom

Signature: _____

Date: _____

I, the undersigned university advisor, hereby authorize this thesis to be submitted for examination:

Confirmed by: Dr. Alem Hagos

Signature: _____

Date: _____

Addis Ababa University
June 2024

## CERTEFICATE OF APPROVAL

This is to certify that the thesis prepared by Mhiret Kibrom Haile, entitled "The Impact of Working Capital Management on Profitability of Selected Real Estate Companies in Addis Ababa.'' And submitted in Partial Fulfillment of the Requirements for Master's Degree in Accounting & Finance complies with the regulations of the university and meets the accepted standard with respect to originality and quality.

Name of candidate Mhiret Kibrom : Signature _____ Date 24/7/24

Name of advisor Alem Hagos : Signature _____ Date 23/7/24

Signature of board of Examiners:

External Examiner: Dejene Mamo(PhD) Signature _____ Date : 22/07/2027

Internal Examiner: for Kelifa Sirna Signature _____ Date 24/07/2024

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**Table of Contents**

# Abbreviations

ACP-Average Collection Period

APP- Account Payable Payment Period

CCC-Cash Conversion Cycle

CATAR - Current Assets to Total Assets Ratio

CLTAR- Current Liabilities to Total Assets Ratio

CR- Current Ratio

DR-Debt Ratio

EBIT-Earning Before Interest and Tax

ERCA- Ethiopian Revenue and Custom Authority

FS- Firm Size

GWC- Gross Working Capital

ICP-Inventory Conversion Period

NWC -Net Working Capital

PWC-Permanent Working Capital

ROA- Return on Assets

TWC-Temporary Working Capital

VIF-Variance Inflation Factor

# LIST OF TABLES

# List of Figures

# ABSTRACT

*The objective of this study was to investigate the impact of working capital management on profitability of selected real estate companies in Addis Ababa. In light of the above objective the study employed quantitative research approach to test research hypothesis. Sample of six (6) companies were purposively selected through purposive sampling and the sample firms' financial statement was collected for the period of five years from 2014 to 2023. In this study the firm's profitability was measured by return on asset and working capital measures of cash conversion cycle, average collection period, inventory conversion period and account payable payment period were used as independent variables to measure working capital management efficiency additionally some control variables such as current ratio, debt ratio, firm size, current asset to total asset ratio and current liabilities to total asset ratio used in this study. The values of those variables were calculated from the combination of different balance sheet and income statement items and data was analyzed on quantitative basis using descriptive correlation and regression analysis (pooled ordinary least square) method. Results found shows that working capital management has statistically significant negative impact on the firms' profitability. It means managers can enhance their profitability by handling correctly the cash conversion cycle and keeping average collection period, inventory conversion period and accounts payable payment period to a possible optimum level. Therefore, managers of those companies could increase their profitability by effectively managing their working capital.*



**Keywords**: working capital, working capital management, profitability, cash conversion cycle, liquidity

# CHAPTER ONE

# INTRODUCTION

## 1.1 Background of the study

Working capital refers to the firm's investment in current assets and current liabilities. Current assets are the firm's short-term assets like cash and cash equivalent marketable securities, accounts receivables, inventories and other short-term assets which, in a year or less, are anticipated to be turned into cash or used for regular business operations. Current liabilities are short term financial obligations which are expected to be matured within a period of less than a year which arises due to financing those current assets. Working capital is very necessary for maintaining the daily operation of firms. In other words, business organizations without working capital couldn't run their business smoothly (Brigham & Ehrhardt, 2017). Therefore, every business should invest a portion of their capital in current assets and current liabilities what we call popularly working capital for the sake of executing the day-to-day operation (Niman, 2015).

Current assets and current liabilities, which make up a significant portion of a company's overall assets, are related to working capital management. Sustaining elevated levels of current assets causes the business's overall short-term investments to yield unprofitable profits. On the other hand, a company with comparatively limited current assets will be more susceptible to challenges and issues, including a quick failure to manage the company's operations, a decline in the capacity of the business to meet its immediate financial obligations and a rise in the danger of liquidity (Brigham & Ehrhardt, 2017). According to Nguyen et al. (2020), organizations can enhance their profitability and generate value for investors by implementing a fair working capital policy. Thus, the operational performance of a company's owned resources, liquidity, profitability, and ultimately the company's overall worth is all greatly impacted by working

capital management. To achieve the ideal level of working capital investment, businesses therefore try to strike a balance between the risks and rewards associated with investing in current assets (Tsagem et al., 2015).

Working capital management is part of the financing considerations that finance managers of business entities needs to determine, besides capital structure and capital budgeting (Ross, et al2010). It is the process of determining the optimum level of working capital investment. Optimum level of working capital refers to the appropriate level of current assets and current liabilities the firms needed to hold. It helps the businesses to avoid costs which in turn affect the firms' profitability. As Eljelly (2004), stated firms with either excess or deficiency of short-term assets faces the problem of realizing lesser return from their investment. In order to avoid such difficulties efficient working capital management is essential. Therefore, the firms' working capital management may have an impact on their profitability.

AsDeloof (2003) indicated that the way in which working capital is managed have a significant impact on the firms' profitability and risk level, and consequently its value. Hence firms with effective working capital management can achieve their corporate objective whereas firms with ineffective working capital management might face serious difficulties that lead to inability to achieve their objective. Egbide (2009) find 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.

Working capital management plays a decisive role to achieve the firms' ultimate objectives of wealth maximization and maintaining liquidity. Maintaining liquidity of the firm is an essential objective to save the firm from insolvency, financial distress and other related problems. To

achieve this objective firm needs to hold sufficient amount of current assets. On the other hand, wealth maximization objective concerned about effective utilization of available current assets to make the firm profitable. Thus, these objectives have their own conflicting ideas and there must be a tradeoff amongst liquidity and profitability of firms. Therefore, objective of profitability should not be at the cost of liquidity and vice versa since both of them have their own significance. If firms pay no attention about their profitability, it is difficult to survive in the market for a long period of time and achieving corporate objective. On the other hand, if firms do not bother about liquidity, they may expose to the problem of liquidation and financial distress. These problems may lead to business failure. Due to these reasons managers of firms must to pay proper consideration for working capital management since it is substantially affecting the profitability of firms (Raheman and Nasr, 2007). Generally, it is a serious issue to understand the impacts of working capital management and its impact on firms' profitability.

Many researches have been conducted on this topic in many countries by using panel data multiple regressions to investigate the impact of working capital management on the firms' profitability However, the results of studies on how working capital management affects businesses' profitability are inconsistent Africa (2013). He said that while some investigations suggested a positive association, others discovered a negative relationship between working capital management and profitability. Thus, it is important concern for businesses to identify the relationship between working capital management and profitability and it is remained open research ground in corporate finance.

## 1.2 Statement of the problem

In order to survive in the market as well as to achieve the corporate objective, firms must be able to administer their working capital management. According to Lamberson (1995) working capital management is very essential in managing financial aspect of the business. In addition, to this, he showed that working capital management has been most important issue particularly in industrialized nations. As a result, in different parts of the world different researches have been conducted to investigate the relationship between working capital management and its impact on the firms' profitability particularly in industrialized countries. (Shin and Soenen 1998; Deloof2003; Lazaridis and Tryfonidis, 2006; Padachi, 2006; Raheman and Nasr 2007); conducted studies on this topic. Most of these and other researchers identified that there is a significant relationship between working capital management and the firms' profitability. However, many business organizations fail to identify the key drivers of working capital management that can boost their profitability.

Due to limited access to external financing, developing countries have a greater need for working capital. As a result, businesses operating in these environments must deal with the challenge of delays in their operational cycles in order to free up funds rather than having them blocked in working capital components (Chan, 2010). Similarly, Panigrahi (2014) stated that business entities operate within developing economies are not utilizing their available resources efficiently and effectively. Because of the above justifications, working capital management is needed to give attention and it is very important to business entities in developing countries.

Bellouma (2016) asserts that the majority of study explanations for how working capital management affects profitability come from industrialized countries. This indicates that additional study in underdeveloped nations is necessary to close this knowledge gap. Ethiopia is

not special too from developing nations and there is a need to conduct more researches on this area as of those developing nations.

In Ethiopia the following researchers like (Tweodros, 2010; Ephrem 2011; Mulualem 2011;Wobshet 2014; Niman, 2015; and Mifta 2016) have conducted studies on this topic to investigate the impact of working capital management on the firms' profitability in case manufacturing firms. Those researchers adopted quantitative method of research approaches and they were used survey of documentary analysis of companies audited financial statements. The results showed that there is statistical significance negative relationship between profitability and working capital management. This means that companies' managers can maximize the profitability of their companies by handling correctly the cash conversion cycle and keeping each different component of working capital to a possible optimum level.

With the exception of Ephrem (2011), the aforementioned academics have specified their population frameworks for all manufacturing enterprise, who defined his population to small and medium size enterprises. In doing this they have been employed stratified sampling in which they categorize the whole manufacturing firms in to different strata and drawn sample companies proportionately from each stratum. Therefore, the impact of working capital management on the firms' profitability I snot studied in detail and in the name of manufacturing firms the results of these studies was generalized to the whole manufacturing sector. The truth about how working capital management affects a company's profitability in some industry classes was concealed as a result of this generalization. Thus, the researcher believed that, the problem is underexplored and there is a knowledge gap on this area. Hence this study pays its attention to fill this gap and to investigate the impact of working capital management on the firms' profitability with special preferences to selected real estate companies.

Thus, while searching on internet, browsing through the books and journals the researcher didn't find researches directly related to this topic carried out in Addis Ababa. Hence, keeping the above problem in mind the study tried to fill the stated gap on the impact of working capital management on the firms' profitability.

## 1.3Objectives of the Study

### 1.3.1 General Objective

The general objective of the study is to investigate the impact of working capital management on profitability of selected real estate companies in Addis Ababa.

### 1.3.2 Specific Objectives

Specific objectives of the study were:

- To investigate the impact of cash conversion cycle (CCC) on profitability of selected real estate companies in Addis Ababa
- To examine the impact of average collection period (ACP) on the profitability selected real estate companies in Addis Ababa
- To identify the impact of account payable payment period (APP) on the profitability selected real estate companies in Addis Ababa

## 1.4 Hypotheses of the study

In order to answer the research objectives/ questions of the impact of working capital management on the firms' profitability of selected real estate companies in Addis Ababa, the following hypotheses were developed:

- **H**1: There is significant and negative relationship between cash conversion cycle and the firms' profitability of selected real estate companies in Addis Ababa.

- **H**2: There is significant and negative relationship between average collection period and the firms' profitability of selected real estate companies in Addis Ababa.
- **H**3 There is significant and positive relationship between account payable payment period and the firms' profitability of selected real estate companies in Addis Ababa.

