ST. MARY'S UNIVERSITY SCHOOL OF GRADUATE STUDIES

THE EFFECT OF WORKING CAPITAL MANAGEMENT ON THE PROFITABILITY OF MANUFACTURING COMPANIES IN ETHIOPIA

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SGS/0447/2011A

JUNE,2022

THE EFFECT OF WORKING CAPITAL MANAGEMENT ON THE PROFITABILITY OF MANUFACTURING FIRMS IN ETHIOPIA

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A THESIS SUBMITTED TO ST. MARY'S UNIVERSITY,
SCHOOL OF GRADUATE STUDIES IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE
OF MASTERS OF BUSINESS ADMINISTRATION (MBA) IN
ACCOUNTING AND FINANCE

ADVISOR
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JUNE,2022

ADDIS ABABA

SAINT MARY UNIVERSITY

SCHOOL OF GRADUATE STUDIES

FUCULTY OF BUSINESS

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DECLARATION

I, Andualem Demissie, declare that this thesis, "Impact of working capital management on profitability of manufacturing firms in Ethiopia," is my own work that was prepared under the supervision of Mohammed Seid (Assistant Professor), and that all sourced materials used in the accomplishment of this study have been acknowledged. This thesis work has not been submitted in part or in full for any other institution's degree or examination.

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Saint Mary University, Addis Ababa, Ethiopia, June 2021

ENDORSEMENT

This thesis has been submitted to St. Mary's University, School of Graduate Studies form examination with my approval as a university advisor.

Mohammed Seid (Assistant Professor.) _____

Advisor Signature

ACKNOWLEDGEMENTS

First and foremost, I thank God, the Almighty, for blessing me with this chance and equipping me with capabilities to accomplish.

Thank you to my supervisor Mohammed Seid (Assistant Professor), for your patience, guidance, and support. I am extremely grateful that you took me on as a student and continued to have faith in me over the years and also Thank you for understanding my problem and for letting me finish it on time.

This thesis would not have been possible without the support of ministry of revenue medium tax office by giving me the financial statements and information about medium tax payers of the country. I thank both General manager and IT department of medium tax office for giving the necessary information that I needed.

Last, but not least, my warm and heartfelt thanks go to my wife for her tremendous support and hope you given to me. Without that hope, this thesis would not have been possible. Thank you for the strength you gave me.

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LIST OF ABBREVIATIONS AND ACRONYMS

WCM: Working Capital Management

ROA: Return on Asset

CCC: Cash Conversion Cycle

ACP: Average Collection Period

ICP: Inventory Conversion Period

APP: Average Payment Period

LQ: Liquidity

FS: Firm size,

VS: The volume of sales

LV: Leverage.

WCM: Working Capital Management

MOR: Ministry of Revenue

MTO: Medium taxpayers' office

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ABSTRACT

The purpose of the study is to test the impact of working capital management on the profitability of manufacturing companies in Ethiopia, with a target on medium tax payers. In light of this goal, the study used quantitative methods to assess a number of research hypotheses. For a total of 135 observations, financial statements from a sample of 27 (twenty-seven) manufacturing share companies were used throughout a five-year period (2017-2021). The data was quantitatively evaluated using descriptive and regression analysis. Non-probability purposive sampling was employed. It investigated working capital components such as cash conversion cycle, average collection period, inventory conversion period, average payable period, and in relationship with profitability as a measure of return on asset (ROA). In addition, the study employed current ratio as a liquidity indicator; financial leverage, volume of sale as assessed by change in yearly sales; and firm size as defined by natural logarithm of sales; as control variables. The research main results are as follows: first, there is a negative association between the cash conversion cycle and business profitability. second, there is a negative relationship between average collection period and profitability. Third, there is a negative relationship between inventory holding period and profitability, and a positive relationship between accounts payable period and profitability. Finally, positive relationships between control variable {liquidity, leverage, volume of sales and firm size) and profitability measures have been revealed. In general, the research recommended that company's employed adequate working capital management components policy in order to enhance profitability.

Key words: - working capital component, working capital management, return on asset and profitability.

CHAPTER ONE: INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Working capital is means of survival for every business concern. Every business requires working capital for its survival, The Working Capital cycle refers to the time it takes to turn current assets and liabilities into cash. The longer the cycle continues, the more money a firm spends on working capital without making a profit. As a result, firms aim to reduce their Working Capital cycle by collecting receivables faster and delaying account payable payments. (Bhattacharya,2021). Leeson and Boopathi (2016), Theorized that Working capital, in general, refers to a company's current assets that are converted from one form to another in the usual course of business, such as cash to inventories, inventory to work in progress, work in progress to finished product, finished product to receivable, and accounts receivable to cash. A positive working capital proves that the company is in good financial position and ability to meet its short-term obligations. A negative working capital situation, on the other hand, occurs when the company's current assets are insufficient to meet its current liabilities (El-Maude, & Shuaib,2016). Pham, et al (2020) discuses that Working capital, also known as net working capital, is the difference between a company's current assets and current liabilities, or it is determined by deducting current assets from current liabilities. This relationship demonstrates the company's capacity to pay short-term creditors with short-term assets. Using and managing working capital has a wide range of effects on a company's short- and long-term success, from paying workers and suppliers to preparing for long-term growth.

Sefideh, and Asgari, 2016 discuss that effective working capital management provides an adequate procedure that removes the risk and lack of ability in paying short-term commitments and prevents over-investment by planning and controlling current assets and liabilities. The basic theme of working capital management is to support the smooth and efficient functioning of day-to-day business operations rather than long-term investment decisions by striking a tradeoff between the three degrees of working capital. They are profitability, liquidity, and risk. Working capital management is an essential element of corporate financial management which deals with the firm’s current asset and current liability or the relationship between current assets and current liabilities, granting that working capital is also known as circulating capital or current capital (Akindele & Odusina 2015). financed in current assets repetitively circling and are constantly changed into cash and this cash flow out again in exchange for another component’s current asset (Bhattacharya,2021). Working capital management is related to

short term financing and investment decision of a firm by providing a general direction on current assets and current liabilities in respect to each other and to generate maximum returns or firm's profitability in accordance with providing enough cash or liquidity to meet the short-term obligation of the firm (Ahmed, 2016).

Wamba and Jagging (2020) maintain that working capital management has a significant impact on the financial performance of the firm and so entails effective management to balance performance with the risk of failing to satisfy financial obligations when they become due. WCM needs special attention for the proficient business practices. The proper management of working capital may bring about the success of a business firm, the crucial purpose of working capital management is to ensure continuity in the operations of a firm or the going concern of an entity and that it has sufficient funds to satisfy both maturing short-term debt and upcoming operational expenses by managing inventories, accounts receivables, accounts payables and cash (Jain,& Goel 2017).

Efficient working capital management requires a proper balance between generation and utilization of the funds as well as providing the needed funds on the right time from the right source and for the right period, so that a tradeoff between liquidity and profitability may be achieved properly managed and designed components of working capital provides a general direction to achieve the firm's profitability and liquidity (Ahmed,2016). a typical index of a good status and scale of one's business management is the capability of operating working capital management to maintain a solid balance between growth, profitability and liquidity. increasing profits at the cost of liquidity can bring problem to the firm. Hence, there is a trade-off between these two themes and disregarding liquidity may result in insolvency and bankruptcy (Hawley, 2021).

Profitability and solvency are the essential objective of working capital management, the effect of working capital management on the profitability have a mutual consistent contingent impact with each other, there are many studies available on the effect of working capital management on profitability. However, there is insufficient research available in the Ethiopian setting. Working capital management is an important aspect of company activity for all sectors, including the manufacturing sector, thus the researcher aims to address the study gap by evaluating and assessing the influence and effect of the important working capital management variables.

1.2 BACKGROUND OF THE STUDY SETTING

Ethiopia's manufacturing industry is one of the main productive sectors listed in the GTP (2010-2015) as having the capacity to stimulate economic growth and development due to its enormous potential for wealth creation, job creation, and poverty reduction. Although Ethiopia's manufacturing industry is still in its infancy, it has made a significant contribution to the country's economic growth and change. (Eshetie, 2018) .

According to Samuel and Tarekegn (2011), most Ethiopian private and public industrial sectors lack adequate working capital management methods due to obsolete economic activity and firm structure. According to the World Bank study (2009), the manufacturing sector, together with agriculture, has the lion's share of the economy; in 2013/14, the industry contributed 14 percent, 7 percent, and 3.8 percent to GDP, employment, and trade balance, respectively. In contrast to multinational working capital management methods, Ethiopian working capital management practices are still in the early stages of development; nevertheless, if the sector adopts comprehensive working capital management practices, it will impact earnings and optimize corporate value Ephrem (2011).

Most of Ethiopian manufacturing company's financial managers organized and practices a formal and situational working capital policy per annually based, hence, practicing of working capital management is consumes much more time relatively than other financial management decision. (Tesfa & Chawla, 2017).

1.3 STATEMENT OF THE PROBLEM

Determining the precise amount, and apportioning the frontier working capital for both in total and for each specific account are the two main crucial objectives of working capital management rehearsal (Edupristine, 2018). Providing adequate level of working capital, the firm able to get rid of inability to meet its short-term liability when they are due and avoid excessive investment in current asset. The excessive working capital which means the idle fund may well the factual reason for the deterioration of firm's profitability as well as facing a problem to run the firm's day-to-day activities (Boopathi, 2016).

The purpose and the decision of Working capital management are vary from organization to organization, thus the amount of working capital required by the organizations is determine

by the size and nature of business, strategy ,policy, time, production process, technology ,inflation and other controlling factors.(Dina & Silvije 2018) Discus that in consistent with conservative strategy of working capital management, Organizations' annual revenue growth, market power, age, size, percentage of fixed assets in total assets, the growth of real gross domestic product are the determinant factors which have a significant impact on the amount of net working capital of the company. Despite that increase the level of net working capital increases the profitability of the company.

The effect of working capital management on the profitability are strongly correlated.Net working capital has significant impact on its net profit (Leon,2013). In the study by Eljelly (2004), there is a significance bond between company's working capital and Profitability. Increase the inventory conversation period (ICP), decrease collection conversation cycle (CCC), decrease the duration of period of dividend payment (PDP), are the determinant variables which makes to rise company profitability. Increasing the sales volume of the company may directly affects to rise ROA, increase in current liabilities may raise the financial risk of the firms, and decrease the firm's profitability.

Working capital is used to evaluate a company's the ability to meet currently maturing obligations. But working capital has an exclusive restraint while computing different organization's ability to pay of their current liability. Working capital do not consider the size of the company's and the makeup of differ company's current assets. Thus, two or more companies may have equivalent working capital but unlikely able to pay their current liabilities in the respective of company's the current asset makeup and company's size (Warren 2009).

Empirically, no prior studies addressing the effect of working capital management on company's profitability and value have been carried out solely within the context of the medium tax payers of Ethiopian manufacturing company. Much of available empirical evidences emphasize on sectoral based rather than tax assessment classification. But there are studies with reference to Ethiopia on working capital management and firm profitability. (Arega, et al 2013) examined the impact of working capital management on profitability in food complex industrial companies in Addis Ababa from 2009 to 2013. They examined into 10 food complex manufacturing firms. The result showed that the Inventory conversion period, negatively impact on return on asset, and, the results also show that Cash Conversion Cycle, negatively affects Return on Assets, food complex manufacturing firms can increase their profitability by shortening receivables, inventory, and payables periods.

(Keno & Batra 2018) examined the determinants of working capital management on manufacturing companies in Ethiopia for the period of 2006 to 2015. by taking data obtained from financial statements of 56 large manufacturing companies. The result revealed that, liquidity, sales growth, return on assets, firm's market power, and operating cycle have positive impact on working capital management, gross and domestic product rate, debt ratio, firm size, and capital expenditure, have negative impact on working capital management.

Along with the Knowledge of Researcher, there is no available research study which emphasis on study in the impact of working capital management on Profitability of a medium tax payer manufacturing firm in Ethiopia, Although the majority of available empirical evidence used a common independent variable to examine the impact and relationship between on dependent variable, they used a different type of control variable as a proxy to realize the impact on dependent variable. Thus, the researcher will conduct to fill the gap on impact of working capital management on performance of manufacturing company in Ethiopia with the aim of providing the following basic research objective.

1.4 OBJECTIVES OF THE STUDY

1.4.1 GENERAL OBJECTIVES

The main objective of the study is to examine and analyze the Effect of Working Capital Management on the Profitability of Manufacturing companies in Ethiopia.

1.4.2 SPECIFIC OBJECTIVES

- ♠ To examine the effect of the cash conversion cycle (CCC) on manufacturing company profitability.
- ♥ To examine the effect of the average collection period (ACP) on manufacturing company profitability.
- ♦ To examine the effect of the inventory conversion period (ICP) on manufacturing company profitability.
- ♣ To evaluate the effect of the average payment period (APP) on manufacturing company profitability.

1.5 RESEARCH HYPOTHESES

In light of the impact of working capital management on company profitability, the following Research hypotheses are proposed, which this study will attempt to examine in consideration of research objective.

- ♠ **H1:** the cash conversion cycle (CCC) has negative and statically significant effect on company's profitability.
- ♥ **H2:** the average collection period (ACP) has negative and statically significant effect on company's profitability.
- ♦ **H3:** the inventory conversion Period (ICP) has negative and statically significant effect on company's profitability.
- ♣ **H4:** the average payment period (APP) has Positive and statically significant effect on company's profitability.

1.6 SIGNIFICANCE OF STUDY

The study's findings will help to provide information for shareholders, creditors, and prospective customers with regard to the effect of working capital management on profitability. Predominantly the study finding helps investors and owners manufacturing companies who have not adopted any policy on working capital management. The study is significant since the entire manufacturing companies are designed to maximize profit and creating an effective working capital management system is an excellent approach for many companies to increase profit, a variety of financial management policies, practices, and procedures would be proposed in the study. Manufacturing companies can use to assess their profitability performance. Cash conversion cycle ratio, leverage measures, and return on equity are all examples of financial ratios that may be used to assess a company's liquidity. A business's profitability and ability to maintain a sufficient liquidity position indicates that the firm is well-managed and well-financed; this is a sign of good working capital management.

The study findings greatly benefit financial managers and Chef finance officer to adopt policy and to spot certain problems associated on relationship between working capital management policies and profitability, The recommendation of the research can show a solution to a particular problem that a finance managers would be able to adopt working capital strategies based on working capital management policies that will enhance profitability.

1.7 SCOPE AND LIMITATION OF THE STUDY

The study is delimited to the Effect of Working Capital Management on the Profitability of medium tax payers manufacturing companies in Ethiopia. The study does not address other manufacturing company within the industry; Therefore, the study is limited, among 134 manufacturing companies the researcher will analyze only 27 manufacturing companies which found in Ethiopia. The study took five years data from 2017 to 2021.

Due to the spread of COVID-19 and Government's command post prohibition, among the total sample size of study, most selected manufacturing companies out of service and the reaming manufacturing companies not interesting to give evidence, as well as to provide their financial statement. Beyond this Most secondary data sources lack a consistent benchmark (IFRS VS GAAP) for producing financial statements, resulted in disorganized data and unnecessary information.

1.8 ORGANIZATION OF THE PAPER

The paper is organized in five chapters. Chapter one will deal with introduction, statement of the problems, objectives of the study, research hypothesis, delimitation and limitation of the study, significance of study, and organization of the research report. The second chapter presents literature review. Chapter three presents the methodology used for the study and gives a detailed overview of the population, sampling technique, the research design, data source and collection procedures and data analysis procedures, variables choice and research hypothesis, model selection criteria and diagnostic test analysis. Chapter fourth, will deal with data presentation and analysis of the findings of the study. Chapter fifth, will discuss the conclusion and recommendation for the study based on the findings

CHAPTER TWO: LITERATURE REVIEW

2.1 INTRODUCTION

This chapter is to elucidates the general theory and the vital principles of working capital, explain the root and determinant factors of working capital along with profitability, theoretical review and empirical evidence review of working capital plus working capital management.

2.2 THEORETICAL LITERATURE

In this section expressly examine the working capital management theory that has gathered regarding from theory, issue, phenomena, concept.

2.2.1 OVERVIEW OF WORKING CAPITAL

Working capital is means of survival for every business concern. Every business requires working capital for its survival, without adequate working capital the firm may faces a shortage of inputs, whereas excess of it leads to extra cost. So, the quantum of working capital in every business firm should be neither more nor less than what is required (Bhalla, 2014).

Brigham and Ehrhardt (2016) Explain the historical context of the term "working capital," which was originated by an ancient Yankee businessman who would load his carriage with items and then ship it to the market for sale. His horse and carriage were fixed assets, whereas his stock was sold or turned over for a profit and was thus referred to as working capital.

Eugene (2014) describes working capital is the difference between the book value of current assets and current liabilities. Working Capital is another part of the capital which is needed for meeting day to day obligation of the firms. Working capital is a short-term capital which retained in the business in the particular form for less than a year (Leon, 2013))

Working capital consisted by the two basic patterns, current asset holding and current asset financing policies. Working capital or gross working capital refers to current assets used in operations, the term net working capital referred as the variance between current asset and current liabilities. And net operating working capital is defined as the variance between current operating asset and current operating liabilities (Brigham and Ehrhardt, 2016).

Working capital, a financial metric which denotes holding adequate amount of liquidity in the day-to-day firm's operating activity. Working capital is the essence of a business, which measure the firm's performance in short run (Devi, 2018). Working capital is a capital that intended to meet firm's operating activity (Dalayeen, 2017). Working capital is an operating capital which is not financed in the business predominantly for longer than a year (Leon, 2013).

Working capital refers to that part of firm's capital, which is required for financing short term or current asset to carry out day to day expenses. current asset such as cash, marketable security, inventory, and account receivables. working capital also known as revolving or circulating capital or short-term capital, hence funds which are invested in short term assets circling fast and are continually changed into cash and this cash flow out again in exchange for other current assets (Ismail ,2017)

2.2.2 TYPES OF WORKING CAPITAL

There is quite a few distinctive classifications and types of working capital that firm operate with. and where a business fits on the spectrum of working capital types classified by based on concept and periodicity of its requirement.

2.2.2.1 On The Basis of Concept

Generally, there are two concepts of working capital the Balance sheet concept and Operating cycle or circular flow concept. Under the balance sheet concept working capital sort as Gross Working Capital and Net working capital, In the general concept the term working capital refers to the gross working capital and represents the amount of funds invested in current assists. Thus, the gross working capital is the financed capital in the total current assets of the business concern. The net working capital is a specific concept represented by the positive difference between current asset over current liabilities, Net working capital is the excess of current assets over current liabilities during a particular period, negative working capital occurs when the current liabilities more than the current assets and When the current assets exceed over the current liabilities the working capital become positive, Networking capital determines the strength of the business and its liquidity position it means more of the working capital more the liquidity of the firm (Sundas , etal, 2016).

2.2.2.2 On The Basis of Periodicity of Its Requirement

Based on periodicity of its requirement working capital classifies as permanent working capital and variable working capital. Permanent working capital, it acquiring minimum amount of current asset's fund to efficiently perform firms' routine task. Which a firm maintain adequate amount of capital at minimum level during the period. The level of Permanent Capital contingent with the nature of the business. Permanent or Fixed Working Capital will not change regardless of time or volume of sales. Variable Working capital It is the amount of capital required to fulfil seasonal tasks to complete the company's current seasonal needs, as well as for some unique purpose to meet special needs, such as launching a large marketing campaign or conducting research. This kind of working capital goes up and down in accordance to the firm's activity on a regular basis**.** (Sundas, et al, 2016).

2.2.3 COMPONENTS OF WORKING CAPITAL

(Boopathi, 2016) mentions that working capital integrated by various current assets and current liabilities. Current assets: cash on hand, cash at bank, bills receivable sundry debtors' short-term loans advances inventories prepaid expenses accrued income. And current liability; bills payable sundry creditors, outstanding expenses, short-term loans and advances, dividend payable, bank overdraft, provision for taxation. The importance of managing working capital, and then proceeded to a presentation and discussion of the Components of Working Capital Management, which cover cash, accounts receivable, inventory and accounts payable. Working capital management is concerned with the source of the business and daily operations such as cash, receivables, payables, and inventories (Morshed 2020). Working capital management is a fundamental management technique that helps businesses achieve long-term success. Financial managers' responsibilities include cash management, accounts receivable management, accounts payable management, marketable securities management, and accruals management, which require continual supervision from the chief financial officer (Rehana, 2017).

2.2.3.1 Cash management

The goal of cash management is to determine the best amount of cash required for company operations and to invest it in marketable securities that are consistent with the nature of the financial system. Managers devote a significant amount of attention to day-to-day issues

involving working capital decisions. Cash budgeting is a great resource for managers to maintain a certain level of liquidity by calculating the expected cash collections, cash payments, and cash position over a specific timeframe (Muhammad & Ullah ,2012).

Agyemang and Michael (2013), mention that there are several approaches to manage cash, with the Cash Convention Cycle Model focusing on the time between when a company makes a payment and when it gets cash inflows. Receivables Collection Period is the average amount of time required to convert the firm's credit sales every day, it also matches the period between the firm's actual cash expenditure and its own cash receipts. The average period between the procurement of material and labor and the cash payment for them is also known as the Payable Deferral Period.

2.2.3.2 Receivables management

When receivables are managed successfully, it improves the company's current assets, which leads to increase in working capital. Instead, if a company has an excess of receivables, the costs will rise due to the company's money being delayed. As a result, maintaining an appropriate account receivable with a realistic collection period is essential (Rao, & Gaglani, 2014).

According to Boopathi (2016) Sustainable working capital enables the firm to develop and improve its operations, improve liquidity, sustain or raise profitability, and adapt to tough economic situations. However, money may become trapped in the accounts receivable line on the balance sheet all too often, which is something that organizations aiming to manage working capital have frequently disregarded as part of their financial plan.

To study the effects of receivables management, it is critical to differentiate between and profitability and the liberalized credit period. The main different between these two is the change in receivables investment level and expenses associated. Consequently, the financial manager should consider the impact of credit policy in order to manage effectively, manage efficiently, plan appropriately, and evaluate on a regular basis in order to gain maximum profits and enhance turnover (Dr. Smita Rao and Prof. Hetal Gaglan, 2014).

2.2.3.3 Payables management

Accounts payable are represented by the average payment period. It is a component of the cash conversion cycle, and this cycle is used to assess the effectiveness of working capital management. Accounts payable stems that companies usually purchase goods and services from other businesses on credit and record the debt as an account payable. It is the most common type of short-term loan. Therefore, it is an unexpected funding source since it originates spontaneously from routine commercial activities. Credit might be expensive or free. If the vendor declines to give discounts, it is free in the sense that there is no cost to using this credit. While expensive trade credit is any trade credit that is in addition to free trade credit. (Yusuf Aminu and Nasruddin Zainudin, 2015).

2.2.3.4 Inventories management

The Inventory Conversion Period (ICP) is a benchmark for inventory management. The Inventory Conversion Period (ICP) is a component of working capital management, and hence of the cash conversion cycle. stocks, raw materials, work-in-progress, and finished goods, are all included in inventories. These inventory types are major elements of almost all company practices. Raw materials are materials and parts used in the production of a finished product. Work-in-process goods are those in the last phases of manufacturing, whereas completed goods are those that are ready for sale. (C.Boopathi, 2016) (Yusuf Aminu and Nasruddin Zainudin, 2015) also stress that it is important to highlight those two parts of inventory efficiency are critical: first, knowing the quantity of the inventory order, and second, knowing the level at which the order might be made. This choice is largely handled by a crucial model known as the Economic Ordering Quantity model. This model is an empirically based formula or framework that incorporates specific theoretical assumptions in order to strike a balance between sales, carrying costs, fixed costs, and total costs.

2.2.4 IMPORTANCE OF WORKING CAPITAL

Numerous available empirical evidences stated the importance of working capital on the firm's routine business activities, Eugene, et al (2014) discuss the need of working capital is varies from firm to firm. The role of working capital management is to equilibrium the trade-off between liquidity and profitability in order to improve business value. Working Capital is a vital means of the business concern. Every business concern must preserve enough amount

of Working Capital for their routine activity and meet the short-term obligations. A financial manager primary objective is to maximizing shareholder's wealth while by obtaining adequate profit. The profit is mostly consistent with sales, but sales do not result in cash instantly.

The need for working capital can be explained with the help of operating cycle or cash cycle by providing a constant funding in current asset serving daily expenditures such as for Payment of wages and salary, Day-to-day expenses, to Purchase raw materials and spares, and to Provide credit obligations. And also working capital helps to address seasonal or cyclical financing needs, hence most firms' sales on credit base, before receiving cash from their customers they need to finance on purchase of raw materials, good of sales and sales of production (Bhalla, 2014)

2.2.5 DETERMINANTS OF WORKING CAPITAL

Determinants of Working Capital are factors that have a direct influence on the amount invested in current assets and current liabilities. Determining the significant aspects that directly influence working capital, would make managers able to manage working capital efficiently and effectively. hence, Financial managers should be alert on vital factors that affect working capital management (Manoori & Muhammad, 2012).there is no written formulae to regulate the working capital requirement of the firm, factors that determine working capital are different from firm to firm and also time to time Therefore, an analysis of relevant factors should be made in order to determine total investment in working capital (Pandey, 2013).the amount of working capital required by the organizations is determine by the size and nature of business, strategy ,policy, time, production process, technology ,inflation and other controlling factors.

The determinants of working capital management have been studied in various empirical studies. The researcher studied the following factors as determinants of working capital management requirements, as indicated by most empirical studies: nature of the business, liquidity, firm size, the volume of Sales, operating cycle, and leverage.

2.2.5.1 Nature of the business

This is one of the most important elements determining a company's working capital requirements. A manufacturing business, for example, has a longer operational cycle and

spends more in current assets. As a result, it has a higher working capital requirement. A service business, on the other hand, such as a hotel or entertainment center, has a shorter operating cycle since it sells largely in cash and has a smaller working capital requirement (Odi Nwankwo and G. Solomon Osho, 2010).

The working capital of a firm is heavily influenced by the type of the business. If a company has a strict credit policy and only sells products for cash, it may have a minimal amount of working capital (Paramasivan, 2009)

(Nyeadi, Sare, & Aawaar, 2019) discus that higher current liabilities incurred by businesses in order to increase sales can explain the negative relationship between sales growth and working capital. Working capital is defined as current assets minus current liabilities divided by total assets. As a result, if the increase in current liabilities exceeds the increase in current assets as a result of increased sales, low working capital will occur. It can also be influenced by a firm's increased commitment to long-term investments during periods of increased sales. Firms may be encouraged to invest more in long-term positive investments as a result of increased sales, decreasing short-term assets while increasing long-term investments.

2.2.5.2 Liquidity

According to Ismail (2017), if a company wants to take a higher risk for greater earnings or losses, it could lower the amount of its working capital in comparison to its sales.It increases the level of its Working Capital if it wants to improve its liquidity. This approach, on the other hand, is likely to result in lower sales volume and, as a result, lower profitability. As a result, a business must choose between liquidity and profitability when determining its Working Capital needs.

2.2.5.3 Firm size

the cost of working capital investment is lower for bigger organizations than for smaller enterprises because larger corporations have less information asymmetry and consequently lower external financing costs. Furthermore, as compared to smaller enterprises, larger firms have stronger access to financial markets and a greater ability to extend more trade loans, allowing them to spend more in working capital. As a proxy for business size, we utilize the natural logarithm of total assets Ebrahim and Muhamma, (2012).

2.2.5.4 Volume of sales

Ismail (2017) descuse that The volume of Sales is the most significant influence on the amount and components of Working Capital. Current assets are maintained by a company because they are required to support the business operations that result in revenue.The size of Working Capital and the volume of sales are intimately associated; as the volume of sales grows, so does the amount of Working Capital invested in cost of operations, receivables and inventory.

2.2.5.5 Leverage

The information asymmetry between creditors and shareholders increases as the firm's debt grows, and as a result, the cost of external financing rises (Jensen & Meckling, 1976).More leveraged organizations must maintain their working capital low, according to (Caballero et al., 2009), since the cost of money spent in working capital is higher for companies with more leverage. As a proxy for leverage, we utilize the total debt to total assets ratio. (Manoori & Muhammad, 2012).