## 1.5 Significance of the Study

As the real estate market is growing rapidly, an understanding of the impact of working capital on firms' profitability is crucial. By understanding the impact of working capital on firms' profitability, this study is very significant to a wide spectrum of many industries to bring a real-life change in designing intervention strategies aimed at maximizing profit for their firms.

From the academic point of view, this research would initiate other researchers to carry out more extensive studies in the area and explore overlooked impact of working capital on firms' profitability. Moreover, it serves as a reference material for both academicians and practitioners to conduct further studies.

An awareness of the impact of working capital on firms' profitability might ultimately guide or influence firms in the factors to be considered in the management of corporate finance. The researcher outcome also important to real estate firms in Ethiopia. It is important to do this paper as partial fulfillment for obtaining Master's degree in accounting and finance and to have good knowledge about the study area.

## 1.6 Scope of the Study

The scope of the study comprises of four different dimensions. The dimensions include conceptual, methodological, and time scopes.

### 1.6.1 Conceptual scope

Working capital management is a broad concept that comprises many variables. It is difficult to address all these issues in single research. In particular, the study mainly focused on the impact of working capital management on the firms' profitability of selected real estate companies in Addis Ababa namely, Gift real estate, Ayat real estate, Sunshine real estate, Tsehay real estate, Flinstone real estate, and Noah real estate. Attempts was made to analyze the impact of four independent variables (cash conversion cycle, average collection period, inventory conversion period and account payable payment period) that determine profitability in selected real estate companies in Addis Ababa.

### 1.6.2 Methodological scope

The data collection of the study was from the firm through secondary data. The study's duration was restricted to a just ten years, from 2014 to 2023). Both descriptive and inferential analyses were employed to deal with the analysis of the data by using STATA 14 software.

### 1.6.3 Time scope

This study was conducted in the time range of July, 2023- April, 2024.

## 1.7 Limitations of the Study

No research study is free from limitation. This study was bounded with various limitations. Of these limitations, the data used in this study was secondary data and the data sources' figures might not be entirely trustworthy. Consequently, the findings of this study could be depleted to some extent. Moreover, other limitations like methodology selection, variables selection, data analysis procedures used in this study might have its own limitations The study was conducted with short span of time and therefore it based on the available data. The details given by the firm are considered as true and the study results were based on this assumption.

## 1.8 Organization of the study

This study is organized into five chapters. The first chapter presents the introduction of the study which includes background of the study, statement of the problem, objective of the study, research hypothesis, and significance of the study, scope of the study and limitation of the study. The second chapter consists of only the literature review. The third chapter presents the methodology used for the study and gives a detailed overview of the description of study area, research design and approach, method of data collection, sampling design, and method of data analysis, variable presentation, model specification and conceptual framework. The fourth chapter focuses on the research results and analysis. Finally, conclusion, recommendations and directions for future research were presented under chapter five.

# CHAPTER TWO

# REVIEW OF RELATED LITERATURE

This chapter involved with discussion on the literature review and following by discussion on relevant theoretical model and conceptual framework. Initially, existing literature to understand and identified existing trends and relationships between variables, in order to generate new ideas has been reviewed. The conceptual framework is then formed based on the research objectives and research questions.

## 2.1 Theoretical literature review

A company's investment in current assets, including as cash, short-term marketable securities, accounts receivable, and inventories, is referred to as working capital (Weston and Brigham, 1977). In fact, short-term obligations like accounts payable and short-term borrowings are used to fund these current assets. Therefore, the difference between current assets and current liabilities is referred to as net working capital. Managing the relationship between the company's short-term assets and short-term obligations is part of working capital management, which is the decision pertaining to working capital and short-term financing. The main goal of working capital management is to enable the business to continue operating profitably and to have enough cash flow to pay down maturing short-term debt as well as upcoming operating expenses**.**

### 2.1.1 Research hypothesis (Theoretical justification)

**Cash Conversion Cycle Theory**

The theory explains a cycle that starts with payment for raw materials continues with transformation and development of new products and ends with collections of receivables from buyers and potential debtors. Richard and Laughlin (2008) articulated that not all working capital investments have the same life expectancy. Additionally, the investments have a different rate to

useful cash flows. Since a firm's ongoing liquidity is a result of its CCC, a CCC evaluation is more applicable than liquidity metrics in evaluating it. According to Arnold (2008), the shorter the CCC is, the fewer resources the company will require. As a result, the higher the investment in working capital, the longer the cycle. Consequently, a longer cycle may enhance sales, resulting in increased profitability. However, this cycle may also result in larger investments, which may outpace the benefits of improved profitability.

*Ha1: There is significant and negative relationship between cash conversion cycle and the firm's profitability.*

**Transaction Cost Theory**

The theory devises businesses, economies, and other entities as collections of contractual agreements for managing economic transactions. Market transaction costs and control costs are triggered by the theory's main variables that are related to the characteristics of economic transactions, which include frequency, uncertainty, and specificity of assets. The fundamental argument in this theory is agreements will be conducted in a manner that the risk of handling them out will be reduced. Thus, the goods apply to finances dedicated to handling working capital. The major problems in working capital management are currency, debtors, stocks, and creditors. Therefore, the management requires comprehensive preparation and dedication to resources. The stock should be mathematically modeled to form a simple policy outlining the time and quantity of stock that should be purchased and its associated expenses. Firms can choose between the relative advantages of the two net working capital management methods under the most realistic circumstances, which is to reduce the spending in working capital or implement policies in working capital to boost profitability. Trade-Off Theory Abuzayed stated that trade-off theory describes a trade-off between profitability and risk involved with the

number of existing assets and liabilities (2012). In decision-making, managers apply various criteria, which include liquidity and sustainability. A study by Kaharuddin and Ahmad (2016) shows that this theory supports the adverse relationship between CCC and profitability. According to trade-off theory, firms have to balance sustainability and liquidity as the high cost may be incurred due to heavily relying on liquidity. Thus, the management of a corporate organization is facing challenges in obtaining optimal trade-offs between liquidity and sustainability. Liquidity is a precondition to ensure businesses can satisfy their short-term commitments. As such, firms must manage their business effectively and profitably to prevent losses.

## Liquidity Preference Theory

Liquidity preference theory was developed by economist John Keynes in 1936. According to the theory, when all else is constant, investors prefer liquid investments to illiquid ones and will always demand a premium for investments with longer maturity periods (Too, 2016). The theory postulates that money is the most liquid asset. An asset's liquidity is determined by how quickly it can be turned into cash. When an asset can be quickly turned into cash, it gives the business the ability to carry out day-to-day operations, meet short-term debt commitments, and invest in working capital. According to Mandiefe (2016), three factors-transactional, speculative, and precautionary-determine the demand for liquidity. There are three main reasons to keep money in the most liquid form: (i) the transaction motive, which is to close the gap between income and anticipated expenses; (ii) the precautionary motive, which is to keep money in the most liquid form if one anticipates that interest rates on alternative assets will rise, leading to increased investment returns; and (iii) the speculative motive, which is to satiate the desire to keep money

in the most liquid form if one anticipates that investment returns will increase, leading to capital losses (Keynes, 1936).

## Pecking Oder Theory

Donaldson first proposed the hypothesis in 1961, and Myers and Majluf revised it in 1984. According to the idea, corporations choose their financing sources in a specific order, favoring internal finance above debt and equity financing except as a last option (Adair &Adaskou, 2015). The management would prefer internal funding to external financing (Wramsby& Österlund, 1993). The majority of firms prefer financing new investments and projects using internal funds before the use of debt (Myers, 1984). According to Myers (1984), more profitable firms are highly likely to use internal financing than other less profitable firms and therefore seek external financing (Myers, 1984). Wramsby and Österlund (1993) opine that internal financing is a cheaper alternative to external funding as it eliminates transaction costs. According to the aforementioned line of reasoning, Myers believes that it may be challenging to select the best financing structure because equity appears to be at the top and bottom of the "pecking order" depending on the option (Myers, 1984; Myers & Majluf, 1984).

A study conducted by Mbula, Memba and Njeru (2016) on effect of accounts receivable on financial performance of firms funded by government venture capital in Kenya shows that there was a positive relationship between accounts receivables and financial performance of firms funded by government venture capital in Kenya. A study conducte by Ikechukw and Nwakaego (2015) on effect of accounts receivable management on profitability of Building Material/Chemicals and paint companies in Nigeria found out that accounts receivable had positive and significant effect on profitability, while debt ratio and sales growth rate had negative and non-significant effect on the profitability of Building Material/Chemicals and paint

companies listed in Nigeria stock exchange. Lazaridis and Tryfonidis (2006) found a 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) found a significant negative relationship between the average number of days' accounts receivable and gross operating income as a measure of profitability.

*Ha2: There is significant and negative relationship between average collection period and the firm's profitability.*

The relationship between payables and profitability is less certain. Several researchers have noted a negative association between payable days and profitability, contradicting theory, which advises extending payables days in order to retain the cash for a longer period and use it to fund the activities of the business including re-investment or acquisition. Deloof (2003) states that the negative relationship between accounts payable and profitability is consistent with the view that less profitable entities wait longer to pay their bill and "in that case, profitability affects accounts payable policy, and not vice versa. Deloof suggests that it is the inability of firms in distress to generate enough

cash to pay their payables that results in extending payables days. This is not a management choice but a forced reaction and as a result, it distorts the results. Deloof (2003) also suggests an alternate explanation for this relationship: speeding up payments to suppliers might increase profitability because Belgian entities often receive a substantial discount for prompt payment. The result is that companies choose to pay earlier to receive a discount, rather than keep the cash in the business and as a result they do not adopt a policy of increasing payables balances.

Sabri (2012) concurs and adds a further reason, “the inverse relation is that when an entity delays the payment of accounts payable, this may expose them to a fine of delay and harm their reputation and may lead to loss of cash discount and then reduce their return on equity.

Lazaridis &Tryfonidis (2006) however, are surprised with the results of these studies. They observe that “[t]his result is highly significant and does not make economic sense, since the longer a firm delays its payments, the higher the level of working capital it reserves in order to increase profitability. The issue therefore cannot be constrained in terms of profitability, but must be examined within the wider domain of return on capital or return to shareholders.

Ha3: *There is significant and positive relationship between account payable payment period and the firm’s profitability.*

### 2.1.2 The concept and definition of working capital

The traditional Yankee peddler, who would fill his cart to the brim with merchandise before setting out on his errand to sell it, is credited with coining the phrase "working capital." Since he "turned over" the items to make his profits, it was referred to as working capital. His fixed assets were the horse and wagon. He usually owned the horse and wagon, thus "equity" capital was used to finance them; nonetheless, to pay for the products, he had to take out a loan. After every trip, these loans—also referred to as working capital loans—had to be returned to the bank as evidence that the credit was in good standing. Banks that followed this process were referred to as employing peddlers since they would make another loan if the peddler was able to repay the first one.

Working capital is the portion of a company's capital that managers may put to use right away to start reaping the rewards of their capital investments, according to Fabozzi and Peterson (2003).