2.2.6 WORKING CAPITAL MANAGEMENT

The financial management principle lay down that adequately funding working capital improves firm’s performance in term of cash flow and profitability. On the other hand, the performance of the firm declines when inadequately invest working capital (Edupristine, 2018).

Working capital management is a managerial practice of controlling, organizing, and planning the components of working capital like cash, bank balance inventory, receivables, payables, overdraft, and short-term loans working capital management investing adequate fund on difference between the short term assets and short term liabilities, working capital management entails financial managers to decide what amount of cash, inventories, account receivables and other liquid assets the firm will hold in day to day routine tasks (Eugene, et al 2014).

Working capital management is a management method that ensures a balance between reduce risk and increase the income from assets. working capital management like long-term financial decisions affects the risk and profitability of a firm. (Leon, 2013)). The core aim of working capital management is to maximize the value of firms by managing the current assets,

hence securing balance between return on investment and cost of capital employed (Kolp, 1983). Working capital management is the method of generating the most efficient and effective use of current assets and liabilities in order to reduce total costs. According to Weston and Brigham (2005) Working capital generally stands a positive deference between current assets and current liabilities. Hence, working capital management denotes that all aspects of managing current assets and current liabilities.

2.2.7 SIGNIFICANCE OF WORKING CAPITAL MANAGEMENT

Working capital management has an significant impact on the success of any business, Gerald and Shaningaw (2019) Descuss that working capital management provides the assurances of business survival and continuity by enhancing liquidity and profitability of the firm. Working capital management importance for the expansion of investment portfolio,increased profitablity, for the allocation of resources,to ensure the availablity of sufficent resource,to maintain a good relation with supplier and other creditors,to avoid underutlization of resources, and to improves overall efficency of a company (Brigham and Ehrhardt, 2016).

2.2.8 WORKING CAPITAL CYCLE

The Working Capital cycle is the time it takes to convert net current assets and current liabilities into cash. The longer the cycle continues, the more money a firm spends on Working Capital without making a profit. As a result, companies try to shorten their Working Capital cycle by collecting receivables faster and delaying payments. In order to decrease net working capital and optimize free cash flow, a positive Working Capital cycle balances cashiflow and cash outflows (Nguyen et al 2020).

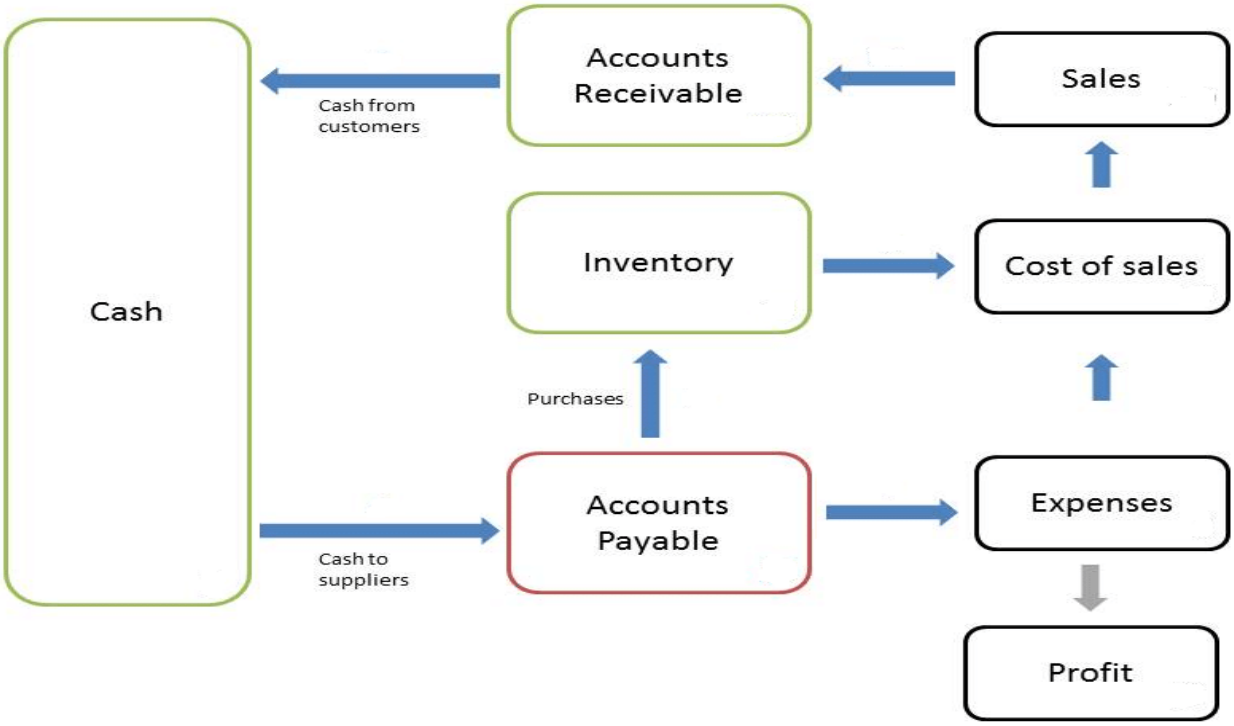
A company's Working Capital cycle is 30 days if it pays its suppliers in 30 days but takes 60 days to recover receivables. The 30-day cycle is generally funded by a bank operating line, and the 30-day cycle is usually funded through a bank operating line, and the 30-day cycle is usually funded through a bank operating line. This 30-day cycle is often funded with a bank operating line, and the interest on this financing is a carrying cost that lowers the company's profitability. Growing a firm requires cash, and the most cost-effective method to grow is to reduce the Working Capital cycle. Sophisticated purchasers regularly examine a target's

Working Capital cycle since it gives them an indication of the management's ability to manage the balance sheet and generate free cash flows (Ismail, 2017).

Managing of the working capital cycle there are three core concerns; liquidity, risk management, and efficiency. Liquidity and efficiency concerns are related to the correlation between working capital and timetable aspects, and management of receivables, inventory, and payables.risk management attempt to provide comprehensive risk solutions. Including operational, liquidity, information reporting and credit (sagner, 2014).

The business has both current assets and current liabilities at any given time. In a business, current assets and current liabilities move around like an electric current. "However, working capital serves the same function in the firm as the heart does in the human body." Working capital funds are generated and distributed within the company. The business will become inactive if and when this circulation stops. Working capital is referred to as circulating capital because it circulates in the firm in the same way that blood does in the human body (Boopathi, 2016).

Figure 2.1 Working capital cycle

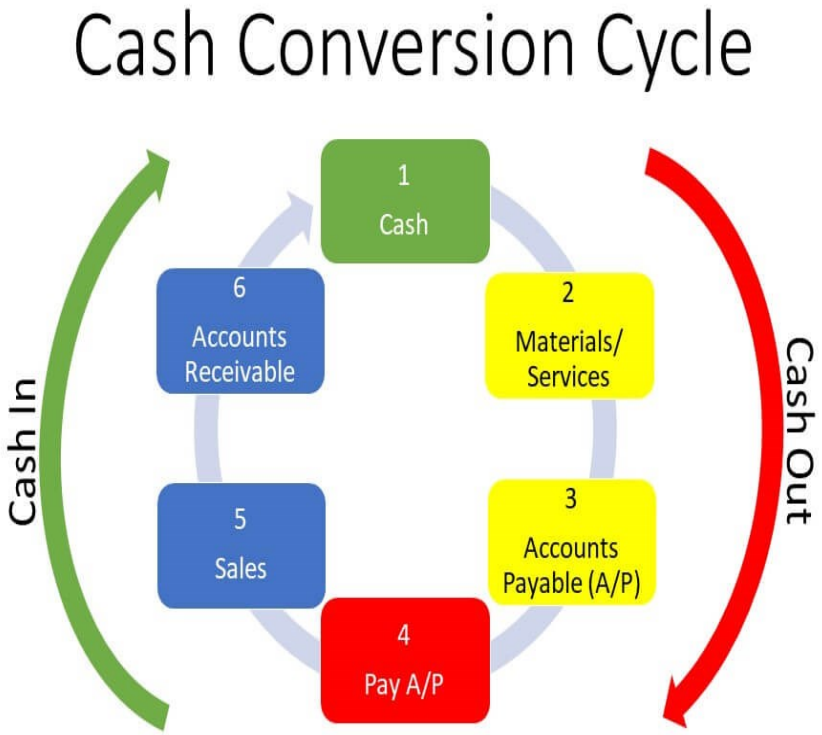


Source: https://www.researchgate.net/

2.2.9 CASH CONVERSION CYCLE

(Eugene, et al 2014). have shown that the interval between when a company buys raw materials from suppliers and when it receives money from a client is referred to as the firm's cash conversion cycle. The accounts receivable period and inventory is the total time period beginning with the initial purchase of raw materials and ending with payment collected from customers: initially, raw materials must be purchased from their suppliers, raw materials must be mass-produced or processed, goods must be sold, and payment must be collected. Moreover, the time it takes to pay its invoices reduces the net time the firm is out of cash.

Figure 2.2 Cash conversion cycle



Source: https://www.researchgate.net/

2.2.10 WORKING CAPITAL MANAGEMENT AND PROFITABILITY

Working capital management is a managerial accounting approach used by a firm to monitor and utilize the two components of working capital, current assets, and current liabilities, to ensure the company's most financially effective operation (Brigham and Ehrhardt, 2016). hence the fundamental purpose of working capital management at a firm is to manage the short-term funds required for a firm's day-to-day business operations. For a continuous, ongoing business and sales activities, the firm requires an effective working capital management policy (Ajay K 2015).

2.2.11 MEASUREMENT OF WORKING CAPITAL AND PROFITABILITY

The profit of a company is measured by subtracting the expenditure involved in creating that income from the company's revenue, therefore, profitability is measured in terms of revenue and expenses. (Owolabi & Alu, 2012; Ricci& Vito, 2000; and Otekunrin et al., 2019) discuses that companies' profitability is measured using return on assets (ROA), return on investment (ROI), return on equity (ROE), and profit before interest and tax (PBIT).

The Cash Conversion Cycle (CCC) was employed as a comprehensive measure of working capital management efficiency. It is calculated as the sum of the Receivables Collection Period (RCP) plus the Inventory Conversion Period (ICP) minus the Payment Deferral Period (PDP) (Manoori and Muhammad, 2012).

2.2.12 WORKING CAPITAL MANAGEMENT AND POLICY

According to Mathur (2003) and Paramasivan (2009), Working capital policy may be split into three categories: conservative policy, aggressive policy, and moderate policy.

2.2.12.1 Conservative working capital policy

In order to reduce the risks of out-of-stock and sales loss, the firm may opt to have a large cash and bank balance in current account or invest in easily marketable assets while maintaining greater raw material and completed goods inventories. Mathur (2003).A risk-free working capital policy is a conservative working capital policy. Most businesses use this strategy to keep a sufficient number of current assets and, as a result, a greater level of working capital. Long-term sources of money such as debentures, equities, and term loans finance the

majority of working capital. As a result, the risk associated with short-term funding is greatly reduced (Paramasivan, 2009).

2.2.12.2 Aggressive working capital policy

It is a high-risk, high-profit strategy that involves maintaining a low level of aggressive working capital against a high level of sales in a company concern for a certain length of time (Paramasivan, 2009). Working capital policies that are either aggressive or too restrictive can result in disproportionate losses due to stock outs and the resulting loss of production, as well as a loss of sales and a detrimental impact on the company's profitability Mathur (2003).

2.2.12.3 Moderate policy working capital policy

Moderate working capital policy refers to the moderate level of Working Capital maintainance according to moderate level of sales.it balance between conservative and aggressive working capital policy (Paramasivan, 2009). the level of working capital will be moderate, neither too high nor too low, but just right. Mathur (2003).

A company's working capital policy relates to the amount of money it invests in current assets in order to meet its sales goals. The policies that the firm chooses can have an impact on the firm's profitability. A company can manage working capital in one of two policies, conservative policy, by minimizing the ratio of current assets to total assets, and aggressive policy, by maintaining a high level of current liabilities versus the total liabilities (Taghizadeh Khanqah Vahid, Akbari Khosroshahi Mohsen,Ebrati Mohammadreza, 2012), The current asset to total assets ratio is used to measure working capital policy. Working capital policy is aggressive if the ratio is low. The current liability to total asset ratio, on the other hand, is used. The higher the ratio, the more conservative the policy is. Capital is reduced in current assets versus long-term investment as a result of aggressive asset management policies. This sort of company is expected to be more profitable, but also to be riskier. A business policy that is cautious and invests a large proportion of capital in liquidity assets, but at the expense of profitability, is an option (Zhao Beia and W. Wijewardana, 2012).In terms of overall working capital policy, the majority of Ethiopian manufacturing companies working capital policies is formal and situational which overseen by financial managers who conduct annual working capital reviews. When compared to other financial management decisions, working capital management lasting for a large amount of time. (N.T. Tesfa & Dr. A.S. Chawla, 2017).

2.3 EMPIRICAL LITERATURE

this section is concentrating on critical review previous research result findings on effect of working capital management on the profitability. Working capital management and the role it plays in improving financial performance is still a hot topic among researchers. Numerous available literatures research the effect of working capital management on the profitability from different views and in various sectors, the researcher selectively focused on study's which encompass the relation and impact between working capital management and profitability on manufacturing sector.

Mbawuni et al (2016) studid the influence of working capital management on the profitability of petroleum retail companies in Ghana (2008-2013). The findings show that the businesses had a positive net working capital and a positive networking capital to total assets ratio. Average days payable is the most essential working capital mangment component that have a posetive relationsheep with the firm's profitability, as measured by return on assets. The remaining WCM components, such as cash conversion cycle, average days receivables, and average days inventory, have negetive relationship with profitability.

Afrifa (2016) studies The impact of cash flow on the relationship between net working capital and company profitablity the period between 2004 to 2013, the study used imbalanced panel data regression analysis on a sample of 6,926 non-financial small and medium firms in the United Kingdom.the results show demonstrates that the relationship between Net working capital and profitability is concave; however, when the interaction effects of cash flow availability are taken into account, the relationship becomes convex.This demonstrates the significance of cash flow in working capital management policy. internally designed funds have an influence on a company's working capital decisions thus, when the companie faces cash flow shortages, it should try to reduce their working capital investment. On either hand, it supports the idea that companies with excess cash flow should raise working capital investment in order to enhance profitability.