Working capital, according to Baker and Powell (2005), is the term used to describe the current assets of a business that are employed in operations, such as cash and marketable securities, inventory, and accounts receivable. Working capital is another name for circulating capital, which is a term used to describe assets that can be changed relatively quickly from one to another. For example, cash can be used to buy raw materials, convert those raw materials into work-in-process, turn that work-in-process into finished goods, sell those finished goods, and then use that cash to collect debts or customers (Nair, 2011).

According to Brigham and Gapenski, (1996), working capital of business entities indicates a portion of its total financial resources which is put into different components of working capital(WC) for operation purpose. Working capital can be used as a means operating the firms fixed assets (non- current asset) or the firm's investment in long term assets. Total assets of business entities refer to their facilities that are necessary to carry out productive activities and these total assets of firms are operated by working capital. Gladson (1951) also defined working capital as the excess of the firms' current asset like cash, accounts receivables and inventories over their current liabilities like salaries and wages payables, accounts payables, tax payables. This concept of working capital has been usually understood as net working capital to distinguish it from gross working capital which represents total current assets (Sen and Oruc, 2009).

According to Bragg (2011), current assets also include cash and other assets that can be sold or consumed within a typical business cycle or turned into cash. To separate current assets from noncurrent assets, a one-year timeframe is utilized when the typical operational cycle is shorter than a year. However, the operational cycle is the appropriate time frame to employ for current asset identification when the firm's operating cycle is longer than a year. Inventory, supplies, receivables, cash, and short-term securities are examples of current assets. However, current

liabilities are the obligations of the company that include current liabilities that are shown as current liabilities on the balance sheet and the portion of long-term debts that the reporting entity's management anticipates paying off with cash within a year, or if that's less, inside an operational cycle.

### 2.1.2 Nature and importance of working capital

Working capital enables firms to meet their short-term financial requirements. It refers to the trading capital but not reserved in the business in a particular form for longer than a year period of time. The fund invested in working capital changed into different forms during the normal course of business operations. Working capital is necessary for the firms' daily operation as blood is for human beings to survive in life. If firms are tried to maintain their operations without inadequate working capital, their profitability as well as their survival is becoming under question. Working capital deficiency is generally considered as a major cause of business failure in many developed and developing countries. Egbide (2009) find that large number of business failures inthe past has been blamed on the inability of the financial manager to plan and control the working capital of their respective firms. The success of firms ultimately depends on its ability to generate cash receipts in excess of expenditures. The problems of generating cash flows for many businesses are aggravated by poor financial management and particularly the lack of cash requirement planning (Jarvis et al, 1996). Working capital is so important for maintaining businesses day-to-day operations smoothly. 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, et al, 1983). Since business is a continuous process, every cycle of operation generates the current assets which need to be funded for

immediate financing of working expenses. This funding for working expenses is done by working capital.

### 2.1.3 Classification of working capital

Working capital can be categorized using two viewpoints: the value perspective and the time perspective, according to Donkor (2014). Working capital can be divided into net working capital (NWC) and gross working capital (GWC) according to the value viewpoint. While NWC shows that the discrepancy between the firm's current assets and current liabilities necessitates financing those current assets, GWC indicates the firm's investment in overall current assets (Horne and Wachowicz, 2008). The following is a mathematical expression for net working capital:

NWC = total current assets − total current liabilities

NWC could be positive or negative in this equation. When current assets are more than current liabilities, net working capital (NWC) is positive; conversely, when current liabilities are greater than current assets, NWC is negative. Positive or negative NWC sides have similar meaning for management, claim Brigham and Houston (2003). Thus, whereas negative WC reflects the firm's liquidity position and reveals the amount to which working capital demands may be supported by permanent sources of cash, positive WC concentrates attention on the best way to invest and finance current assets. Working capital is divided into two categories based on the passage of time: permanent working capital (PWC) and temporary working capital (TWC). Businesses may not maintain the same level of investment in their working capital due to seasonal swings in their operations, and their need for working capital would change depending on these fluctuations (Donkor, 2014). PWC stands for the minimal amount of money the company invests in all of its current assets, which is fixed regardless of how the business operates. It also refers to the

minimal amount of cash, inventory, and accounts receivable that must be kept in the company, even in the event that sales fall below a certain threshold. On the other hand, TWC denotes the additional investment in current assets necessary to meet the required level of activity during favorable seasons (Mathur, 2010). It increases when there is high seasonal demand in business and decreases with low seasonal demand.

### 2.1.4 Factors determining working capital requirements

There are no conventional rules or formulas used to determine the required level of working capital. It can be affected by several determining factors (Paramasivan and Subramanian, 2000; Mathur, 2010). The following is a discussion of some of the elements that have a substantial impact on the working capital requirements:

**Nature of the business:** The amount of working capital needed is largely determined by the sort of business. The amount of working capital needed varies depending on the organization's operations and nature. Because inventories and receivables are promptly turned into cash, public utility companies require relatively little level working capital. However, manufacturing companies must deal with delayed inventory and receivables turnover and high working capital costs.

**Sales volume:** This is yet another crucial element that influences the amount of working capital needed. Since current assets support operational activities, which lead to sales, any firm preserves them. There is a clear correlation between the amount of working capital and sales volume. Considering that working capital is more invested in operating expenses, inventory, and receivables as sales volume rises.

**Firm's production policy:** A firm's working capital requirements are largely determined by its production policy. The purchase and utilization of raw materials initiates the manufacturing cycle, which ends with the creation of final commodities. Conversely, working capital decisions are also influenced by production policies, which can be seasonal or uniform (Mekonnen, 2011).

**Business cycle:** Businesses will grow while the economy is doing well, but they will contract when it is experiencing a depression. As a result, during prosperous times, greater working capital is needed, and during recessionary times, less.

**Firm's credit policy:** Working capital credit policy is influenced by a company's credit policy. A business that extends generous credit to all of its clients' needs money. However, the company will need less working capital if it adopts a stringent credit policy and only extends credit facilities to a small number of potential clients (Mekonnen, 2011). Generally, firm's financial manager should consider the above working capital determinant factors while determining the optimum level of working capital required and the timing for day-to-day activities of the business operations.

### 2.1.5 Working Capital Management

Planning, arranging, and regulating the elements of working capital is referred to as working capital management (Paramasivan and Subramanian, 2009). According to Weston and Brigham (1977), the challenges that come up in trying to manage current assets, current liabilities, and the connections that exist between them are referred to as working capital management. Conversely, working capital management was described by Smith (1980) as the whole management of current assets and current liabilities. All facets of a company entity's current accounts fall under the functional area of finance known as working capital management (Donkor, 2014). Working capital management, according to Mathur (2010), is the management of current assets, current

liabilities, and their interactions in a way that maintains the ideal quantity of each. Working capital management is a managerial accounting strategy that aims to maintain effective levels of current assets and current liabilities in relation to one another. It also checks to see if a business has sufficient cash flow to cover operating expenses and maturing obligations. (Samson et al, 2012). Maximizing shareholder wealth is the aim of working capital management, which is informed by corporate finance principles while making cash flow decisions. In the instance of manufacturing companies, effective working capital component management may lower production costs, which would boost profit and raise the firm's value (Madhou, 2011). Large working capital investments cause money to be stuck in less lucrative assets, which exposes the company's operational issues (Marttonen et al., 2013). It is necessary to release the money holding such unprofitable assets and redirect it toward more lucrative ventures. Butas Rehn (2012) states that it cannot be lowered to a minimum level unless doing so jeopardizes other operational benefits, liquidity, and solvency. Consequently, efficient working capital management aims to strike a compromise between the Generally, working capital management involves in determining the appropriate level of current assets both in total and for each specific account. And it concerns how should those current assets be financed? Hence, a brief description regarding the various issues involved in the management of each of working capital components is discussed as follows:

### 2.1.5.1 Cash management

Cash, in the words of Brealey and Myers (2003), is the oxygen that promotes survival, profitability, and serves as a fundamental gauge of the health of a corporation. Cash comprises both physical cash and cash held in a bank. A business requires funds for transactions, safety precautions, and speculation. Additionally, it gives the business liquidity, but why should a

corporation retain cash reserves when it can use them to invest in short-term securities? In comparison to marketable securities, it offers greater liquidity, is the response to this query. Cash should be viewed as an inventory that is essential to the efficient operation of the company. Without a doubt, if capital is put in marketable securities, a corporation can earn some income; yet, when it comes time to pay its liabilities, However, businesses with excessive cash will not generate any revenue. The required minimum level of cash reserve is contingent upon a company's capacity to obtain capital when needed, its anticipated future cash requirements, and its intention to retain cash on hand to protect against unforeseen future events. Businesses also want to keep a sufficient cash reserve to take advantage of future investment opportunities, but having a large cash reserve could end up being a waste of money. The maximum amount of cash reserve is determined by future investment opportunities, their rate of return, and the transaction costs associated with those opportunities (Gallagher and Joseph, 2000 as referenced in Mulualem 2011).

### 2.1.5.2 Receivable management

Companies aim to increase sales while offering their clients either items or services. Thus, they employ a variety of strategies to draw clients in order to boost sales, and one of them is providing trade credit. In essence, trade credit describes a scenario in which a business sells its goods today and arranges to be paid for it at a later period. According to Fabozzi and Peterson (2003), a company generates accounts receivable when it permits customers to make payments for goods and services at a later time. Account receivables 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 itis 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. Thus, it needs proper management. Therefore, by striking a balance between risk and profitability, receivables management aims to optimize the firm's worth. To do this, the finance manager must maximize sales value, manage receivables costs, collection costs, administrative costs, bad debts, and opportunity costs associated with cash blocked in the receivables. Financial managers must also maintain a minimum number of debtors in accordance with the credit policy that is made available to consumers, and they must appropriately offer cash discounts based on the cost of receivables and the opportunity cost of money stuck in the receivables (Gallagher and Joseph, 2000). In order to sustain receivables, account receivable management must, in fact, consider cost and benefit analyses, as well as credit and collection policies of businesses.

### 2.1.5.3 Inventory management

Inventory is made up of supplies, raw materials, work-in-process, and finished commodities, according to Brigham and Houston (2007). These inventories are necessary for the business since they lessen the chance of stock outs, which may have resulted in decreased sales and eventually irate clients. Customer demand for a product can fluctuate and occasionally deviate from the production schedule, which is another factor. Maintaining an inventory will assist in bridging the gap in these situations. To satisfy such objectives, a business must maintain a range of inventory types. These inventories are necessary for the business since they lessen the chance of stock outs, which may have resulted in decreased sales and eventually irate clients. Keeping inventory on hand will be essential because consumer demand for products varies. Moreover, carrying costs and shortfall costs are the two categories of expenses associated with maintaining inventories (Ross et al, 2008). Carrying costs comprise all direct expenditures as well as opportunity costs, such as insurance and taxation, monitoring and storage expenses, losses from theft, degradation,

and obsolescence, and the financial opportunity cost of funds held in inventory. Conversely, shortage costs are associated with maintaining insufficient inventory levels and comprise opportunity costs associated with missed sales and customer goodwill, such as restocking or ordering charges and safety reserve costs. In this sense, carrying costs rise as inventory levels rise, but shortfall costs fall as inventory levels fall. The fundamental goal of inventory management is to balance the two different cost kinds, and the ideal level is the lowest of the two sums.