(Devi, 2018) examined the influence of working capital on Maruti Suzuki India Limited's profitability from 2012 to 2016. The research is based on secondary data gathered from the company's published annual reports, books, journals, magazines, newspapers, and websites. The study shows that during the study period, there was a negative relationship between

profitability and the company's working capital. During the study period, the company's performance has improved dramatically.

Mahato & Jagannathan (2016) carried out a study on The impact of working capital management on the telecom industry's profitability on the National Stock Exchange of India between 2010 and 2015. The research was conducted based on secondary data collected from eight telecom companies listed. Both dependent and independent variables have been used in this study. Return on Assets is used as a proxy for working capital management, as is the Average Collection Period, Inventory Conversion Period, Average Payment Period, and Cash Conversion Cycle. Control variables are Debt Ratio, Current Ratio, Sales Growth, and Firm Size. to determine all of these variables According to the results of the regration analysis, Return on Assets has a negative relationship with Average Collection Period, Inventory Conversion Period,Cash Conversion Cycle. Control, and Current ratio, but a positive relationship with Average Payment Period, Firm size , and Debt ratio.

Marobhe (2014), Malik and Bukhari (2014),) Azeez et al. (2016), and Sharma and Kumar (2011) conclude that Working capital management, as determined by the length of the cash conversion cycle, was found to be positively related to firm profitability. Despite popular belief, a positive relationship between the cash conversion cycle and company profitability indicates that companies may increase their profitability by maintaining greater levels of Working capital and growing their cash conversion cycle. This positive association also demonstrates that organizations with high levels of performance are less inclined to control their working capital.

Working capital management is concerned with the source of the business and daily operations such as cash, receivables, payables, and inventories (Morshed 2020). Ismail (2017) states working capital management ensures the business liquidty in order to meet its operating expenses and short-term debt obligations.To manage working capital the management use a combination of policies and techniquse, the policies aim at managing the current assets and current liablity such as cash management, invontory management, debtor management, and short term financing.working capital management is technique of lessen total cost by enshuring the effectivenes and efficiency of all the components of current assets and current liabilities.there are three techniques for assesing the working capital requirments.working capital management consernd with the essential operation and busineses routintransactions

of working capital management componts such as cash, receivables, account payables and inventorys (Morshed, 2020).

Adamu & Batra (2018) made a study with the objective of examining Factors that influence manufacturing companies' working capital management in Ethiopia. The researcher used panel data year between 2006 to 2015. ordinary least square regression and Correlation analysis were employed to determine how working capital affects The findings revealed that, of the factors investigated, only the inflation rate had a minimal impact on the variance of working capital management in large manufacturing companies in Ethiopia. While liquidity, sales growth, return on assets, company's market power and operating cycle have a positive relationship with working capital management, capital expenditure, gross and domestic product rate, debt ratio, and firm size have a negative relationship. The industrial category of the company also has a significant impact on working capital management. Thus, managers of major manufacturing companies in Ethiopia may improve their firm's financial profitability by taking these variables into account throughout the working capital management process.

Tesfa & Chawla (2017) investigate the working capital management practices of Ethiopian manufacturing firms and compare them to prior studies.The study was conducted on a sample of 144 manufacturing firms in Ethiopia, which were chosen using a two-stage stratified random selection approach. The findings of the survey were analyzed and then provided in tables with explanations in three sections: the first portion dealt with working capital policy issues,the second with overall working capital management, and the third with specialized working capital component management.

The findings revealed that Ethiopian manufacturing companies have formal and situational working capital policies that are overseen by finance managers who conduct a working capital review once a year. The study also revealed that a significant amount of time is devoted to the management of working capital through the use of various managerial strategies and procedures.

Dinka (2018) examine the working capital management methods of small businesses in South West Shoa Zone towns. Primary sources of data were employed to meet the study's goals. A proportional stratified sampling strategy was applied in this study. Questionnaires were provided to 425 local firms from a total population of 2,939. Interviews were also conducted with managers from the South West Shoa Zone's trade and industry office. The results revealed

that the majority of small business owners do not keep track of their cash flow, making it difficult to make sound financial decisions. the majority of small company owners do not have a cash budget, making it harder to make sound financial decisions. The majority of small business owners invested their excess cash from regular operations, and maintain the extra revenue earned from everyday operations in their bank accounts. Furthermore, due to a lack of information and awareness, the majority of small company owners never conducted formal credit inquiries prior to extending credit to customers.

The impact of working capital management on the profitability of food complex manufacturing enterprises operating in and around Addis Ababa is studied by Seyoum, Tesfaye, and et al (2016). The data for this study was gathered from the yearly financial statements of ten food complex manufacturing companies from 2009 to 2013 and analyzed using descriptive statistics. Cash Conversion Cycle, Account Receivable Collection Period, Days Payables Outstanding, Inventory Turnover Period, Quick Assets Ratio, and Current Ratio were used to assess working capital management, with Return on Assets serving as a proxy for profitability. The findings showed that, as a metric of working capital management, the Cash Conversion Cycle had a negative influence on profitability. There was also a significant negative relationship between Receivables Collection Period, Inventory Conversion Period, and Payment Deferral Period, and profitability. This suggests that organizations might increase their profitability by reducing of time between receivables, inventories, and payables.Kasahun (2020) carried out a study on the impact of working capital management on manufacturing business profitability, case of selected sole proprietorship manufacturing enterprises in Adama City of ten sole proprietorship manufacturing enterprises the period between 2007 to 2012. the researcher used a purposive selection strategy to collect quantitative data from financial records The data were analyzed using descriptive statistics and balanced fixed effect panel regression. The study's final findings revealed that Profitability was assessed in terms of net operating profit, average payment period has a substantial positive impact on profitability, but sales growth and business size had a large negative impact on profitability. According to the findings, companies must enhance their collection and payment policies. Instead of focusing just on increasing sales, companies may increase their profitability by identifying and focussing on target markets.

Geddafa & Abera (2020). Examine the impact of working capital management on the profitability of small businesses in Chiro, West Hararghe, Ethiopia. key informant interviews

and Semi-structured questionnaire surveys were used to acquire primary data. Cross-sectional data were acquired from 15 selected small enterprises using a non-probabilistic purposive sampling approach. Descriptive statistics were used to examine the cash conversion cycle on return on asset , accounts receivable period, accounts payable period, and the impact of the inventory conversion period.

The study results show that there is a positive relationship between payable and accounts receivable periods and the profitability of a small firm. But, the cash conversion cycle and the inventory conversion duration have a significant negative influence on profitability.

2.4 RESEARCH GAP

Even though many researchers have provided empirical and descriptive evidence on working capital management practices, there appear to be certain gaps in the literature that need to be filled. Working capital management has an influence on a firm's profitability, liquidity, and performance, according to the literature review. Even though the literature review revealed that working capital management has an impact on a firm's profitability, liquidity, and performance, there is still ambiguity about the study variables, hypotheses, and effect size measures that could be used as proxies for working capital management in general.

Working capital has a significant influence on profitability, according to the empirical study stated above. Seyoum et al (2016) found out that there is a negative relationship between RCP, ICP,& PDP, and profitability. Alternatively, Geddafa & Abera (2020) revealed that PDP, and RCP have a positive relationship with profitability. Likewise, Mahato and Jagannathan (2016) revealed that Return on Assets has a negative association with Average Collection Period, Inventory Conversion Period, Cash Conversion Cycle, Control, and Current ratio, but a positive link with Average Payment Period, Firm Size, and Debt Ratio.

Marobhe (2014), Malik and Bukhari (2014),) Azeez et al. (2016) conclude that cash conversion cycle had a significant a positive relation with a firm profitability, Alternatively, Seyoum, Mahato & Jagannathan (2016).finding reveld that there is negative relationsheep between cash conversion cycle and firm profitability

Consistent with the empirical evidence, there are no reliable findings about the impact of working capital management on profitability. Due to the research' inconclusiveness, due to

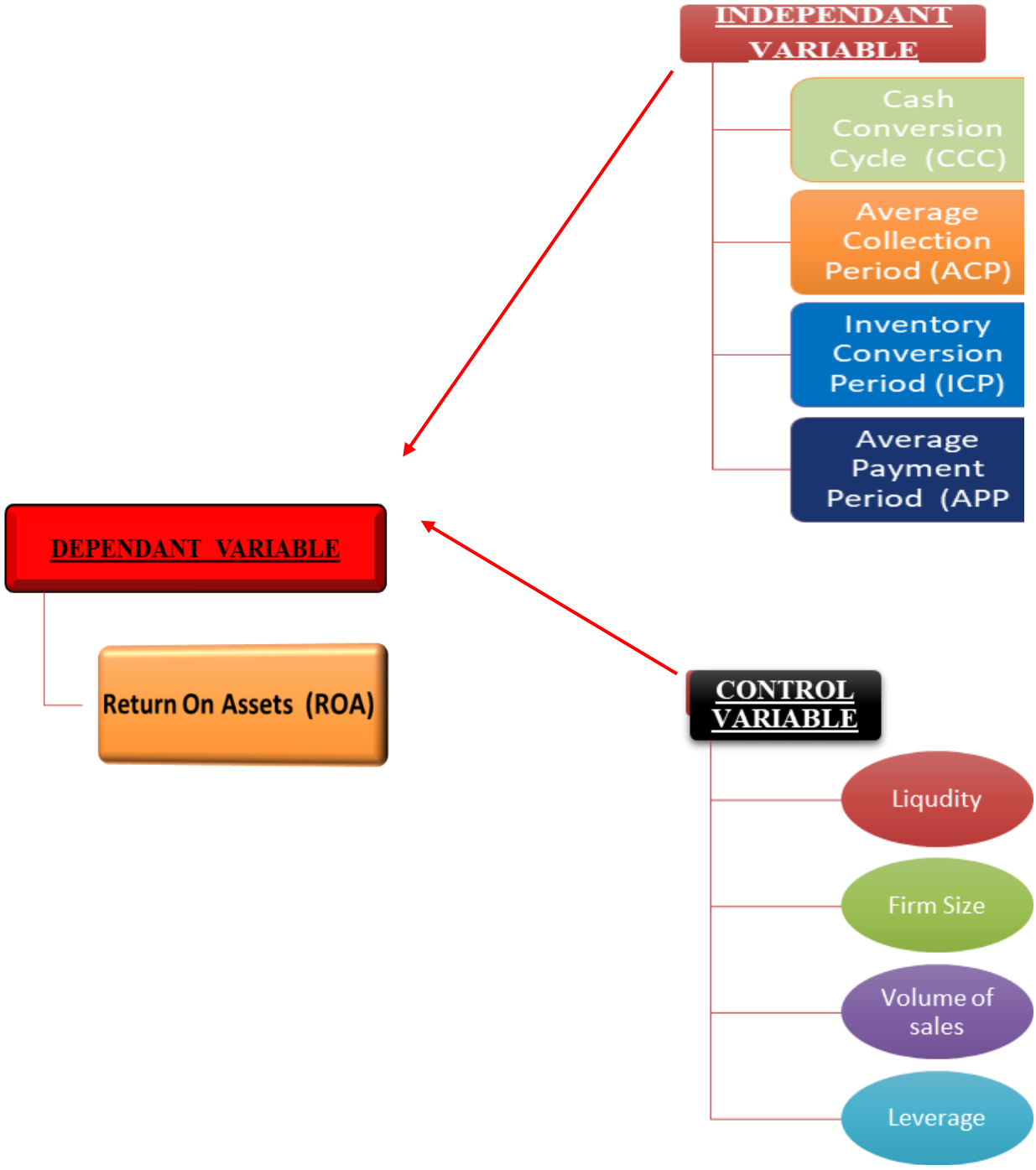
heterogeneity in findings and measures, due to incompetence to include all essential and important variables required to determine both working capital and profitability.

Some empirical research on the influence of working capital management on company profitability have been conducted in Ethiopia. According to, Abenet (2016)study on the influence of working capital management on firm profitability in eastern Ethiopian manufacturing companies, lower profitability may be linked with and derived from longer receivable and inventory periods. Furthermore, Tirngo (2013) found that the impact of working capital management on the profitability of Micro and Small Enterprises in Bahir Dar has a strong positive correlation with a payable period, while receivables period, inventory period, and cash conversion cycle have a negative and significant correlation with profitability.

However, while there have been some investigations into the impact of working capital management on the performance of firms in different manufacturing sectors with differing perspectives, there has been no empirical study done on the impact of working capital management on the performance of manufacturing companies targeting medium tax payers. Therefore, this study included the most relevant variables and provides useful support for a better understanding of the influence of working capital management on the profitability of manufacturing share businesses in Ethiopia, with a focus on medium tax payers.Furthermore, the study used non-probability purposive sampling approach to account for population variability, resulting in substantial comprehensiveness across all manufacturing share enterprises in ethiopia.

2.5 CONCEPTUAL FRAMEWORK

Figure 2.3 Conceptual framework



Source: researcher's Design based on Reviewed Literature

CHAPTER THREE: RESEARCH METHOD

3.1 INTRODUCTION

Chapter two describes the theoretical and empirical literature evidence of working capital management by different authors, however, this chapter retorted How the relevant data and how it was collected helped to prove the effect of working capital management on the profitability of manufacturing companies. It covers the research design, research approach, research instrument, data presentation, data analysis method, and model specifications.

3.2 RESEARCH DESIGN

A research design is a strategy for obtaining data for an assessment or evaluation that includes determining the data collection method, the instruments to be used, how the instruments will be administered, and how the data will be collected and evaluated. Explanatory research is responsible for determining why events occur by identifying cause-effect correlations. Its findings and conclusions represent the most in-depth degree of knowledge. Explanatory studies, in this sense, can deal with the identification of causes and consequences through hypothesis testing (Kothari, 2010). According to Carrie (2007) When just a limited amount of information is available, explanatory research is used to investigate why something occurs. It can help you to understand more about a topic, figure out how or why something happens, and predict what will happen next.

The main purpose of this research is to determine the effect of working capital management on the Profitability of manufacturing company for the period between year 2017 to year 2021. The study employed an explanatory research approach with secondary data and a quantitative research design.

3.3 RESEARCH APPROACHES

Researchers often use the qualitative approach to answer research questions that require textual data, the quantitative approach to answer research questions that require numerical data, and the mixed methodologies approach to answer research questions that require both textual and numerical data (Carrie Williams, 2007). According to Creswell (2013) The goal of researchers who use quantitative research study is to establish a relationship between the independent variable and dependent variable in a population. Quantitative research designs can

be descriptive or experimental, a relationship between variables is established in a descriptive study, and causality is established in an experimental study. Quantitative research is based on data, reasoning, and a neutral viewpoint. Quantitative research emphasizes quantifiable and stable data, as well as thorough, convergent reasoning over divergent thinking. based on the nature and sort of source of data the researcher conducted a quantitative research approach.

3.4 DATA SOURCE AND COLLECTION PROCEDURE

The study is employed based on secondary sources of data, data were collected from selected medium taxpayers of manufacturing firms' financial statements. these data comprise audited balance sheets and income statements from the sampled firms' yearly financial statements, The data was collected for a period of five years that covers from 2017 to 2021**.**

3.5 TARGET POPULATION

A population refers to the entire set of elements from which the researcher draws inferences. The population inference is made based on the availability of the data required for the study, as well as the fact that most manufacturing enterprises are located in the branch offices of medium taxpayers (Sagufta & Jayanta, 2021).

A population is a collection of all potential observations of a certain characteristic of interest, whereas a sample is a collection of observations that reflect only a small percentage of the population. The manufacturers which are medium taxpayers in the country are the target group for this study.

The Ministry of Revenues (MOR) has set the threshold for entering the medium taxpayer category at enterprises with annual sales of 3 million to 100 million birr. According to the Ministry of Revenues' medium taxpayers' office (MTO), Ethiopia has over 3800 medium taxpayers' as of march 2022. (MOR, 2020). The manufacturing sectors are the subject of this research. As a result, there were 134 medium taxpayers manufacturing industries in Ethiopia, who have been eligible and used in the study. besides the sample was taken from the Ministry of Revenues' population database.

3.6 SAMPLE AND SAMPLING TECHNIQUE

The study's entire population is confined to manufacturing industry in Ethiopia. In this scenario, according to data from the Ministry of Revenue's Medium Taxpayers' Office all medium taxpayer manufacturing enterprises operating businesses in Ethiopia as of 2021 have been included. in order to include in the sample, the sampling technique was based on the following conditions.

The status of 'share companies' that were medium taxpayers was the first criterion employed in choosing sample units to be included in the study. Availability of financial statement data for the study period of 2017-2021 was the researcher's second level sample criterion in selecting sample units to be included in the study.

The sampling approach used in this study was a non-probability purposive sampling approach based on the researcher's judgment. Since The availability of reliable data for the study is the reason for employing this sampling approach. most taxpayers have converted the finance standard system from GAAP to IFRS, while some have yet to convert. As a result, most available secondary data sources do not have a common benchmark and to produce financial statements, which makes the available data jumbled and provides irrelevant information.

The researcher attempted to make the sample representative of Ethiopia's manufacturing businesses of medium taxpayers.

3.7 OPERATIONALIZATION OF THE VARIABLES

The choice of explanatory factors in this study was based on various theories associated to working capital management and profitability, and additional variables applied in previous studies. These variables are classified as dependent, independent, or control.

3.7.1 DEPENDENT VARIABLES

Dependent variables are variables that are used to assess a firm's profitability. Profitability is measured by return on assets (ROA) to examine the influence of working capital components on the profitability of Ethiopian manufacturing firms' is a frequently used financial metric for determining the degree and intensity of returns provided by a company's total assets. ROA was selected as a dependent variable in this study because net profit in proportion to the firm asset

base is a solid technique to measure the degree of returns on investments made in the company (Brigham and Ehrhardt, 2016). and ROA computed as follows:

$$ROA = \frac{Net\ income}{Total\ Asset}$$

3.7.2 INDEPENDENT VARIABLES

Independent Variables: Cash Conversion Cycle (CCC), Average Collection Period (ACP), Inventory Conversion Period (ICP), Average Payment Period (APP), are all working capital components which used as independent variable to measure the impact on firms' profitability.

3.7.2.1 Cash Conversion Cycle (CCC)

cash conversion cycle (CCC) is a method used to assess how long it takes a firm to convert its inventory and other resources into cash flows from sale (Edupristine, 2018).It is measured as follows:

$$Cash\ Conversion\ Cycle = Average\ Collection\ Period + Inventory\ Conversion\ Period - Average\ Payable\ Period$$

3.7.2.2 Average collection Period (ACP)

(Brigham and Ehrhardt, 2016) stats that the average collection period is the number of days it takes for a company to collect and convert its accounts receivable into cash. A business's outstanding receivables are compared to its total sales throughout the accounts receivable collection period. This comparison is used to determine how long it takes customers to pay a vendor. It is measured as follows:

Average collection Period (ACP) = (Average Accounts Receivables / Sales) X 365days

3.7.2.3 Inventory Conversion Period (ICP)

The inventory conversion period is the amount of time it takes to acquire materials for a product, manufacture it, and sell it. This is the timespan in which a firm must invest cash while transforming materials into a sale (Edupristine, 2018) .it computed as follow:

Inventory Conversion Period (ICP)= (Inventory / Cost of goods sold) X 365days

3.7.2.4 Average Payable Period (APP)

Average payment period (APP) is a financial measure that calculates the average number of days it takes a company to pay its suppliers for credit purchases. APP is the time it takes a firm to pay off its credit accounts payable (C.Boopathi, 2016) . It is measured as follows:

Average Payable Period (APP) = (Accounts Payable / Cost of goods sold) X 365 days

3.7.3 CONTROL VARIABLES

Available empirical evidence on Working capital management study frequently uses various control variables that have an influence on company profitability in order to have a sound analysis of the impact of working capital management on firm profitability. According to (Ebrahim and Joriah, 2012), (Nyeadi, Sare,& Aawaar, 2019) and (Ismail, 2017), briefly discus about the determinant of working capital management, and its relation sheep with profitability of a business, tin accordance with available literatures the researcher selects the most relevant control variable which have significant impact on the title of research.

3.7.3.1 Liquidity (LQ)

Liquidity ratios use indicators including the current ratio, quick ratio, and operating cash flow ratio to determine a company's ability to pay term liabilities of safety.in this studies the researcher chooses current ratio formula as a liquidity measure ratio.

Current Ratio (CR) = Current Assets/ Current Liabilities

3.7.3.2 Leverage (LV)

The debt ratio that measures how much of a company's total assets are financed by its debtors. It symbolizes a company's leverage. A higher debt ratio figure indicates that the business is more leveraged and has more financial leverage. Greater leverage indicates a greater cost of borrowing working capital.

Leverage = Total Debt / Total Asset

3.7.3.3 The volume of sales (VS)

The sales growth rate indicates how quickly a company may increase revenue from sales over a set period of time. Multiply the average price per product or service sold by the quantity of products or services sold to get the total sales value.

The volume of sales (VS) = [(current year sales-last year sales) /last year sales]

3.7.3.4 Firm size (FS)

FS is measured by the natural logarithm of sales, because the initial value of total sales may bias the study because sales vary from business to company, making the data more comparable Kouser, Rehana et al. (2011).

The total assets controlled by a company determines the size of the company. Large firms benefit from economies of scale in their operations, better access to capital, and more negotiating power with both suppliers and consumers. Large companies often have more access to external finance sources, both long- and short-term, and at a lesser cost (Manoori and Muhammad, 2012). Dang, et al. (2017) argued that the cost of working capital investment is lower for larger firms than for smaller firms because larger firms have less information asymmetry and consequently lower external financing costs. Furthermore, as compared to smaller firms, larger firms have stronger access to financial markets and a greater ability to extend more trade loans, allowing them to spend more in working capital. Take a glance at the working capital of a set of companies can reveal some of the reasons why larger companies are more efficient, as well as whether there are any positive relationships between the two. As a proxy for business size, the researcher’s employ the natural logarithm of total assets.

Table 3.1 summary of Description of variables

Variable	Description of Variable	Formula	Portrayal	Measure
Return on assets (ROA)	Dependent	$= \frac{\text{Net Income}}{\text{Total Asset}}$	Profitability	%
Cash Conversion Cycle (CCC)	Independent	= (ACP+ICP)-APP	Firms Efficiency in Working capital management	Days
Average Collection Period (ACP)	Independent	$= \frac{\text{Account Receivable}}{\text{Sales}} * 365$	Firms Efficiency in Receivable Management	Days
Inventory Conversion Period (ICP),	Independent	$= \frac{\text{Inventory}}{\text{Cost of goods sold}} * 365$	Firms Efficiency in Inventory Management	Days
Average Payment Period (APP),	Independent	$= \frac{\text{Account Payable}}{\text{Purchase}} * 365$	Firms Creditworthiness	Days
Liquidity (LQ)	Control	$= \frac{\text{Current Asset}}{\text{Current Liabilities}}$	Ability to pay short-term obligations	Ratio
Firm size (FS)	Control	natural logarithm of total Asset	Cost of working capital investment	%
The volume of sales (VS)	Control	$= \frac{\text{Current year sales- Last year sales}}{\text{Last year sales}}$	Firms Progress in Sales	%
Leverage (LV)	Control	$= \frac{\text{Total Debt}}{\text{Total Asset}}$	Ability to pay Long-term obligations	Ratio

Source: researcher's Design based on Reviewed Literature

3.8 DATA ANALYSIS TECHNIQUE

First, the data for this study is gathered from medium tax payers manufacturing companies' financial statements. Following that, the collected results is reorganized, modified, and computed to provide the entire data set required for this study. The collected data is then analyzed using E-views. The final step is to interpret the output of E-view version 8.

3.9 MODEL SPECIFICATIONS

For regression analysis, the pooled ordinary least squares model was employed, and panel data points were joined to determine the causal relationship between the profitability variable and the study's independent variables.

3.9.1 GENERAL REGRESSION MODEL

The model developed by (Otekunrin et al. 2021) was used to study the impact of working capital management on the profitability of manufacturing companies in Ethiopia. The following equation will be used to analyze the link between working capital management and profitability:

$$ROA_{it} = \alpha + \beta_1(CCC)_{it} + \beta_2(ACP)it + \beta_3(ICP)_{it} + \beta_4(APP)it + \beta_5(LQ)_{it} + \beta_6(FS)_{it} + \beta_7(VS)_{it} + \beta_8(LV)_{it} + \varepsilon_t$$

Where:

ROA_{it} = Return on Asset of firm $_i$ at time

t = time = 1,2…….5 years (from year 2017 to 2021)

α= Constant term for the independent variables β= Regression model coefficient

ε = the error term

CCC = Cash Conversion Cycle

ACP = Average Collection Period

ICP = Inventory Conversion Period

APP = Average Payment Period

LQ = Liquidity

FS = Firm size,

VS =The volume of sales

LV = Leverage.

Source: Otekunrin et al. 2021

3.9.2 SPECIFIC REGRESSION MODEL

Multiple regression models were conducted, one for each variable and one for each sample company. When the above generic model is transformed to the study's specific variables, the following regression equations were used to determine the influence of working capital management on manufacturing companies' profitability.

- **Model Specification (I) regressed for cash conversion cycle**

Model 1: $ROA_{it} = \beta 0 + \beta 1(CCC)_{it} + \beta(LQ)_{it} + \beta(FS)_{it} + \beta(VS)_{it} + \beta(LV)_{it} + \varepsilon_t$

- **Model Specification (II) regressed for Average Collection period**

Model 2: $ROA_{it} = \beta 0 + \beta 1(ACP_{it}) + \beta(LQ)_{it} + \beta(FS)_{it} + \beta(VS)_{it} + \beta(LV)_{it} + \varepsilon_t$

- **Model Specification (III) regressed for period Inventory Conversion Period**

Model 3: $ROA_{it} = \beta 0 + \beta 1(ICP_{it}) + \beta(LQ)_{it} + \beta(FS)_{it} + \beta(VS)_{it} + \beta(LV)_{it} + \varepsilon_t$

- **Model Specification (IV) regressed for Average payable period**

Model 4: $ROA_{it} = \beta 0 + \beta 1(APP_{it}) + \beta(LQ)_{it} + \beta(FS)_{it} + \beta(VS)_{it} + \beta(LV)_{it} + \varepsilon_t$

In the first regression model, the CCC has been regressed against the ROA as a measure of profitability. In the second regression model, the ACP has been regressed against the ROA as a measure of profitability. The third regression model involves a regression of the ICP against the ROA as a measure of profitability. In the fourth regression model, the APP is regressed against the ROA as a measure of profitability.

3.10 ANALYTICAL MODEL

The study employed regression analysis to determine the impact of working capital management on profitability by analyzing the impact of a unit change in each explanatory variable on profitability. The study's dependent variable is Return on Asset (ROA), whereas the independent factors are Cash Conversion Cycle (CCC), Average Collection Period (ACP), Inventory Conversion Period (ICP), Average Payment Period (APP), and profitability. and the control variable are Nature of the business, liquidity, Firm size, operating cycle, The volume of sales, and leverage.

The technique employed in each model in this study is chosen using the Correlated Random Effects-Hausman test. The Hausman test determines if the unobservable heterogeneity term is linked with regressors while assuming that regressors are uncorrelated with the disturbance term in each period. The null hypothesis for this test is that the unobservable heterogeneity term is not correlated or that a random effect model with independent variables is acceptable. If the null hypothesis is rejected, the Fixed Effects approach is used. The simplest forms of fixed effects models enable the regression model's intercept to vary cross-sectionally. To assess if the fixed effects are required, this study used the Hausman Test to perform a redundant fixed effects test as advised by (Chudik & Pesaran 2013).

The null hypothesis for this test is that the random effect model is inappropriate; the alternative hypothesis would be that the fixed effect model is acceptable; and the null hypothesis should be rejected if the p-value is less than the significance threshold of 5%. Otherwise, the null hypothesis should not be rejected. According to the results, the study will use a fixed effects model.

Table 3.2 Redundant fixed effect test

Model 1: ROA C CCC LQ LV VS FS

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	40.892542	5	0.0000

Model 2: ROA C ACP LQ LV VS FS

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	38.450043	5	0.0000

Model 3: ROA C ICP LQ LV VS FS

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	45.569930	5	0.0000

Model 4: ROA C APP LQ LV VS FS

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	48.577940	5	0.0000

Source: E-Views regeation results and author's computation 2017-2021

CHAPTER FOUR: DATA ANALYSIS AND PRESENTATION

4.1 INTRODUCTION

The analysis of the collected secondary data was presented in this chapter. The impact of working capital management on profitability of the sample companies are represented by one dependent variable (ROA), four independent variables (CCC, ACP, ICP, APP) and four control variables (LQ, VS, LV, FS), A statistical tool named E-views was used to perform descriptive and quantitative analyses on secondary data. Important statistical output, as well as correlation and regression results, were reviewed in detail. A regression result examined, as well as attempts to test the hypothesis, which provides an in-depth investigation of the relationship between profitability and independent variables along with control variables under the discussion.