Just in time (JIT) inventory management is a novel approach that Toyota just developed.to help businesses lower the cost of carrying inventory. Whereby businesses place orders as needed and lower the minimum inventory level to zero. A company could reach this inventory level by continuing to have excellent supplier coordination and better customer demand forecasting (Berk and Demarzo, 2014). So, in addition to how and where to keep the various sorts of inventories, inventory management include a range of principles and techniques for figuring out what, when, and how much a corporation should buy and sell (Sebhatleab, 2002).

### 2.1.5.4 Accounts Payables management

Accounts payable, or unpaid invoices to other businesses, make up the majority of a company's current liabilities. When a business purchases goods from other businesses on credit, it records the debt as accounts payable and becomes the largest portion of its operating current liabilities, making up over 40% of the current liabilities of typical non-financial firms (Brigham and Houston, 2007). The amount that a business owes its suppliers for goods that it has received but has not yet paid for is represented by the balance of accounts payable (Berk andDemarzo, 2014). Unlike the other working capital component, accounts payable is not resource-consuming and is instead frequently utilized as a short-term source of funding. As a result, it aids in a company's

reduction of its cash operating cycle, however discounts for early invoice settlement have an implicit cost (Padachi, 2006) Therefore, a company should only use accounts payable for borrowing if trade credit is the least expensive form of capital. The suppliers' credit terms determine the cost of trade credit. The cost of not taking advantage of the deal increases with the amount of the discount offered. With a shorter loan period, losing out on the discount would cost you likewise larger. If a company is given the option to choose trade credit from two distinct suppliers, it ought to choose the less costly one (Berk and Demarzo, 2014).

### 2.1.6 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 manager is always faced with the dilemma of liquidity and difficulties, there must involve a trade-off between those two objectives. Both profitability and liquidity are crucial for a firm to succeed. Without one, it cannot endure, and without the other, it will struggle with insolvency or bankruptcy. Profitability and liquidity are therefore always trade-offs in working capital decisions, and they are the two main goals of working capital management (Sebhatleab, 2002).

### 2.1.7 Profitability and liquidity measures

Profitability is a key indicator of a business's success or failure (Deeposhree, 2013). The ability of a business or an industry to produce a profit after covering all other expenses is referred to as profitability. An organization makes money when its revenue exceeds its expenses. While profitability is a relative indicator of a company's performance, profit is an absolute indicator (Hoque et al., 2015). According to Brigham and Houston (2009), profitability ratios are financial metrics that assess how well a company is running and using its assets. These ratios are used to

determine profitability. According to Deeposhree (2013), those profitability ratios look at how profit was made in relation to total sales, total assets, and net worth. The following ratios are used to determine firm's profitability:

**Gross Profit Margin:** is a measure of profitability that connects a company's sales and gross profit. This displays the portion of sales revenue that remained after direct costs of providing the service or expenses associated with making stocks available for sale are deducted (Mclaney 2009). It can be stated mathematically as follows:

**Gross Profit Margin** = $GrossProfit/SalesRevenuex100\%$

**Operating profit margin**: This metric represents the portion of sales income that is left over after all operating costs associated with maintaining a business over the long term have been paid. It is a measure of profitability that connects a company's operating profit to its sales (Mclaney 2009). It can be stated mathematically as follows:

Operating Profit Margin = $OperatingProfit(EBIT)/SalesRevenuex100\%$

**Net Profit Margin:** This measure shows the net income generated per dollar of sales and takes into consideration financing costs that are not included in the operating and gross profit margins (Fabozzi and Peterson, 2003). It links net income and sales revenue. Mathematically, it is expressed as follows:

Net Profit Margin = $NetIncome/SalesRevenuex100\%$

**Return on Assets (ROA):** demonstrates how well management uses the resources to produce earnings (Rimo and Panbunyuen, 2010). It connects operating income to the entire amount of invested assets. It can be calculated mathematically as follows:

Return on Assets = $EarningsBeforeInterestandTax$ ($EBIT$)/$TotalAssets$

**Return on Equity:** demonstrates the relationship between the net income received by shareholders and their stock equity (Fabozzi and Peterson, 2003). It can be stated mathematically as follows:

Return on Equity = $NetIncome/Bookevalueof Shareholdersequity$

**Current ratio**: The current ratio, which can be calculated by dividing the total current assets by the total current liability, is a measure of general liquidity and is most frequently used to make the analysis for short-term financial position or liquidity of a firm (Fabozzi and Peterson, 2003).
Current Ratio = $CurrentAssets/CurrentLiabilities$

**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 or Acid Test Ratio = $CurrentAssets–Inventory/CurrentLiabilities$

The debt ratio, on the other hand, is one component of a financial ratio that is used for debt management by different companies. As such, it is a ratio that indicates what proportion of debt a company has relative to its assets and gives an idea of 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. It is very useful measuring the liquidity position of a firm. It measures the firm's capacity to pay off current obligations immediately. It is a more rigorous test of liquidity than the current ratio.

Debt Ratio = $TotalDebt/TotalAssets$

### 2.1.8 Working capital management strategies

As Robles (2016) pointed out, working capital decisions that maximize liquidity levels would usually result in reduced firm profitability. On the other hand, decisions about working capital that increase profitability usually result in low liquidity. Therefore, in order to maintain equilibrium between those two opposing objectives, a company needs to develop the best possible policies or plans about the amounts of each component of working capital. The best working capital strategy is the one that is anticipated to maximize shareholder wealth, according to Moyer et al. (2006). According to Horne and Wachowicz (2008), a company's sound working capital management rests at the core of two essential decision-making challenges or strategies that are impacted by the trade-off between risk and profitability. Those decision issues are:

Working capital investment policies are related to figuring out how much is best invested in current assets. Working capital finance rules dictate the best mix of short- and long-term financing to support this investment in current assets.

#### 2.1.8.1 Working capital investments Policies

An excessive amount of working capital investment carries significant carrying costs and an opportunity cost—a profit that could have been realized from other productive projects—because current assets are the company's least profitable assets—while an inadequate level of working capital investment represents a weak liquidity position of the company and could result in significant operational issues. The working capital investment policy measures the percentage of current assets to total assets and answers the question of how much of a firm's resources should be allocated to working capital. As a result, a company needs to implement a working capital investment strategy that strikes a balance between those advantages and disadvantages. Accordingly, a business might have the ideal working capital ratio to optimize its value (Deloof,

2003; Rahman and Nasr, 2007). However, as stated by Moyer et al. (2006), there isn't a single best working capital investment strategy that applies to every company because different working capital drivers have different effects on how much capital a company needs. With respect to the amount of current asset holdings, there are generally three distinct policies (Brigham and Houston, 2009); these are the relaxed or aggressive investment strategy, the restricted or conservative investment policy, and the moderate investment policy.

I. Aggressive policy: A company that chooses to run with fewer levels of stock, debtors, and cash for a given level of activity or sales is said to have an aggressive policy with relation to the degree of working capital investment. An aggressive strategy may boost profitability by blocking a minimum amount of current assets, but it will also raise risk because there is a greater chance of cash shortages (Watson & Head 2007).

II. Conservative policy: Adopting a conservative stance included keeping a sizable cash position and other current assets, extending favorable lending conditions to clients, and keeping larger stock levels. This policy increases profitability at the expense of a decreased chance of financial difficulties. Watson and Head (2007)

III. Moderate policy: This strategy lies in the middle of working capital approaches that are conservative and aggressive (Watson & Head 2007).

### 2.1.8.2 Working capital financing policies

Long-term funding sources like bonds and stocks, as well as accounts payable (current liabilities) and accrued obligations, could be used to fund the companies' working capital. Both have pros and cons of their own (Brigham and Houston, 2009). According to Watson and Head (2007), short-term financing options are more affordable and adaptable than long-term financing options.

But from the borrower's point of view, short-term financing is riskier than long-term financing because it's possible that the terms won't be advantageous or that the financing won't be renewed at all. Furthermore, compared to long-term interest rates, short-term interest rates are more erratic. As a result, businesses need to carefully consider the quantity and combination of funding sources that work best for them.

Watson and Head (2007) have identified three distinct working capital financing policies that pertain to the allocation and combination of short- and long-term funds for financing working capital. These policies are characterized as matching, conservative, and aggressive, and they are implemented differently.

I. The matching financing policy is a working capital financing strategy that finances fixed assets and temporary working capital with short-term funds and permanent working capital with long-term funds. The goal of this financing policy is to align the asset and liability lives.

II.A conservative financing policy is one that uses long-term funds to finance portions of the working capital that is temporary as well as fixed assets and permanent current assets. Because there is less reliance on short-term financing, the risk of this financing strategy is lower. However, because long-term financing is more expensive than short-term financing, profitability will be lower.

III. Aggressive financing policy: this is the opposite of the conservative working capital financing plan, which finances some of the permanent working capital as well as the temporary working capital using short-term cash. Due to the repetitive nature of short-term financing payments, this policy carries a significant risk of insolvency but also increases earnings and shareholder value due to decreased short-term financing costs.

### 2.1.9 Measures of working capital management

The finance literature uses liquidity ratios and the cash conversion cycle to assess working capital management. Working capital is a word that is frequently used as a metric to evaluate a company's liquidity condition. In keeping with this, analysts assess a company's capacity to satisfy its short-term obligations by comparing the amounts of current assets and current liabilities. Liquidity ratios are those metrics that contrast the amount of current assets with current obligations. Because the working capital management concern is responsible for determining the optimal amounts of current assets and current liabilities, preliminary studies have employed them as measurements of working capital management.

Because it illustrates the lag period between the cash expenditure for raw material purchases and the cash collected from consumers, the cash conversion cycle is utilized as a complete measure of working capital management (Padachi, 2006). Moreover, the average collecting period (ACP), inventory conversion period (ICP), and accounts payable payment period (APP) comprise the three phases of the cash conversion cycle (Serrasqueiro, 2014). Details of those measures are provided in the section that follows:

1. The Cash Conversion Cycle (CCC): is the amount of time that passes between the customer's payment collection and the company's payment for raw materials (Brealey et al., 2001). This is an additive mathematical expression that may be derived from the previously described metrics in the following way:

Cash Conversion Cycle (CCC) = ACP + IHP − APP

2. Average Collection Period (ACP): Indicates the typical amount of time that a business permits its clients to delay payment following a product transaction. The amount of days it takes the

company to get payment from the client is represented by this variable. The more days, the bigger the working capital investment since customers use the company's funds to fund their own operations. In terms of math, it is stated as:

Average collection period (ACP) = $AverageAccountReceviable/Salesx365$

3.The term "Accounts Payable Payment Period" (APP) describes how long it typically takes a business to pay its suppliers. A high number of days in this metric indicates that the company is operating on the cash of its suppliers and is making late payments, which lowers the company's working capital investment. This is how it is expressed mathematically:

Account Payable Payment Period (APP) = $AverageAccountPayable/CostofGoodsSoldx365$

The value of accounts receivable increases with the length of the cash conversion cycle, the amount of cash locked up in inventories, and the time it takes for customers to pay their invoices. However, if a company can postpone paying for its own supplies, it might be able to lower the amount of cash it requires; that is, accounts payable lowers net working capital (Brealey et al., 2001).