4.2 DESCRIPTIVE STATISTICS OF THE VARIABLES

According to Vetter (2017), Descriptive statistics are methods for calculating, describing, and summarizing acquired research data in a logical, comprehensible, and efficient manner. Descriptive statistics are presented quantitatively in the text and/or tables of the manuscript, or visually in the figures. This introductory statistical course covers a number of essential ideas related to descriptive statistics and reporting. The mean, median, and mode are three measurements of a data set's center or central tendency. A study data set's variability or dispersion is an essential quality in addition to its central tendency (mean, median, or mode)

The findings of descriptive statistics were discussed in this section. Table 4.1 shows descriptive data for the study's dependent and independent variables. It displays the mean and standard deviation of the study's variables. Furthermore, the mean and standard deviation of the many variables of interest in this study are presented using descriptive analysis. It also displays the variables' lowest and maximum values, which enable in gaining a better understanding of the variable's maximum and minimum values

Table 4.1 Descriptive statistics of the variables

	ROA	CCC	ACP	ICP	APP	LQ	LV	VS	FS
Mean	0.2852	271.08	59.452	290.63	79.004	4.5986	0.1455	0.0996	2.2222
Median	0.1403	159.00	26.814	157.42	14.027	2.4714	0.0841	0.0099	2.0000
Maximum	2.8056	2668.8	511.18	2625.6	1260.7	116.35	0.7253	2.6331	5.0000
Minimum	0.0013	-871.90	0.0000	0.0000	0.0000	0.3906	0.0000	-0.6830	1.0000
Std. Dev.	0.4410	440.24	98.748	405.67	166.69	10.644	0.1772	0.5131	1.1949
Observation	135	135	135	135	135	135	135	135	135

Source: E-Views regeation results and author's computation 2017-2021

Table 4.1 presents descriptive information for 27 sampled manufacturing share companies from 2017 to 2021 over a span of five years. to analysis the study employed nine variables, split into four independents, four control, and one dependent variable. ROA is the dependent variable that measures the firm's profitability. Four of the eight independent variables are proxies for the sample businesses' profitability (CCC, ACP, ICP, APP). firm size (FS), as assessed by the natural logarithm of sales, liquidity (LQ), volume of sales (VS), as defined by the relative change in sales over the previous year, and current ratio, which gauges liquidity, are the remaining four independent control variables employed. the researcher employed the analysis in accordance with Mbawuni et al. (2016) studied the impact of working capital management on the profitability of Ghanaian petroleum retailers from 2008 to 2013. Profitability is determined by the return on assets (ROA) and (Seyoum, et al 2016) study the data has been collected from 10 food complex manufacturing firms' from year 2009 upto 2013 and analyzed through descriptive statistics.

As it is shown in Table 4.1, the mean value of return on assets is around 28.52 percent, and the standard deviation is 44.10 percent. The minimum rate of return on assets is 0.013 percent, while the maximum is 280.5 percent. In other words, the return on assets is extremely variable. The average return on assets is approximately 44 percent devatas and selected manufacturing share companies able to generate on average 28.52 percent of their earning from invested capital. Mbawuni et al. (2016) found that the mean and standard deviation of the return on assets (ROA) for the sampled petroleum retail companies are 17.32 percent and 13.02 percent, respectively. This means that there is a high degree of variability in the profitability of

manufacturing companies than petroleum retailers. A company's profitability can differ significantly from one to the next. This is why it is crucial for managers to comprehend the factors that influence their companies' profitability. This suggests that the profitability position of the medium tax payers manufacturing companies is found satisfactory.

The cash conversion cycle is a broad metric of working capital management. Table 4.1 shows that the average cash conversion cycle is 271 days, with a standard deviation of 440 days. The smallest value of the cash conversion cycle is 872 days, while the highest value of the cash conversion period is 2669 days. These figures are higher than (Mbawuni et al. 2016) finding.it means that it takes 271 days on average to convert all of the cash in the company into company resources and back to cash. and standard deviation indicates that the range is from 440 days to 2669 days. This means that there is a high degree of variability in the cash conversion cycle of manufacturing companies

The average cash collection time is 59 days long, with a standard variation of 99 days. The shortest average cash collection duration is 0 days, while the longest average cash collection period is 511 days. This means that the selected manufacturing companies on average it takes 59 days to turn their receivables into cash. This suggests that 59 days pass between the date of collection and the date of payment for the sampled manufacturing companies. and 99 days of deviation reveal that the average cash collection of manufacturing companies is very diverse. In contrast with (Seyoum et al., 2016), the sampled manufacturing companies' average cash collections are much lower than the average collections of Ethiopian manufacturing companies.

As stated by Table 4.1, it takes an average of 291 days to sell inventory. The standard deviation of the inventory holding period is 406 days, with the lowest and highest values of 0 and 2626 days, respectively. This shows that inventory conversion periods are highly dispersed. As a result, the average inventory conversion period is shorter and the inventory holding period's standard deviation is longer than the actual inventory conversion measure.

Accounts payable term as a proxy for payment policy which has a mean value of 79 days and a standard deviation of 167 days. The lowest and maximum period spans from 0 to 1261 days.

Table 4.1 also contains descriptive statistics for the study's control variables. According to a classic measure of liquidity (current ratio), manufacturing companies hold current assets at 4.6 times current liabilities on average, with a standard deviation of 10.64. During the research period, the maximum current ratio and minimum current ratios for a business was 119 and 0.39 respectively.

The use of debt to buy more assets is referred to as leverage or trading on equity, the sampled companies' average current liabilities proportion in financing total assets is 14.54 percent. This highest current liabilities to total assets ratio indicate that the company is more aggressive in funding its working capital requirements, and 17.71 percent is the standard deviation. The minimum value is 0, while the maximum value is 72.5 percent, it is indicating a more aggressive strategy to financing working capital.

The volume of sales, as measured by changes in annual sales, is 1 percent, with a 51 percent standard deviation from the mean value of sales growth in both directions. Sampled manufacturing firms' sales growth ranged from -68 percent to 26.3 percent.

Firm size as a natural logarithm of total asset is used as a control variable to manage the size impact.as determined by the natural logarithm of annual revenues, the mean is 2.22 and the standard deviation 1.19. minimum and maximum Firm size are 1 and 5 days, respectively.

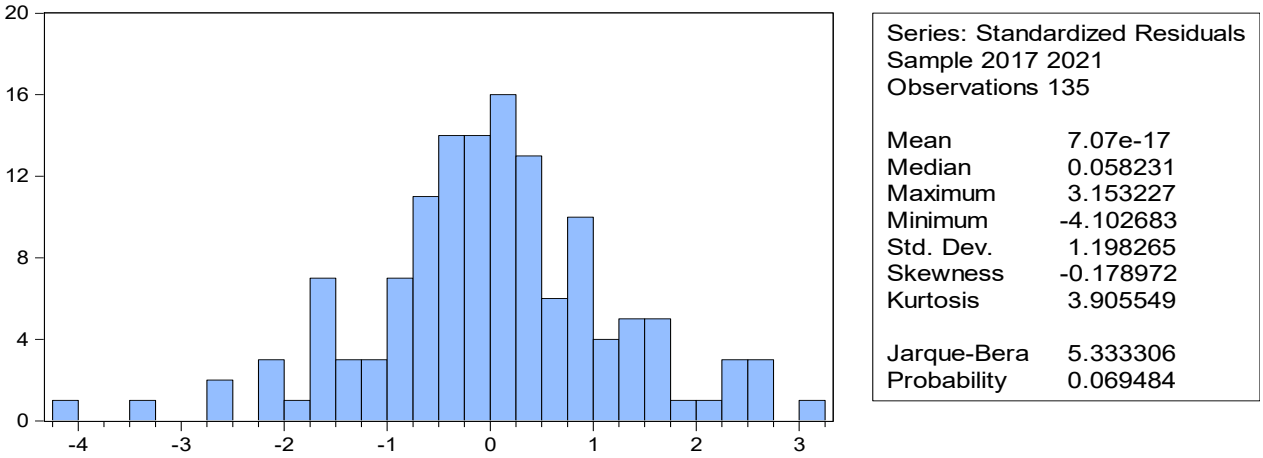
4.3 TESTS FOR THE CLASSICAL LINEAR REGRESSION MODEL (CLRM) ASSUMPTIONS

4.3.1 TEST FOR NORMALITY ASSUMPTION

The criterion of normality is when the variables in the model follow the standard normal distribution. The Jarque-Bera statistics were employed to test the variable's normality under various conditions and assumptions. The histogram should be bell-shaped and the Jarque- Bera statistic should be insignificant if the series are normally distributed. As a result, if the probability of the Jarque-Bera statistic is greater than 0.05, the series will be normally distributed at the 5% level of significance. As a result, the four regressed models were found to be regularly distributed, as shown below.

Model 1: ROA C CCC LQ LV VS FS

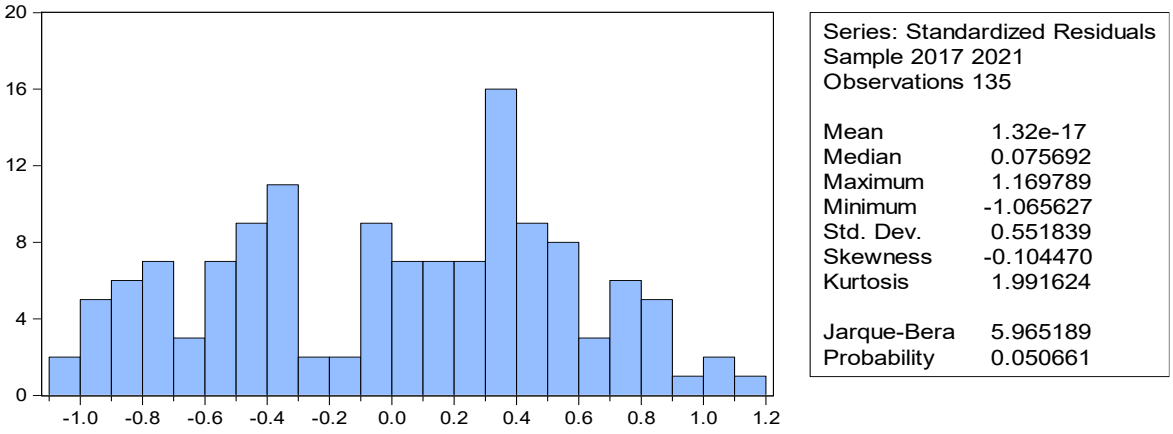
Figure 4.1 Normality test for the model effect of CCC on ROA



Source: E-Views regeation results and author's computation 2017-2021

Model 2: ROA C ACP LQ LV VS FS

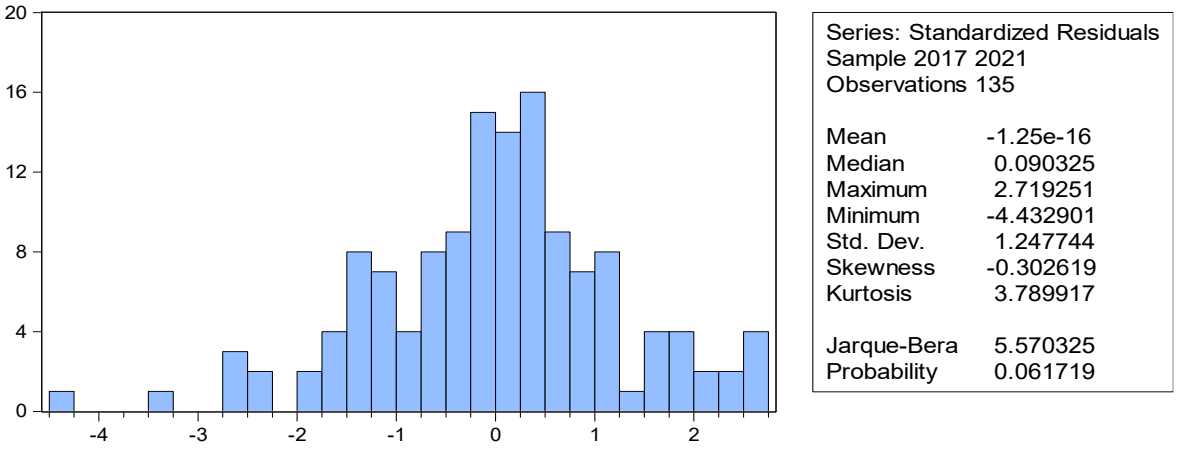
Figure 4.2 Normality test for the model effect of ACP on ROA



Source: E-Views regeation results and author's computation 2017-2021

Model 3: ROA C ICP LQ LV VS FS

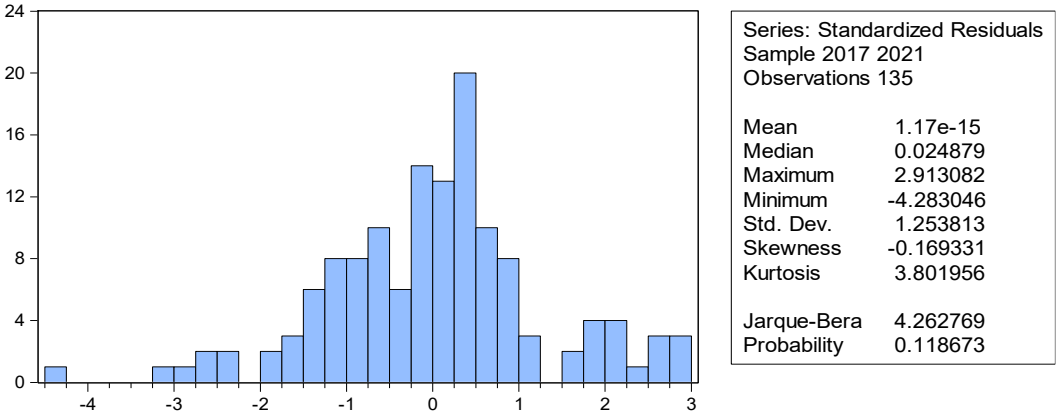
Figure 4.3 Normality test for the model effect of ICP on ROA



Source: E-Views regeation results and author's computation 2017-2021

Model 4: ROA C APP LQ LV VS FS

Figure 4.4 Normality test for the model effect of APP on ROA



Source: E-Views regeation results and author's computation 2017-2021

4.3.2 TEST FOR HOMOSCEDASTICITY

Heteroscedasticity is defined as the absence of a constant variance in error terms. When heteroscedasticity occurs, the ordinary least square method's estimators become inefficient, and hypothesis testing becomes unreliable and invalid because the variances and standard errors are underestimated (Brooks, 2008).

The variance of each of the disturbance terms is the same for all values of the explanatory factors, implying homoskedasticity. The condition of non-constant variance or non-homogeneity of variance is known as heteroskedasticity if the disturbance factors do not have the same variance. The least squares estimators are still unbiased. Park Test, Glesjer Test, Breusch-Pagan-Goldfrey Test, White's Test, and Autoregressive Conditional Heteroscedasticity (ARCH) Test are some of the tests used to discover the Heteroscedasticity issue Long, eta al. (2000).

The Breusch-Pagan-Goldfrey Test was employed to detect heteroscedasticity in this study.

H0: The model is Heteroscedastic

H1: The model is Homoscedastic

Decision Rule: If the p-value is larger than the significance level, reject H0. Otherwise, H0 should not be rejected.

Table 4.2 Heteroskedasticity Breusch-Pagan Godfrey Test

Model 1: ROA C CCC LQ LV VS FS

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	1.164674	Prob. F(5,129)	0.3301
Obs*R-squared	5.831000	Prob. Chi-Square(5)	0.3230
Scaled explained SS	32.61677	Prob. Chi-Square(5)	0.0000

Source: E-Views regeation results and author's computation 2017-2021

Model 2: ROA C ACP LQ LV VS FS

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	1.448560	Prob. F(5,129)	0.2113
Obs*R-squared	7.176733	Prob. Chi-Square(5)	0.2078
Scaled explained SS	41.83730	Prob. Chi-Square(5)	0.0000

Model 3: ROA C ICP LQ LV VS FS

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	1.232409	Prob. F(5,129)	0.2977
Obs*R-squared	6.154656	Prob. Chi-Square(5)	0.2915
Scaled explained SS	33.94035	Prob. Chi-Square(5)	0.0000

Model 4: ROA C APP LQ LV VS FS

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	0.909576	Prob. F(5,129)	0.4771
Obs*R-squared	4.597331	Prob. Chi-Square(5)	0.4670
Scaled explained SS	26.83854	Prob. Chi-Square(5)	0.0001

Source: E-Views regeation results and author's computation 2017-2021

4.3.3 MULTICOLLINEARITY TEST

Multicollinearity in regression models refers to the presence of highly correlated predictor variables, which invalidates some of the fundamental assumptions that underpin their mathematical estimate. Multicollinearity occurs when the correlation coefficient among the variables is more than 0.90 (Hair et al., 2006). However, according to (Kennedy, 2008) any correlation coefficient more than 0.7 might create significant multicollinearity problems.

The correlation matrix in the following tables shows that all the modes are smaller than the specified value.

Table 4.3 Multicollinearity Test Correlation matrix

	CCC	ACP	ICP	APP	LV	LQ	VS	FS
CCC	1.00000...	0.21139...	0.61093...	-0.29892...	0.21571...	0.32911...	0.21107...	0.37701...
ACP	0.21139...	1.00000...	0.04251...	0.13756...	-0.16152...	0.32973...	-0.02876...	0.02616...
ICP	0.61093...	0.04251...	1.00000...	0.05302...	0.27839...	0.23839...	0.20777...	0.42371...
APP	-0.29892...	0.13756...	0.05302...	1.00000...	0.01212...	-0.09370...	-0.06883...	0.05097...
LV	0.21571...	-0.16152...	0.27839...	0.01212...	1.00000...	-0.08574...	0.13289...	0.05588...
LQ	0.32911...	0.32973...	0.23839...	-0.09370...	-0.08574...	1.00000...	0.11026...	0.32124...
VS	0.21107...	-0.02876...	0.20777...	-0.06883...	0.13289...	0.11026...	1.00000...	0.00723...
FS	0.37701...	0.02616...	0.42371...	0.05097...	0.05588...	0.32124...	0.00723...	1.00000...

Source: E-Views regression results and author's computation 2017-2021

4.4 REGRESSION RESULTS ANALYSIS

Following the presentation of descriptive data and diagnostic tests in sections 4.2 and 4.3, respectively, this section's regression analysis is employed to enlighten the effects of working capital management components on company performance. The researcher assesses firms' profitability, as measured by return on asset (ROA), against the four independent (CCC ACP ICP APP) and four control variables (LQ LV VS FS).

4.5 DISCUSSION OF THE REGRESSION RESULT

The study estimates the variable of profitability, as assessed by return on asset, against the eight explanatory factors (four independent variable and four control variable) using the Specific regression model presented in section 3.10.2. Consistent with Devi (2018), Mahato & Jagannathan (2016) Geddafa & Abera (2020) and Seyoum, Tesfaye, and et al (2016), the study employs ordinary least squares to estimate determinants of company performance, and four (4) regression models were performed to evaluate the influence of working capital management on firm profitability.

4.5.1 Regression result of Model Specification (I) CCC

Model 1: $ROA_{it} = \beta 0 + \beta 1(CCC)_{it} + \beta(LQ)_{it} + \beta(FS)_{it} + \beta(VS)_{it} + \beta(LV)_{it} + \varepsilon_t$

Table 4.4 Regression result of Model Specification (I) CCC

Dependent Variable: ROA
Method: Panel Least Squares
Date: 05/14/22 Time: 00:39
Sample: 2017 2021
Periods included: 5
Cross-sections included: 27
Total panel (balanced) observations: 135

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CCC	-0.000118	6.49E-05	-1.813567	0.0727
LQ	0.003577	0.001955	1.829704	0.0702
LV	0.328166	0.136743	2.399864	0.0182
VS	0.053450	0.034421	1.552833	0.1235
FS	0.046948	0.043863	1.070329	0.2870
C	0.143307	0.098245	1.458672	0.1477

R-squared	0.874969	Mean dependent var	0.285237
Adjusted R-squared	0.837338	S.D. dependent var	0.441022
S.E. of regression	0.177870	Akaike info criterion	-0.411999
Sum squared resid	3.258688	Schwarz criterion	0.276659
Log likelihood	59.80992	Hannan-Quinn criter.	-0.132148
F-statistic	23.25149	Durbin-Watson stat	1.895308
Prob(F-statistic)	0.000000		

Source: E-Views regeation results and author's computation 2017-2021

The summary statistics of Regression result of Model Specification (I) are shown in Table 4.4. as illustrated, the model's explanatory power is 87.5 % based on the adjusted R squared values. This means that the CCC employed in the model can explain 87.5 % of the variation in the ROA. In this study, the Adjusted R-squared values are shown to be adequate to indicate that the fitted regression line is very close to all of the data points taken together which means it has more explanatory power. The F statistic is used to put the model specification to the test. Table 4.4 shows that the model is fit with an F-statistic of 23.25 and the p-value of 0.0000.

Holding other things constant a day increase cash conversion cycle is associated with a decrease in -0.012 percent in profitability but statically insignificant with the probability of 0. 0727. According to the findings cash conversion cycle and profitability of manufacturing firms' negatively related. This indicates that the profitability of manufacturing share companies in Ethiopia rises by 0.012 percent when the net time delay between actual cash expenditures on a firm's purchase impute or raw material and the final recovery of cash collections from product sales is shorten. As a result, reducing the cycle by one day improves company's profitability by 0.012% every year. In essence, this negative association shows that business managers may increase profitability by reducing the time lag between raw purchased goods and finished goods sales. The findings of the study are in line with the findings of previous research like Devi (2018), Mahato & Jagannathan (2016) Seyoum et al. (2016) finding shows that Return on Assets has a negative relationship with CCC. In another hand, Sefera et al. (2020) found that the cash conversion cycle and profitability have a positive significant relationship, The accounts receivable period, inventory holding period, and accounts payable period combine to form the cash conversion cycle. As a result, effectively managing the cash conversion cycle entails effectively controlling these three items. The fact that the cash conversion cycle has a favorable impact on profitability shows that small businesses take longer to collect receivables and pay their bills than their cash conversion cycle.

The outcome is that decreasing or increasing the cash conversion cycle has a significant and negative impact on the company profitability. It indicates that the shorter a company's cash conversion cycle is, the more profitable it is, and vice versa. As mentioned in the theoretical section of this study, the cash conversion cycle is the sum of the accounts receivable and inventory holding periods, minus the accounts payable time. The negative result with cash conversion cycle indicates that an increase in profitability is associated with a decrease in the cash conversion cycle when considering the components of the CCC (ICP, ACP, APP). It reveals that profitable businesses have a longer CCC, indicating ineffective working capital

management components (ICP, ACP, APP) all had an impact on this, Financial Managers can control the efficiency of the cash conversion cycle and its impact on profitability by managing ICP, ACP, APP (by creating a short ICP, ACP, and/or long APP).

The regression model specification (I) CCC findings are employed to determine the hypothesis one provided in chapter one section 1.6. The first research hypothesis implies that the cash conversion cycle is negative and significant effect on company's profitability as measured by return on assets, model specification (I) return of asset is negatively and insignificantly related to the cash conversion cycle. As a result, the null hypothesis is not confirmed and can be conclude that the first research hypothesis is rejected.

4.5.2 Regression result of Model Specification (II) ACP

Model 2: $ROA_{it} = \beta 0 + \beta 1(ACP\ it) + \beta(LQ)it + \beta(FS)it + \beta(VS)it + \beta(LV)it + \varepsilon t$

Table 4.5 Regression result of Model Specification (II) ACP

Dependent Variable: ROA
Method: Panel Least Squares
Date: 05/14/22 Time: 00:42
Sample: 2017 2021
Periods included: 5
Cross-sections included: 27
Total panel (balanced) observations: 135

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ACP	-0.001670	0.000564	-2.958755	0.0038
LQ	0.008578	0.002781	3.084803	0.0026
LV	0.300454	0.132488	2.267786	0.0254
VS	0.012349	0.033024	0.373923	0.7092
FS	0.019911	0.043400	0.458774	0.6474
C	0.255886	0.104258	2.454359	0.0158

R-squared	0.881084	Mean dependent var	0.285237
Adjusted R-squared	0.845293	S.D. dependent var	0.441022
S.E. of regression	0.173466	Akaike info criterion	-0.462139
Sum squared resid	3.099326	Schwarz criterion	0.226519
Log likelihood	63.19438	Hannan-Quinn criter.	-0.182288
F-statistic	24.61789	Durbin-Watson stat	1.934177
Prob(F-statistic)	0.000000		

Source: E-Views regeation results and author's computation 2017-2021

Table 4.5 illustrate that the summary Regression result of Model Specification (II) ACP. The explanatory power of Model Specification (II) as can be seen is that the adjusted R squared values is 84.52 percent. This indicates that the ACP can explain 84.52 percent of the variation

in the ROA. In this research, the adjusted R-squared values were shown to be sufficient to demonstrate that the fitted regression line is mutually very close to all the data points. The F statistic is used to test the model specification (II) the model is fit with F- statistical 24.61 at a p-value of 0.0000, as shown in the Table 4.5.

Assuming all other things remain constant If the ACP increases by one day, the profitability of manufacturing firms decreases profitability by 0.167 percent and statistically significant with probability 0.038 percent.

Mahato & Jagannathan (2016), Ntui et al. (2014) and Tirngo (2013). study result show that average collection period had negative relation with companies' profitability.in contrast Abdulnafea et al. (2021) concluded that there is a positive relationship between average collection period (ACP) and profitability. This negative relationship indicates that, When the collection duration lengthens, bad debt grows, reducing profitability, and vice versa. The study implies that a significantly negative impact on the profitability of manufacturing enterprises, when the number of days it takes to collect cash from credit consumers increases, the profitability of the manufacturing company decreases. As a result, accounts receivables are used as a source of funding to increase sales and growth. Because accounts receivable is categorized as the second level of current assets, though manufacturing companies should implement adequate policies to control their level of sales on credit.

On another hand the liquidity regression result indicated that a unit increase in liquidity is associated with a 08.557 percent increase, which is statistically significant with probability 0.0026. likewise, holding other things constant a unit increase in leverage associated with an increase in ROA by 30.04 percent, statistically significant with probability 0.00254.a unit increase in volume of sale is associated with increase in ROA by 1.235 percent but statically insignificant with probability 0.7029.And finally Profitability has a strong positive association with a company's size, holding other things constant a unit increase in firm size in association with ROA by 0.2 percent, but statistically insignificant with probability 0.6474.

The regression model specification (II) ACP findings are employed to determine the hypothesis one provided in chapter one section 1.6. the second research hypothesis implies that the average cash collection period is negative and significant effect on company's profitability as measured by return on assets, as illustrated on model specification (II) return of asset is negatively and significantly related to the average cash collection period. As a result, the null hypothesis is confirmed and can be conclude that the second research hypothesis is true.

4.5.3 Regression result of Model Specification (III) ICP

Model 3: ROAit = β0 + β1(ICP it) + β(LQ)it + β(FS)it + β(VS)it + β(LV)it + εt

Table 4.6 Regression result of Model Specification (III) ICP

Dependent Variable: ROA
Method: Panel Least Squares
Date: 05/14/22 Time: 00:45
Sample: 2017 2021
Periods included: 5
Cross-sections included: 27
Total panel (balanced) observations: 135

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ICP	-0.000108	7.25E-05	-1.496125	0.1377
LQ	0.003093	0.001906	1.622360	0.1078
LV	0.312961	0.136807	2.287605	0.0242
VS	0.049632	0.034458	1.440373	0.1528
FS	0.046735	0.044102	1.059709	0.2918
C	0.148206	0.099084	1.495767	0.1378

R-squared	0.873721	Mean dependent var	0.285237
Adjusted R-squared	0.835715	S.D. dependent var	0.441022
S.E. of regression	0.178756	Akaike info criterion	-0.402065
Sum squared resid	3.291221	Schwarz criterion	0.286593
Log likelihood	59.13939	Hannan-Quinn criter.	-0.122214
F-statistic	22.98882	Durbin-Watson stat	1.888107
Prob(F-statistic)	0.000000		

Source: E-Views regeation results and author's computation 2017-2021

Table 4.6 illustrate that the summary Regression result of Model Specification (III) ICP. The explanatory power of ICP as shown that the adjusted R squared values is 87.37 percent. This indicates that the ICP can explain 87.37 percent of the variation in the ROA. In this research, the adjusted R-squared values were shown to be 83.57 it is tremendous to explain that the fitted regression line is mutually very close to all the data points. The F statistic is used to test the model specification III) ICP the model is fit with F- statistical 22.98 at a p-value of 0.0000, as shown in the Table 4.6.