## 2.2 Review of empirical studies

The previous section of this chapter was presented the theories of working capital management focusing on components, types of working capital, determinant of working capital requirement including and working capital policies. This section reviews the empirical studies on the impact of working capital management on firms' profitability. This paper has reviewed relevant literatures from abroad and Ethiopian cases, and presented them in two sections as follows:

### 2.2.1 Empirical studies from abroad

Over a five-year period, from 1992 to 1996, Deloof (2003) looked into the relationship between working capital management and the profitability of 1,009 big non-financial Belgian enterprises. He has measured working capital management using variables including inventory conversion period, accounts receivable days, accounts payable period, and cash conversion cycle, and profitability using gross operating income. And he has been used correlation and regression on his study and he found significant negative relationship between gross operating income with the number of day's accounts receivable, inventories and accounts payable of Belgian companies, this suggests that reducing the operational cycle's latency boosts profitability. However, there was little evidence of a negative correlation between the cash conversion cycle and gross operating income. Based on these findings here commends managers possibly will increase corporate profitability by minimizing the number of day's accounts receivable, and inventories.

Falope and Ajilore (2009) conducted a study on the impact of working capital management on the firm's profitability by taking sample of 50 Nigerian non-financial firms listed on the Nigerian Stock Exchange from 1996 to 2005 based on the panel data econometrics for pooled regression. The study found a significant negative relationship between return on assets and cash conversion cycle, average collection period and inventory conversion period. The idea behind the negative correlation between a company's cash conversion cycle and profitability is that when a company reduces its cash conversion cycle, its profitability rises. Similarly, a more stringent lending policy may increase the firms' profitability, which would account for the negative correlation between profitability and average collection period. In a similar vein, the explanation for the negative correlation between the inventory conversion period and profitability was that businesses become less profitable the longer they take to sell their goods. The length of the

accounts payable payment period was found to be positively correlated with profitability in this study. This positive relationship implies that the longer a company delays its payments, the higher the level of working capital levels it reserves and uses in order to increase profitability.

Jahfer (2015) investigated, during a six-year period from 2008 to 2013, the effects of working capital management on the profitability of manufacturing companies listed on the Colombo Stock Market of Sri Lanka. He has analyzed data using panel regression approaches using pooled ordinary least square models. WCM measures are utilized as independent variables to regress against the profitability metric of gross operating profit (GOP), including days for accounts receivable, days for accounts payable, inventory holding times, and net trade cycles While there was a significant negative correlation between days in inventory and profitability, there was a significant positive correlation with accounts receivable, accounts payable, and the net trade cycle. The negative correlation between accounts payable and profitability lends credence to the theory that less profitable businesses postpone paying their bills. Additionally, a weak and negative correlation between profitability and the cash conversion cycle was discovered by this investigation.

### 2.2.2 Empirical studies from Ethiopian context

Mulualem (2011) investigated how working capital management affected the financial success of businesses in the city of Addis Ababa. For a five-year period (2005-2009), a sample of thirteen (13) companies was chosen for the study. He has applied regression analysis using pooled ordinary least squares. According to the study, there is a statistically significant inverse link between a company's gross operational profitability and all working capital metrics, including the cash conversion cycle, average payment period, average collection duration, and inventory turnover in days. The study's conclusions were understood to be. The firms that are less

profitable have a tendency to reduce their accounts receivable in order to close the cash gap in the cash conversion cycle, as indicated by the negative association between the firms' profitability and average collection period. The negative correlation between the number of inventory days and gross operating profitability was also explained by the idea that the more days a company has in inventory, the less profitable the company will be. The inverse association shown between average payment period and profitability suggests that a company's profitability would decrease as it took longer to pay its accounts payable. He has come to the conclusion that manufacturing companies can become more profitable by shortening their cash conversion cycle and maintaining optimal levels of each component.

In the years 1998–2002, Ephrem (2011) studied the effects of working capital management on the profitability of thirty small and medium-sized cooperatives in the Addis Abeba cities of Kirkossub and Nifas-silk-Lafto. He measured working capital management efficiency using the cash conversion cycle, average collection period, average payment period, and net operating profit as independent variables and the current ratio as a metric of liquidity. Pooled ordinary least squares regression analysis was used in the study and he found a significant negative relationship between profitability and average collection period, average payment period and cash conversion cycle. According to his finding the firms' profitability was negatively affected by the time period required to collect their receivables, to pay their accounts payables and collect cash. As his finding revealed that the firms' profitability was positively related with liquidity measured by current ratio. This finding was in contradiction to the theoretically negative relationship between liquidity and profitability. He explained this positive relationship between profitability and liquidity as firms with high liquidity ratio are better than the firms with lower liquidity in small land medium size enterprises.

In a study published in 2014, Wobshet examined the five-year period from 2008 to 2012 and the effect that working capital management had on the profitability of eleven private limited enterprises in Addis Ababa that produced metal. In this study, the measurements of profitability were return on total assets and return on investment. The measures of WCM efficiency were cash conversion cycle, accounts payable period, inventory holding time, and accounts receivable period, while the measure of liquidity was current ratio. Using pooled panel data regression analysis, the study discovered a substantial inverse association between profitability and the cash conversion cycle, accounts payable, inventory conversion time, and accounts receivable period. The return on investment metric of profitability and the working capital management metrics of inventory conversion period, accounts payable, accounts receivable, and cash conversion cycle were not found to be significantly correlated in this study. These findings indicate that a company's profitability would decrease with longer periods for keeping goods and accounts receivable.

Using 150 observations over the course of six years, from 2009 to 2014, Niman (2015) studied the effect of working capital management on the profitability evidence from 25 selected industrial companies in Somali Regional State, Ethiopia. For data analysis, he has employed quantitative methods such as pooled panel data regression models and Pearson's correlation. The firm's profitability was measured using gross operating profit as the dependent variable and accounts receivable days, inventory holding days, accounts payable days, and cash conversion cycle as the independent variables. The study's conclusions demonstrated a statistically significant inverse association between working capital management and profitability. According to his interpretation of these findings, managers of businesses can generate profits or value for their organizations and shareholders by appropriately managing the cash conversion cycle and

maintaining each component of working capital at its most optimal level. He discovered that the correlation between profitability and liquidity was significantly negative.

In order to investigate the effect of working capital management on a company's profitability, Mifta (2016) examined 16 sizable taxpayer manufacturing share companies over a seven-year period, from 2008 to 2014. He examined the financial statements of the sample companies using ordinary least squares. The study included return on asset as the dependent variable to gauge the profitability of the companies, while measures of working capital management included average collection period, inventory holding period, accounts payable payment period, and cash conversion cycle. The average collecting period and the cash conversion cycle were found to have a strong negative association with return on asset. However, it was discovered that the length of inventory keeping had a negligible negative association with return on asset. It was shown that there was little to no positive correlation between return on asset and accounts payable period.

## 2.3 Conclusion and identification of knowledge gap

In general, the literature review indicates that working capital management has an impact on firms' profitability. Having optimum level of working capital components helps firms to meet their day to day operations and vital for maximizing value and profitability. From the above and other empirical evidence, it clear that; there is no communal outcome on the impact of working capital management on profitability of the firms and Whether or not it is having a beneficial or negative impact on profitability is yet unclear. Therefore, the direction of the relationship between working capital management and the firms' profitability remained confusing either positive or negative. This study has identified the following knowledge gaps: Most of the theoretical end empirical evidences on the literature have been based on the context of developed

nation’s economy and little attention was given to developing countries economy. Hence, it would be difficult to generalize the findings of those researches to other developing nations because they operate in different economic environment. As of other developing countries, in Ethiopia researches on the impact of working capital management on profitability recent phenomenon and only a small numbers studies are available evidencing from Ethiopian business organizations.

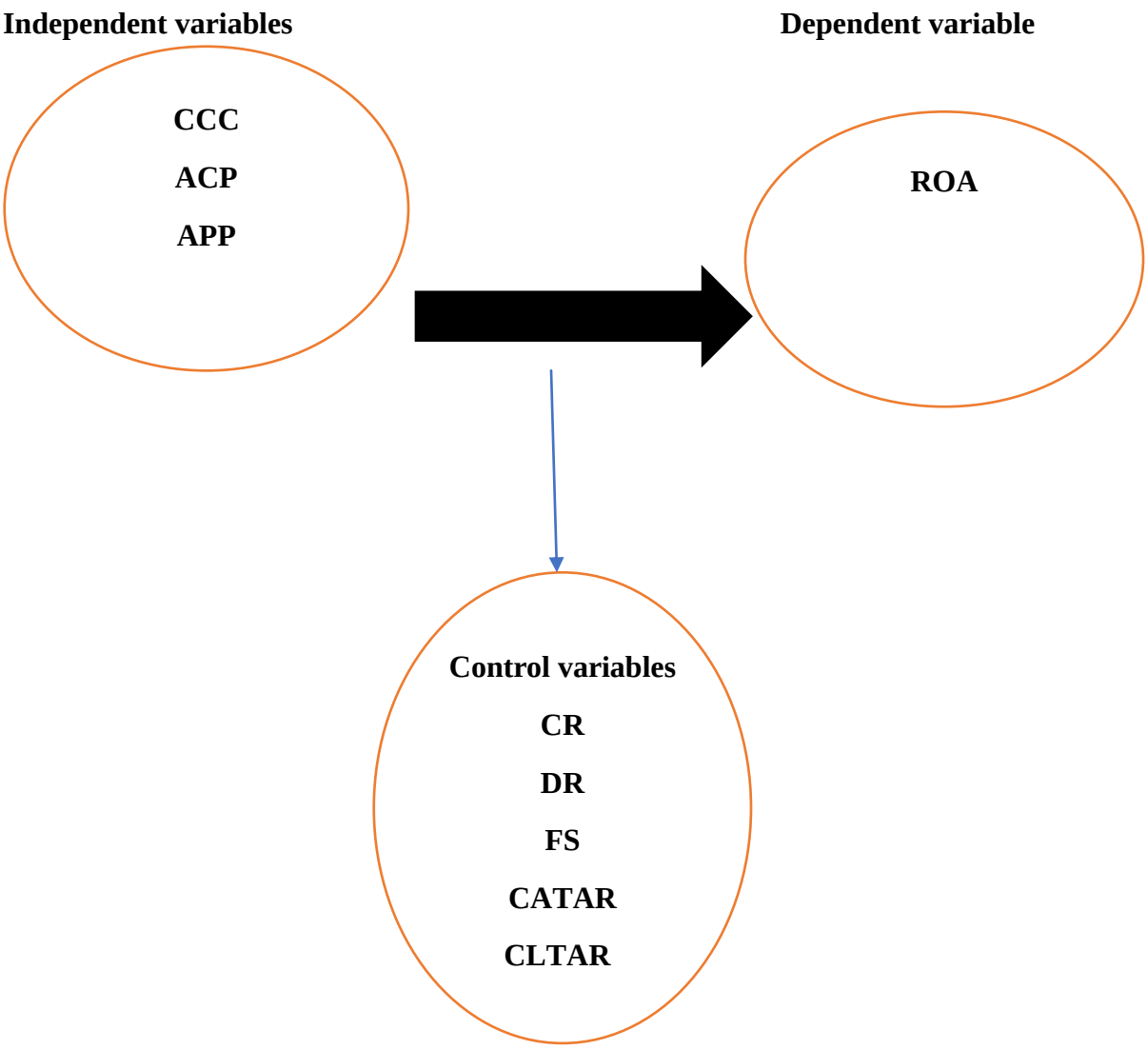
Furthermore, there hasn't been any research done on how working capital management affects a company's profitability, especially for real estate organizations. As a result, those businesses as well as others have been using the name of manufacturing corporations as a cover. The effect of working capital management on the profitability of the firms, generally for the industrial sector in general, has not been extensively researched in Ethiopia. This generalization for whole manufacturing sector indicates that the impact of working capital management on the firms’ profitability was not examined in detail. Therefore, this study examined the impact of working capital management on profitability of selected real estate companies in Addis Ababa.