Holding all other things remain constant If the ICP increases by one day, the profitability of manufacturing firms decreases by 01.08. but statistically insignificant with probability 0.1377. In constant with Mbawuni et al (2016), Abdulnafea et al. (2021) and Afrifa (2016) finding that there is negative relationship between inventory collection period and firms' profitability as measured by return of asset. This indicates that reducing the number of days of inventory maintained in a manufacturing company can maximize profitability. in contrary, Makori et al. (2014) found positive relationship between inventory conversion period and profitability. They

came to the conclusion that holding large inventory levels reduces the cost of potential production delays and company loss due to product shortage. It implies that the manufacturing company need less time to sell its inventory or manufacture it from raw materials and generate income from consumers than it does to pay its inventory suppliers.

Table 4.6 also shows that the Control variable summary Regression result, the traditional measure of liquidity, the current ratio, associated with a 03.09 percent increase on ROA, but, statistically insignificant with probability 0.1078, and the findings are consistent with previous research of this type (Manoori and Muhammad, 2012),

Table 4.6 show that LV is significantly positively associated to the return on assets, by holding other things constant a unit increase in LV associated with an increase in ROA by 31.29 percent, statistically significant with probability 0.00242, This is consistent with Yeboah and Agyei (2011), although the values differ significantly. however, contrasts with (Deloof 2003) and (Kassahun, 2020) assertion. Keeping other things constant a unit increase in VS is associated with increase in ROA by 5 percent with statically insignificant with probability 0.153.

The firm's size has a positive association with its profitability measured by natural logarithm of total asset. If the FS increase, the firm's profitability increases as well. With a coefficient of 0.05 and a p-value of 0.29. in consistent with (Isik et al. 2017). On another hand Abdulnafea et al. (2021) found that negative relationships between profitability and firm size. they identified three reasons for the negative relationships. First, as past studies have shown, increased diversification can lead to worse profitability. Second, managers raise business size to meet their own financial and non-financial goals, such as getting more remuneration as a manager in larger firms. This means that for every unit increase in unit sales, manufacturing companies gain an additional 0.05 return. This suggests that, as compared to smaller enterprises, profitability rises as the firm grows in size.

The Third research hypothesis implies that inventory conversion Period (ICP) is negatively and significant effect on company’s profitability. In conformity with hypothesis, model specification (III) returns of asset as the indicator of profitability, is negatively but insignificantly related with inventory conversion Period at 5% confidence level. as a result, the null hypothesis is not confirmed and can be conclude that the Third research hypothesis is rejected.

4.5.4 Regression result of Model Specification (IV) APP

Model 4: ROAit = β0 + β1(APP it) + β(LQ)it + β(FS)it + β(VS)it + β(LV)it + εt

Table 4.7 Regression result of Model Specification (IV) APP

Dependent Variable: ROA
Method: Panel Least Squares
Date: 05/14/22 Time: 00:47
Sample: 2017 2021
Periods included: 5
Cross-sections included: 27
Total panel (balanced) observations: 135

Variable	Coefficient	Std. Error	t-Statistic	Prob.
APP	5.34E-05	0.000162	0.330258	0.7419
LQ	0.002184	0.001831	1.192838	0.2357
LV	0.306245	0.139271	2.198917	0.0301
VS	0.037130	0.033918	1.094678	0.2762
FS	0.043312	0.044515	0.972978	0.3328
C	0.126484	0.101647	1.244351	0.2162

R-squared	0.871113	Mean dependent var	0.285237
Adjusted R-squared	0.832322	S.D. dependent var	0.441022
S.E. of regression	0.180592	Akaike info criterion	-0.381624
Sum squared resid	3.359189	Schwarz criterion	0.307034
Log likelihood	57.75963	Hannan-Quinn criter.	-0.101773
F-statistic	22.45645	Durbin-Watson stat	1.879172
Prob(F-statistic)	0.000000		

Source: E-Views regeation results and author's computation 2017-2021

Table 4.7 reveals Regression result of Model Specification (IV) APP. The explanatory power of APP as shown that the adjusted R squared values is 83.23 percent. This indicates that the APP can explain 83.23 percent of the variation in the ROA. In this study, the adjusted R-squared values were shown to be 83.23 it is tremendous to explain that the fitted regression line is mutually very close to all the data points. The F statistic is used to test the Model Specification (IV) APP the model is fit with F- statistical 22.45 at a p-value of 0.0000, as shown in the Table 4.7.

Table 4.7 implies that increasing the number of days of APP by one day leads to a .00534 percent increasing in profitability measured as ROA by holding all other things constant.

Result from Model Specification (IV) suggests a positive but insignificant relation between the ROA and APP. The result is consistent with the prior study of Sefera et al. (2020). Makori, et al. (2014), In contrary, Amarasekara et al. (2021) and Mbawuni et al (2016) found that

significant negative relationship between profitability and average payable periods, conclude that less profitable companies postpone payments and more profitable companies pay their invoices sooner.

Mahato & Jagannathan (2016) and Devi (2018) also found that there is a significance positive relationship between average payable period and profitability as measured by ROA. It implies that, more profitable companies take longer to pay their invoices to their vendors. This means they delay payment to suppliers in order to take use of the cash on hand to meet their working capital requirements.

The relationship between profitability measured as ROA and control variables seems to be analogous with all four models, the impacts of the LQ, LV, VS, FS on ROA are positive, by holding other things constant unit increase in LQ, LV, VS, FS is associated with increase in ROA by 0.22%,31%,4%,4%, percent respectively but except LV, statistically in significant with probability.

Result from Model Specification (IV) are used to determine the hypothesis stated in chapter one section 1.4. The fourth research hypothesis was that the average payment period (APP) is Positive and significant effect on company's profitability. Return on assets is positively related to accounts payable period in accordance with hypothesis, but the relationship is insignificant. As a result, the null hypothesis cannot be confirmed, and the fourth research hypothesis must be rejected.

4.6 SUMMARY OF FINDING

The researcher uses two types of data analysis in the study descriptive and regression analysis. In this chapter the study started by looking at the components of working capital management and their profitability. cash conversion cycle (CCC), Average collection period (ACP), inventory conversation period (ICP), Average payable period (APP), liquidity as measure by current ratio (LQ), leverage (LV), Volume of sale (VS), firm size (FS), leverage ratio. We calculated their mean, standard deviation, minimum, and maximum values.

The four-model specification regression result analysis summarized as follows; the effect of CCC on ROA negative and statistically insignificant; however, there is similar result found in the prior studies Devi (2018) and Mahato & Jagannathan (2016), ACP with negative ROA and significance, ICP with negative ROA and statically insignificant; likewise, Mbawuni et al

(2016) and Afrifa (2016) found a significant negative relationship between inventory collection period and firms' profitability, and APP with positive ROA and statically insignificant. Likewise, Mahato & Jagannathan (2016) and Devi (2018) studies found that there is a significant positive relationship between average payable period and profitability as measured by ROA. all regression result of Model Specification control variable has a positive relationship with profitability.

Table 4.8 Summary of actual and expected signs of explanatory variables on the dependent variables and Hypothesis test result

Independent variables	Expected Impact on return on asset	Actual Impact	Hypothesis test result
CCC	Negative and significant effect on company's profitability.	Negative and insignificant Prob. 0.073	Rejected
ACP	Negative and significant effect on company's profitability.	Negative and significant Prob. 0.004	Accepted
ICP	Negative and significant effect on company's profitability.	Negative and insignificant Prob. 0.134	Rejected
APP	Positive and significant effect on company's profitability.	Positive and insignificant Prob. 0.745	Rejected

Source: authors design based on summary of finding

CHAPTER FIVE: CONCLUTIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

This chapter draws conclusions from the research's overall overviews and main findings. Following that, the researcher provided recommendations based on the findings. Finally, future research directions are suggested.

5.2 CONCLUTIONS

Working capital management is one of a company's most crucial financial decision. Companies can achieve optimal working capital management by maintaining a balance between profitability and liquidity. A company's working capital must be carefully monitored and balanced at all times. The firm's capacity to run for longer periods of time is dependent on a trade-off between long-term and short-term investment management. Working capital shortages can result in a lack of liquidity as well as reduced productivity and revenue; on the other extreme, an excess of working capital can lead to a loss of investment options.

According to available literature, effective and efficient working capital management contributes to the maximization of a company’s profitability. This study is organized by the four primary components of working capital management: cash, accounts receivable, inventory, and accounts payable.

The literature gap is due to previous research' inconclusiveness, due to heterogeneity in findings and measures, as well as the availability of studies that apply improper methodologies and methodology. As a result, the researcher set four specific objectives, each of which intended to comprehend the impact of one of the four working capital components.

The results of this study help to close the gap in knowledge about the relationship between working capital management and the profitability of manufacturing firms in Ethiopia. This study also helps to boost profitability and the firm's long-term capability of working capital management techniques will be strengthened.

The working capital components' expected implications on profitability are: significant negative for cash management, significant negative for account receivable management, significant negative for inventory management, and significant positive for accounts payables management.

The study used a quantitative method and an explanatory research design to determine the magnitude and type of the causal relationships between independent and dependent variables, as well as control variables.

Although there were 134 medium taxpayer manufacturing companies operating in Ethiopia between 2017 and 2021, a non-probability purposive sampling approach was used to select a sample of 27 companies due to data incompleteness. The financial statements of the sampled companies for the five years from 2017 to 2021 were obtained from data base of Ministry of Revenue's medium taxpayers office. By using E-Views 8 software, the researcher analyses the data using descriptive statistics and multiple regression analysis.

The descriptive statistics analysis shows that the mean value of the 27 companies included in the study profitability as measured by return on asset was 28.52% and it deviates from the mean to both sides by 44.10 %. Its minimum value is 0.13 % while the maximum is 280 %. While cash conversion cycle as a comprehensive measure of working capital management of manufacturing share companies of the study on average takes 271days.The firm’s average collection period from their customer on average at 59 days and have accounts payable period on average at 79 days. On the other side. The inventory conversion period That is, the time between purchasing inventory and selling inventory averaged is 291 days.

Cash Conversion Cycle (CCC) has a negative coefficient relation with ROA as a measure of profitability. the negative relationship indicates that shortening the day delay between real cash expenditures on a firm's purchase of resources and the final recovery of cash collections from product sales.

Average collection period (ACP) has a significant negative relationship between ROA as a measure of profitability. The negative relationship indicates that the number of days it takes to collect cash from a credit client would be too short, subsequently it increased firm profitability. The reason for this, if a company collects its receivables promptly, the funds will be allocated for productive use.

inventory conversation period (ICP) has a negative relation with companies’ profitability as measure of ROA. If there was a negative relationship, it meant that the company converted inventories into sales quickly, it only takes a short time to replace inventory with revenues, maximizing the firm's profitability, while the potential for inventory conversion increases as profitability increases over time. Because of the negative impact on inventory conversion time, substantial profits are generated in a short amount of time. Inventory turns into cash in a short

amount of time, increasing the firm's profitability. The inventory acquires deterioration and obsolescence over a lengthy period of time.

Average payable period (APP) has a positive relationship with Return of asset as a measure of profitability. This means accounts payable increased by that amount throughout the specified period of time. As a source of cash, increasing accounts payable improved cash flow by that precise amount. this means the manufacturing companies keep their vendor payments in order to take advantage of the money available for their working capital needs.

5.3 RECOMMENDATIONS

This section will be focused on the analysis, discussion, and conclusion sections. The findings primarily focus on the impact of working capital management on manufacturing company profitability, specifically the impact of the cash conversion cycle account receivables, inventory conversion, and account payable on profitability of manufacturing companies.

The cash conversion cycle has a negative relationship with company profitability. As a result, the researcher recommended that the cash conversion cycle evaluated by decreasing the working capital cycle as a criterion of effective working capital management. If the company controlled the ICP, APP, and ARP effectively and efficiently, the cash conversion cycle would be managed effectively and efficiently, Because the three independent variables are cumulative variables for the cash conversion cycle. This means that by reducing the time frame of the physical flow from procurement of raw materials to shipment of finished goods, and improving the terms on which the firm sells goods and receives cash, investment in working capital could be optimized and cash flows could be improved. In order to improve their cash gap in the cash conversion cycle, high-profitable companies targeted an increase in accounts receivables. a shorter average collecting duration is often preferable to a longer one. A short average collection duration suggests that the organization receives money more quickly. However, there is a disadvantage to this, since it may imply that the company's credit terms are excessively stringent. Customers who are dissatisfied with their creditors' payment conditions may opt to seek suppliers or service providers with more liberal payment terms.

Finally, by lowering the time gap between a firm's actual cash expenditures on productive resources and the subsequent recovery of cash collections from product sales, management of manufacturing firms in study may both create value for shareholders and improve the firms' profitability.

5.4 FURTHER CONSIDERATION

More research is needed to carry out the impact of working capital management on corporate goals, concentrating on the current economic crisis of the country and including more working capital variables that affect profitability.

This research solely looks at the relationship between working capital management and profitability as evaluated by ROA. There is other more profitability ratio components to investigate further.

Furthermore, this study examines the impact of working capital management on the profitability of manufacturing share companies that are medium taxpayers in Ethiopia by focusing on operational working capital components such as CCC, ACP, ICP, APP, as well as control variables such as leverage, liquidity, volume of sales, and firm size. and the future researcher should focus on Ethiopian manufacturing enterprises by utilizing financial working capital components while focusing on the country's present economic crisis such as inflation, GDP, and other economic components.

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