## 2.4 Conceptual Framework of the Study

The current relationship between independent and dependent variables is referred to as the conceptual framework. The hypothesis explanations and previous empirical data that have been examined thus far in this study can be used to establish it. Return on asset (ROA), a dependent variable in this study, was utilized to gauge the profitability of the companies. On the other hand, working capital management proxies—such as cash conversion cycle (CCC), average collection period (ACP), and accounts payable payment period (APP)—developed by finance researchers comprise the independent variables in this study. This study also included several control variables that previous research had shown to have an effect on the profitability of the firms in

addition to the aforementioned independent variables. Consequently, the following control variables have been included in this study: current ratio (CR), firm size (FS), debt ratio (DR), and current assets to total assets.

**Figure 2.3: Conceptual Framework of the Study**




*Source: Based on literature*

# CHAPTER THREE

# 3. RESEARCH METHODOLOGY

The methodology represents a crucial part in the research process. This is because it gives details to show how research activities are going to be carried out and its aim is to describe the research strategy and methods applied in this study, and to discuss their suitability within the context of various research philosophies, models and methodological approaches. This includes a general overview of the overall research philosophy employed in carrying out the research and justification of the chosen approach (Kothari, 2004).

## 3.1. Research Design

Plan and framework of investigation thus conceived as to obtain answers to research questions, according to Donald & Pamela (2014). A research design used may vary from research to research. Explanatory research design was adopted because as the research is designed to examine the relationship between dependent variable (profitability) and independent variables. According to Saunders, Lewis, &Thronhill (2009), studies that establish causal relationships between variables may be termed explanatory research.

## 3.2. Research Approach

The emphasis here is on studying a situation or a problem in order to explain the relationships between variables. If the problem calls for the identification of factors that influence an outcome, the utility of an intervention understanding the best predictors of outcomes, then a quantitative approach is best. It is also the best approach to use to test a theory or explanation. On the other hand, if a concept or phenomenon needs to be understood because little research has been done on it, then it merits a qualitative approach (Creswell, 2009). Thus, the type of research employed for this study was mixed research method because either qualitative or quantitative methods are

inadequate to best understand a research problem or the strengths of both quantitative and qualitative research can provide the best understanding. This is because the study is trying to investigate the impact of working capital management on profitability (where the use of quantitative method is best) and there are no enough researches done on the issue in real estate companies in Addis Ababa (which merits the use of qualitative research method). Therefore, the study used mixed research approach. Creswell (2003) supports that mixed method approach is a model for social research combining qualitative and quantitative methodologies which is adequately flexible, accessible and multilayered to interpret real meaning from the collected data.

## 3.2. Type and Sources of Data

The quantitative data needed for this study was taken from audited income statements and balance sheets that sample firms had completed throughout the study period It was collected by structured documentary review. The researcher collected the data for this study directly from Ethiopian revenue and custom authority (ERCA) large tax payer branch office from which audited financial statement was directly submitted by the taxpaying companies to the office for tax purpose. The main reason behind collecting data from ERCA because companies in Ethiopia are generally reluctant to provide the required data. Secondly the reliability of data could be excelling by collecting from ERCA because those financial statements were audited and submitted for tax purpose.

## 3.3. Sample design

Mugenda & Mugenda (2003) defined target population as the entire group of individuals, events or objects having common observable characteristics to which the researcher wants to generalize the results of the study. The target population of the study is selected six real estate fiscal reports

for a consecutive 10 years' period from 2014 to 2023 G.C. Purposive sampling was, thus, the sampling strategy used in this investigation.

## 3.4. Methods of Data Analysis

Data analysis is the application of reasoning to understand the data that have been gathered. In its simplest form, analysis may involve determining consistent patterns and summarizing the relevant details revealed in the investigation. The appropriate analytical technique for data analysis was determined by management's information requirements, the characteristics of the research design, and the nature of the data gathered. Statistical analysis may range from portraying a simple frequency distribution to more complex multivariate analyses approaches, such as multiple regressions (Zikmund, et al., 2009). The responses of respondents collected using the above motioned data collection tools has been organized, analyzed and interpreted in a sensible way. Following data collection and editing, STATA 14 version software was used to analyze the data. The values variables were then computed and retrieved from combinations of audited balance sheet and income statement items using Microsoft Excel. Data analysis was made to show the impact of working capital management on the firms' profitability. In this study both descriptive statistics and quantitative analysis were used for data analysis.

### 3.4.1 Descriptive analysis

Using descriptive analysis, one can get an overview of the data that has been gathered. In this study, precise information on the chosen variables as well as patterns of pertinent features of the data values were defined using descriptive analysis. It displays the variable's mean, standard deviation, maximum, and lowest values.

### 3.4.2 Quantitative analysis

The type and degree of the association between profitability and the working capital management efficiency measures—represented by various variables—of the enterprises were determined using quantitative analysis. It was helpful to test the research hypotheses. In this study correlation and regression analysis were used.

#### 3.4.2.1 Correlation analysis

The association between two or more variables was investigated using correlation analysis and it was helpful in identifying the relationship between variables. Any two variables can have a correlation coefficient between -1 and +1. If the coefficient is 0, it refers that there is no relationship between the two variables. If it is +1 it shows there is perfect positive relationship between variables, but if a correlation coefficient is -1, it shows as there is perfect negative relationship between variables. The positive relationship between variables refers to an increase in one variable leads to an increment in the other variable and the negative relationship shows an increases in one variable leads to decreasing on the other variable.

#### 3.4.2.2 Regression analysis

To test the research hypothesis and to investigate the impact of working capital management on the firms' profitability the researcher used pooled panel data regression analysis. The reason for using pooled regression was the data used has both time series and cross-sectional dimensions. To ascertain the fundamental link between the dependent and independent variables, pooled ordinary least squares combines cross-sectional and time series data (Ncube, 2011). The most important advantage of using penal data is that itis more useful in studying the dynamics of change, and it is helpful to identify and measure effects that are simply not detectable in pure cross-sections or pure time series data. Before regression analysis, test of assumptions of classical linear regression model were made. Accordingly, the basic assumptions of classical

linear regression model tested in this study were normality of the error term distribution, multi collinearity (variance inflation factor (VIF)) and heteroscedasticity.

## 3.5 Model Specification

This study sought to determine how working capital management affected the profitability of the companies. To achieve the research objectives and to test hypothesis, quantitative model was used. The model used in this study was pooled ordinary least squares regression model. According to Rahman and Nasr, (2007) Pooled Ordinary Least Square regression assumes that there are no significant cross-sectional or temporal effects and pools cross-section company data and time series data into a single column in a regression model with constant intercepts and slopes. The previous studies by (Deloof 2003; Lazaridis and Tryfonidis, 2006; Padachi 2006; Rahmanand Nasr 2007,) from abroad and (Ephrem, 2011; Mulualem, 2011; and Wobshet 2014) from Ethiopia were use this model. In this study also the researcher has been used this model and the general model used for this study shown as follows:

$$\text{ROAit} = \beta o + \sum_{t=1}^{n} \text{Xit} + \varepsilon$$

Source: Raheman and Nasr, (2007).

Where:

ROAit= Return on asset of a firm i at time t =1, 2, 3……

βo = Intercept of the equation

βi = Coefficient of Xit Variables

Xit = the different independent variables of firm i at time t

t = Time from 1, 2…, 5 years

ε = Error term

## 3.6. Ethical consideration

The general ethical issues arise at each stage the research process. The necessary approval and permission were obtained from Addis Ababa university, real estate companies and other concerned bodies. A covering letter was attached ensuring participant's anonymity and confidentiality that the information obtained from them has not be disclosed the third party. Name and other identifying information were not being used in the study. Finally, the study used numerous works of others and appropriately acknowledged them and declared the study is my original work.

# CHAPTER FOUR

# 4. DATA ANALYSIS, RESULTS AND DISCUSSTION

## Introduction

This chapter presents the output which was resulting from the raw data collected through structured documentary review of sample companies audited financial statements particularly (Balance sheet and income statement). Values of dependent, independent and control variables were extracted and computed from the collected data with the help of Microsoft excel and these values were entered in to STATA 14 version software program for further processing. Data analysis was presented with descriptive statistics, correlation and regression analysis. Diagnostic tests of OLS of assumptions were made to verify whether the data used have met the underlying assumptions.

## 4.1 Results of descriptive statistics

The descriptive statistics was presented with a total of 60 observations of selected real estate companies found in Addis Ababa for the period of ten years. Descriptive statistics was used to describe relevant aspects of the values of the data and provides broad information about variables included in this study.

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| roa | 60 | .1075167 | .0552589 | .004 | .21 |
| ccc | 60 | 146.3167 | 20.33823 | 16 | 168 |
| acp | 60 | 51.05 | 7.926409 | 34 | 67 |
| app | 60 | 49.81667 | 14.90591 | 4 | 87 |
| cr | 60 | 5.366 | 4.495495 | 2.5 | 39 |
| dr | 60 | 1.0065 | 4.07145 | .19 | 32 |
| fs | 60 | 15.9405 | 4.05549 | .32 | 25.9 |
| catar | 60 | .320562 | .1899159 | -.01256 | .959 |
| cltar | 60 | .2584757 | .0281573 | .203262 | .292517 |

Table 4.1 above revealed the mean value of ROA is 10.75 percent with standard deviation of 5.52 percent and the minimum and maximum values are 4 percent and 21 percent respectively. Mean value indicates that sample firms on average generate 10.75 percent profit. The minimum value of ROA of is 4 percent during the study period shows a profit of 4 percent whereas the maximum value is 21 percent which shows profit of 21 percent. The minimum and maximum value of return on asset shows as there is a wide range of variation between the profitability of sample firms.

According to table 4.1 above, the cash conversion cycle has a mean value of 146 days and a standard deviation of 20 days. This indicates that, on average, it takes the sampled firms 146 days to sell their inventory, collect cash from credit sales, and pay for their credit purchases. These times vary by around 20 days on both sides of the mean distribution. The maximum value of the CCC is approximately 168 days, indicating that firms in the sample wait up to 168 days to make cash inflows from the sale of inventories even after they have made payments for creditors. The minimum value of the CCC is 16 days, indicating that some of the firms in the sample take longer periods of time to pay for their creditors than the days they take to sell their inventory and collect cash from their credit sales.

ACP's mean value is 51 days, with a 7.9-day standard deviation. The data indicates that, on average, the sample enterprises wait 51 days to obtain cash from their consumers following credit sales; this is a deviation of 7.9 days from the mean value on both sides. The average collection duration for the sample's enterprises is 34 days at the least and 67 days at the maximum, indicating that they wait a maximum of 67 days to collect cash from clients.

APP is another measure of working capital management efficiency measure to measure firms 'payment policy. The mean value for this variable is 121 days with the standard deviation of 555 days both sides from the mean distribution. It indicates that the firms wait around 121 days to pay their credit purchase. The minimum value of APP is 4 day indicates that some firms included in the sample have taken a minimum of 4 days to pay for their credit purchases whereas firms in the sample have taken maximum of 87 days to pay for their credit purchase.

Table 4.1 above shows that the mean value of CR is 5.36 with standard deviation of 4.49 shows that sample firms liquidity ratio measured by current assets to current liabilities ratio on average was around 5.36and it deviates from the mean value both sides by 4.49. This mean value is larger than the rule of thumb proposed by finance literature 2 for current assets to current liabilities is reasonably desirable. The minimum value is 2.5 whereas the maximum is 39and this shows as there is a wide range of variation on liquidity positions between the sample firms.

DR is also another control variable and its mean value is around 1 percent with standard deviation of 4.07 percent. It indicates that on average 1 percent of sample firm's total asset is financed by debt. The minimum value of this variable is 0.19 percent whereas the maximum value of this variable was 32 percent; shows the sample firms' total asset is financed by debt and it is difficult about their going concern.

FZ is also other control variable and the mean value for this variable is around 15.94 with standard deviation of 4.05. This shows that sample firms have size of15.94 on average. The minimum value FZ is 0.32 whereas the maximum was 25.9 these values show as there is a wide range of firm size among the sample firms.

CATAR also another control variable and its mean value is 32 percent with standard deviation of 0.18 percent. It indicates that on average 32 percent of sample firms' investment in total asset was made from current assets. This variable's greatest value of 95% indicates a high degree of conservatism in working capital investment policy, while its minimum value of approximately 1% indicates a high degree of aggression. Between aggressive and conservative working capital investment policies, the sample firms' mean value of this ratio denotes a moderate approach to working capital investment.

CLTAR also other control variable and its mean value is 25.84 percent with standard deviation of 2.81 percent. It shows on average 25.84percent of sample firms' total asset is financed by current liabilities. The minimum value is around 20.32 percent whereas the maximum value is29.25 percent. The minimum and maximum value of this ratio indicates that higher values for this ratio indicate a more aggressive working capital financing strategy. Conversely, the more conservatism this ratio displays, the lower its value.

Inferential Analysis of Study Variables

This section deals with analysis of data and interpretation of analytical findings. Initially, it is better to see the overall specification test of the model.

### 4.1.1 Diagnostics Test

Diagnostic tests are robust statistical tests carried out to verify if the data used have met the assumptions underlying the regression and where possible to remove problems associated with the data. Before estimating the regression model, it is necessary to check for different method of test such as, multicollinearity, heteroscedasticity, omitted variable bias, model specification error and outliers.

### 4.1.1.1 Test of Multicollinearity

Multicollinearity is the existence of a perfect or exact linear relationship among some or all explanatory or independent variables of the regression model. An important assumption in regression models is that independent variables should not perfectly collinear (one regressor should not be a linear function of another). As Gujarati (2004) noted, indicators of multicollinearity include $R^2$ is very high and none of regression coefficients is statistically significant on conventional t- test and low partial correlation, OLS estimators can have large variances and co-variances and making precise estimation is difficult. To test degree of multicollinearity among explanatory variables of profitability, test of VIF can be employed after running regression. A major problem with multicollinearity is that standard errors may be inflated. Thus, if VIF > 10 or 1/VIF < 0.10 indicates trouble.

**Table 4.11: Test of multicollinearity**

| Variables | VIF | 1/VIF |
|---|---|---|
| **cltar \|** | 1.21 | 0.827488 |
| **acp \|** | 1.15 | 0.869341 |
| **dr \|** | 1.11 | 0.900044 |
| **ccc \|** | 1.11 | 0.901041 |
| **catar \|** | 1.09 | 0.916625 |
| **fs \|** | 1.08 | 0.927022 |
| **app \|** | 1.08 | 0.928878 |
| **cr \|** | 1.05 | 0.955331 |
| **Mean VIF** | 1.11 | |

Source: (Own computation, 2024)

A tolerance level (1/VIF) less than 0.1 and variable inflation factor (VIF) greater than 10 indicates the existence of multicollinearity between the variables. From the above table, there is no problem of multicollinearity between study variables since, the VIF of all variables is less than 10 or 1/VIF is greater than 0.10.

### 4.1.1.2Test of Heteroscedasticity

Another important assumption is that the variance in the residuals has to be homoscedastic, which means constant. Residuals cannot vary for lower or higher values of independent variables. In laying out the standard regression model, the researcher made the assumption of homoscedasticity of the regression error term: that is variance is assumed to be constant in the population, conditional on the explanatory variables. The assumption of homoscedasticity fails when the variance changes in different segments of the population. By using Breusch-Pagan / Cook-Weisberg test for heteroscedasticity, there is no any problem of heteroscedasticity since the chi-square is insignificant (chi2 (1) = 1.85, Prob > chi2 = 0.3989) which the researcher failed to reject the null hypothesis and it can be conclude that there is no problem of heteroscedasticity (Ho: Constant variance).

### 4.1.1.3 Test of Omitted Variable Bias

Testing for omitted variable bias is important for our model since it is related to the assumption that the error term and independent variables in the model are not correlated (E (e|X) = 0). The null hypothesis is that the model does not have omitted variables bias. According to Ramsey RESET test F (3, 42) = 1.23, Prob > F = 0.1268), the p- value is higher than the usual threshold 0.05, so the researcher fails to reject the null hypothesis and conclude that the researcher does not need more variables. (Ho: model has no omitted variables).

### 4.1.1.4 Test of Model Specification Error

It basically checks whether the researcher need more variables in the model by running a new regression with observed Y against Yhat and Yhat-squared as independent variables. The thing to look for here is the significance of *_hatsq*. The null hypothesis is there is no model specification error. The p-value of *_hatsq*is not significant (0.35) then the researcher fails to reject the null hypothesis and conclude that our model is correctly specified.

**Table 4.12 Test of model specification error**

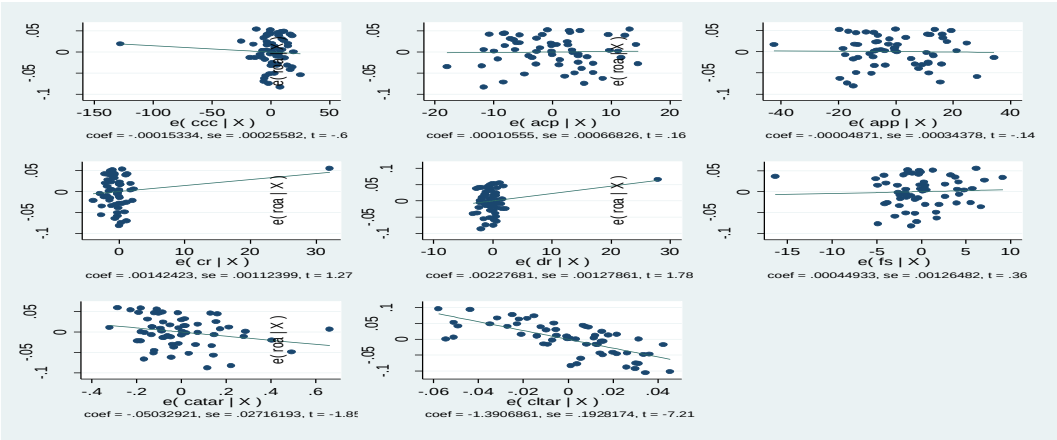
| ROA | Coef. | Std.err. | Z | P>\|t\| | [95% Conf. Interval] | |
|---|---|---|---|---|---|---|
| **_hatsq** | -5.419841 | 2.515711 | -2.15 | 0.35 | -10.45746 | -.3822175 |

Source: (Own computation, 2024)

### 4.1.1.5 Checking Outliers

Outliers are data values that differ greatly from the majority of a set of data. These values fall outside of an overall trend that is present in the data. The common sources of outliers are measurement error, human error (errors in data entry and collection), participants intentional reporting of incorrect data, and sampling error. Outliers are data points with extreme values that could have a negative effect on our estimators. To check for outliers, the researcher uses the added variable plots command after running the regression.

**Fig. 4.3: Checking for outliers**




Source: (Own computation, 2024)

The plots regress each variable against all others, notice the coefficients on each. All data points seem to be in range; thus, no outliers observed.

## 4.2 Correlation Analysis

In this study Pearson's correlation analysis has been employed to investigate the correlation between variables.

| | roa | ccc | acp | app | cr | dr | fs | catar | cltar |
|---|---|---|---|---|---|---|---|---|---|
| roa | 1.0000 | | | | | | | | |
| ccc | 0.1167 | 1.0000 | | | | | | | |
| acp | -0.0251 | 0.0396 | 1.0000 | | | | | | |
| app | 0.1178 | 0.0335 | -0.0593 | 1.0000 | | | | | |
| cr | 0.1423 | -0.1084 | -0.1005 | -0.0283 | 1.0000 | | | | |
| dr | 0.1182 | -0.0852 | -0.2474 | -0.1094 | -0.0103 | 1.0000 | | | |
| fs | 0.1784 | -0.0045 | -0.1371 | 0.0038 | 0.0127 | -0.0412 | 1.0000 | | |
| catar | -0.3096 | -0.0155 | -0.1320 | -0.1221 | -0.1151 | -0.0328 | -0.0328 | 1.0000 | |
| cltar | -0.7132 | -0.2784 | 0.0056 | -0.1893 | -0.0040 | 0.0779 | -0.2075 | 0.1653 | 1.0000 |

The profitability of businesses as determined by ROA and the working capital management efficiency measures of CCC, ACP, and APP are correlated at -0.0361, -0.0251, and -0.0275,

respectively, as Table 4.2 above demonstrates. As the above correlation coefficients shows there is negative relationship between profitability of firms and all the working capital management efficiency measures, which indicates that the decrease in the value of each component of working capital management measures leads to an increase in the firms' profitability. The higher relationship exists between ROA and CCC (-0.0361) whereas lower relationship exists between ROA and ACP-0.0251). The above results support all research hypothesis of this study which has been developed for the respective variables except the fourth hypothesis about the positive relationship between APP and ROA. From control variables CR and DR are negatively correlated with ROA whereas the remaining controls variables of FZ, CATAR and CLTAR are positively correlated with ROA.

The negative correlation coefficient between ROA and CCC implies that as the time period between cash collections from customers and cash payment to suppliers gets extended and become longer, the firms' profitability will decrease. This shows negative theoretical relationship between CCC and ROA, and supports the first hypothesis of this study developed with the anticipation of negative relationship between CCC and ROA.

There is also negative relationship between ROA and ACP. This negative relationship in indicates that as firm delays for longer time period to collect cash from customers, their profitability will decrease for the reason that the firms fund is blocked in receivables. This result also supports the hypothesis which has been developed in this study with the anticipation of negative relationship between ACP and ROA. Similarly, APP is negatively correlated with ROA this negative relationship indicates that as the firms APP is longer and takes more time, the firms' profitability will decrease and profitable firms take shorter time period to pay their

accounts payable. This result is not supporting the research hypothesis which has been developed for this study with the anticipation of positive relationship between APP and ROA.

Correlation analysis was also made for selected control variables. As indicated in the above table4.2, from all control variables CR and DR are negatively correlated with return on asset or profitability. The negative relationship between return on assets and current ratio indicates that there is negative hypothetical relationship between profitability and liquidity measured by current ratio. It indicates that as firms are highly liquid, their profitability will decrease. The negative relationship between DR and return on asset indicates that the firms' profitability is decrease as they use more debt financing for the reason that, the portion of their earnings are taken by the debt holders and only small amount of the earnings is left for the business. And the remaining control variables are positively correlated with return on asset. This positive relationship indicates that as the values of these variables increases, the firm's profitability also increases.

## 4.3 Regression analysis

Correlation analysis is helps us to find a numerical value to express the extent of relationship exists between two or more variables but do not help to identifying the causes from consequences. Since the objective of this study was aimed to investigate the impact working capital management on the firm's profitability, regression analysis essential to achieve the research objective as well as to test hypothesis. Thus, regression analysis was used to examine to which extent the change for each unit in independent variable has an impact on dependent variable, while control variables held constant.

| Source | SS | df | MS | Number of obs | = | 60 |
|---|---|---|---|---|---|---|
| | | | | F(8, 51) | = | 9.27 |
| Model | .106765491 | 8 | .013345686 | Prob > F | = | 0.0000 |
| Residual | .073393491 | 51 | .001439088 | R-squared | = | 0.5926 |
| | | | | Adj R-squared | = | 0.5287 |
| Total | .180158982 | 59 | .003053542 | Root MSE | = | .03794 |

| roa | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| ccc | -.0001533 | .0002558 | -0.60 | 0.552 | -.0006669 | .0003602 |
| acp | .0001055 | .0006683 | 0.16 | 0.875 | -.001236 | .0014471 |
| app | -.0000487 | .0003438 | -0.14 | 0.888 | -.0007389 | .0006415 |
| cr | .0014242 | .001124 | 1.27 | 0.211 | -.0008323 | .0036807 |
| dr | .0022768 | .0012786 | 1.78 | 0.081 | -.0002901 | .0048437 |
| fs | .0004493 | .0012648 | 0.36 | 0.724 | -.0020899 | .0029886 |
| catar | -.0503292 | .0271619 | -1.85 | 0.070 | -.1048591 | .0042006 |
| cltar | -1.390686 | .1928174 | -7.21 | 0.000 | -1.777783 | -1.003589 |
| _cons | .4854867 | .0915305 | 5.30 | 0.000 | .3017315 | .6692419 |

Table 4.15 above displays the estimates of the multiple regression of profitability against its variables. “R” represents the value of the multiple correlation coefficients between the predictors and the outcome (Field, 2005 cited in Demis, 2016).

Based on the results above, the value R square is 0.5926; is the correlation between the dependent and independent variable values of the research. R2 is also called the squared multiple correlation coefficient or the coefficient of determination since (R)2= 0.5287. Adjusted R2 (0.5287) is taken for interpretation when more than one independent variable considered. It clearly reflects that the total variation in the dependent variable (ROA) is explained or caused by 52.87% of the change (increase) in all independent variables (CCC, ACP, APP, CR, DR, FS, CATAR and CLTAR). The remaining 47.13% of the variation in overall firms’ profitability could be explained by other variables which are not incorporated under this study.

# CHAPTER FIVE

# CONCLUSION AND RECOMMENDARIONS

**Introduction**

This chapter presents conclusions and summaries drawn from the data analysis and its main findings and outlines the suggestions made by the researcher in light of the findings.

## 5.1. Summary

In Pearson correlation analysis, some independent variables were positively correlated with working capital management. The highest correlation occurred between firms profitablity and firm size (FS), current ratio (CR), debt ratio (DR), followed by cash conversion cycle (CCC), average collection period (ACP) respectively.

According to the regression model summary, adjusted R2 = .52.87 means that the total variance in firms' profitability is explained or caused by 52.87% of the change (increase) in all independent variables (firm size (FS), current ratio (CR), debt ratio (DR), followed by cash conversion cycle (CCC), accounts payable payment period (APP) and average collection period (ACP). The remaining 47.13% of the variation in overall firms' profitability could be explained by other variables that are not incorporated under this study. Furthermore, the study sought to identify the most important factors that affect working capital management. The first way is the ANOVA test that produced a P-value of 0.000 which is below the alpha level, i.e., 0.05. It indicates that there is a statistically significant effect between the independent variables ((firm size (FS), current ratio (CR), debt ratio (DR), followed by cash conversion cycle (CCC), accounts payable payment period (APP) and average collection period (ACP) and the dependent variable (firms' profitability).

## 5.1. Conclusion

This study was intended to investigate the impact of working capital management on the firms' profitability in selected real estate companies in Addis Ababa. In light of the above objective, the study adopted quantitative research approach to test hypothesis. The study used survey of documentary analysis of companies audited financial statement. Sample of six (6) real estate companies were purposively selected from some selected industry classes and financial statement (particularly balance sheet and income statement) of sample firms was collected for the study period from Ethiopian customs and revenues authority large tax payer branch office. The data was analyzed with the help of STATA 14 version software program on quantitative basis by using descriptive statistics, correlation and regression analysis.

The results of correlation analysis revealed that the firms' profitability was negatively correlated with working capital management efficiency measures (CCC, ACP, and APP) similarly control variables of CR and DR were also negatively correlated with the firm's profitability. But the remaining control variables like FZ, CATAR and CLTAR were positively related with the firms' profitability.

Before doing the regression analysis, diagnostic tests of OLS assumptions were made. Then regression analysis was made to investigate the impact of working capital management on the firms' profitability and to test hypothesis under four separate regression models in each model one independent variable along with the selected control variables were regressed against ROA.

In the first model CCC and control variables of CR, DR, FZ, CATAR and CLTAR were regressed against ROA. Results of this model revealed that CCC was found with significant negative impact on the firms' profitability and this finding is in line with the first hypothesis of the study developed with the anticipation of significant negative impact on the firms 'profitability. CR and

DR were found with insignificant negative impact on profitability in this model whereas FZ and CATAR were found with significant positive impact CLTAR also has positive impact on profitability but it was insignificant.

Under the second model ACP as a measure of firms' collection policy and control variables of CR, DR, FZ, CATAR and CLTAR were regressed against ROA. Result of this model shows that ACP was found with significant negative impact on return on assets and this result also support the second hypothesis of the study. In this model CR found with insignificant negative impact on profitability but DR has significant negative impact on it. CATAR and FZ were found with significant positive impact on profitability whereas CLTAR has found with positive insignificant impact on the firms' profitability.

In the third regression model and control variables were regressed against ROA. Results of this model indicated that ICP was found with significant negative impact on return on assets and it supports the third hypothesis of this study developed so far with the anticipation of negative relationship between ICP and the firms' profitability. In this model CR and DR found with insignificant negative impact on the firma profitability. FZ and CATAR found with significant positive impact on profitability but CLTAR is insignificantly positively affect the firms' profitability.

Finally, under the fourth model APP and control variables were regressed against ROA. Results of this model indicated that APP was found with significant negative impact on return on assets. This result is in contradictory with the fourth hypothesis developed so far with the anticipation of positive relationship between APP and the firms' profitability. In this model also CR and DR found with insignificant negative impact on the firms' profitability. FZ and CATAR found with

significant positive impact on profitability but CLTAR is insignificantly positively affect the firms' profitability

## 5.2. Recommendations

The findings of this study have shown that working capital management has significant negative impact on the profitability sample firms. Therefore, real estate companies should carefully manage their working capital. The following recommendations were forwarded based on the findings of this study.

Cash conversion cycle was found with significant negative impact on profitability of those selected real estate companies. In order to enhance their profitability firms should minimize their time delay in cash conversion cycle. To minimize CCC firms should manage receivables, inventories and payables efficiently and effectively.

Average collection period is also found with significant negative impact on profitability of those selected real estate companies. Therefore, firms should minimize the average collection period to the lowest possible time period that would not harm their sales.

Similarly inventory conversion period found with significant negative impact on profitability of those selected real estate companies. Firms should minimize the time delay in inventory conversion period, in order to increase their profitability. To minimize their inventory conversion period should use new inventory management techniques like just in time (JIT) for better inventory management. In addition to this firms should choose the suppliers with good quality of raw materials and create long term relationship with suppliers who can provide enough raw materials on time at best price. Furthermore, firms should follow better production system to produce quality product that meet the customers' specification.

Accounts payable payment period is also found with significant negative impact on profitability of those selected real estate companies. Therefore, firms should pay their account payable as early as possible to get discount from suppliers and to establish healthier relationship with them. In doing this firms could be benefited in freight terms, and quality products from suppliers.

The finding of this study shown that, conservative working capital investment and aggressive financing policies were positively affecting the firms' profitability. Firms should have adequate current assets and use more short-term financing (current liabilities) to enhance their profitability.

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