WOLKITE UNIVERSITY

SCHOOL OF GRADUATE STUDIES

IMPACT OF WORKING CAPITAL MANAGEMENT ON PROFITABLITY: EVIDENCE FROM SELECTED MANUFACTURING COMPANIES IN SNNPRS, ETHILOPA

By:

Abiyot Gossaye Teka

A THESIS SUBMITTED TO THE DEPARTMENT OF ACCOUNTING AND FINANCE, COLLEGE OF BUSINESS AND ECONOMICS, SCHOOL OF GRADUATE STUDIES WOLKITE UNIVERSITY IN PARTIALS FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF ACCOUNTING AND FINANCE

JANUARY, 2019

WOLKITE, ETHIOPIA

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Statement of Declaration

I, Abiyot Gossaye, declare that this thesis entitled: on the **"Impact of Working Capital Management on Profitability in SNNPRS, Ethiopia Selected Manufacturing Companies"** is outcome of my own effort and study and that all sources of materials used for the study have been duly acknowledged. To the best of my knowledge, this study has not been submitted for any degree in this University or any other University. It is offered for the partial fulfillment of the degree of Masters of Accounting and Finance.

BY: Abiyot Gossaye Teka

Signature: _____

Date: ----------

ADVISOR'S APPROVAL SHEET

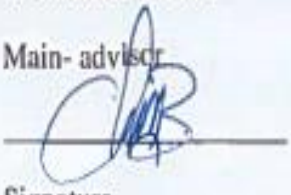
STATEMENT OF CERTIFICATION

This is to certify that the thesis entitled " Impact of Working Capital Management on Profitability: Evidence from selected Manufacturing Firms in SNNPRS", submitted to Wolkite University for the award of degree of Masters of Science (MSc.) in Accounting and Finance and is a record of bonafide research work carried out by Mr.Abiyot Gossaye, under our guidance and supervision.

Therefore, we hereby declare that no part of this thesis has been submitted to any other university or institution for the award of any degree or diploma; and all the materials referred in the process have been duly acknowledged.

1. Chernet Bereda

Main- advisor



05/1/2019

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Signature Date

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We, the undersigned, members of the Board of Examiners of the final open defense by Abiyot Gossaye Teka have read and evaluated his thesis entitled the "Impact of Working Capital Management on Profitability in SNNPRS, Ethiopia Selected Manufacturing Companies" and examined the candidate. This is, therefore, to certify that the thesis has been accepted in partial fulfillment of the requirements for the degree of Master of Science in Accounting and Finance

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List of Acronyms

APP:	Account Payable Period
ARM:	Account Receivable Management
CCC:	Cash Conversion Cycle
CR:	Current Ratio
DR:	Debit Ratio
EBIT:	Earnings before Interest Taxes
ERCA:	Ethiopian Revenue and Customs Authority
FS:	Firm Size
GWC:	Gross Working Capital
Hp:	Hypothesis
IHP:	Inventory Holding Period
NWC:	Net Working Capital
OLS:	Ordinary Least Square
ROA:	Return on Assets
SG:	Sales Growth
SNNPRS:	Southern Nation Nationality People Regional State
TA:	Total Asset
WC:	Working Capital
WCM:	Working Capital Management

Abstract

*Working capital management is the administration of current assets and current liabilities and it is directly affects the liquidity and profitability of company. Hence, efficient working capital management involves excessive planning and controlling and it is very important to equalize between current assets and current liabilities to eradicate the risk of insolvency. The objective of this study is to examine the impact of working capital management on firms' profitability and review the statistical significance between components of working capital management. In light of this aim the thesis implement quantitative method of research approaches to test the study hypothesis. Hence, the study used survey of companies audited financial statements. The purposive sampling method was used. Consequently, the study selected a sample of 11 companies for the period of eight years (2010-2017). Data was analyzed on quantitative basis using descriptive and regression analysis (*Pooled *ordinary least square) method was used. It observe the components of working capital for instance accounts receivable management, inventory holding period, accounts payable period, and cash conversion cycle in relation to ROA. In addition the study observes current ratio, company size, company growth and debit ratio as control variables. The key results from the study are; a negative significant at 5 percent relationship between account receivable management and profitability. Cash conversion cycle have a negative and statically significant at 5 percent relation with profitability. Opposed to the research hypothesis, account payable period has a negative statically significant at 5 percent relation with profitability. The manufacturing company of SNNPRS, Ethiopia managers can increase profitability of their firms by limiting the time gap between a company's expenditure for purchases of raw materials and the collection of sales of finished goods. In general the study recommended that firms should minimize working capital management components in order to maximize profitability.*

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

CHAPTER ONE

INTRODUCTION

The aim of this chapter is to give an overview of information on the research. The chapter is sated under different section such as Background of the Study, Statement of the problem, General and Specific objective of the Study, Research hypothesis, Significance of the Study, Scope of the Study, Limitation of the Study and Structure of the Paper is organized.

1.1. Background of the Study

The sustainability of a company highly depends on the power and achievement of financial management function (Karaduman et al 2011). Company finance usually focused on capital structure, working capital management and capital budgeting. Capital budgeting and structure such as investments in fixed assets are about the management of long-term capital and attract more attention than working capital management in finance works. However, working capital management is also very important part of company finance because of its huge outcome on the company profitability and liquidity (Afza, and Nazir 2009, Chiou et al 2006, and Alshubiri 2011). There are two types of assets, current assets and fixed assets. Current assets are a crucial unites of the company's total asset. Then again texture, machinery, building and plants not only purchased for the purpose of resale, but also for working purpose **(**Sing and pandey,2008**).** A company may be able to reduce its investment on fixed assets by leasing however basically difficult for current asset. (Afza and Nazir 2009).

Appropriate management and govern of working capital not only solve the challenging of liquidity and also increase the ability of the company to produce profit. Since, working capital stability connects with production and sales. Efficient working capital management is crucial for both profitability and prosperity of company (Ankilo and olufisayo 2007)

Investment on current asset such as account receivable, short term securities, bank deposits inventories and cash are known as working capital. Surplus of current asset over short term liability signify the liquidity margin accessible to meet the cash demands so as to maintain the daily job and advantage from the beneficial investment chances (yaday, Kamtt and Manjrekar, 2009, Padachi 2006) therefore, working capital can be stared as an alert of the

company and well-organized management can confirm that achievement and sustainably of the company while its incompetent management may lead the company to insolvency.

Working capital management is vital component of corporate finance because it directly affects companies, Liquidity and profitability (Deloof, 2003).Therefore efficient management of working capital is fundamental part of corporate strategy. Working capital can be considered as a spontaneous fund and the amount of fund tied up to current asset can exceed that of fixed asset in many company (Sathyamoorithi and Whally Drima, 2008). Efficient working capital management, plays significant role in overall strategy in order to increases shareholders value (Dong and Jyh 2010). An efficient working capital management can enable a firm to react quickly and genuinely to unexpected changes in economic environment and gain competitive advantage over its rivals (Alshubiri, 2011).

According to (Ricci, 2000), an efficient working capital management primarily aims to ensure an optimum balance between profitability and risk. The aim can be achieved by continues monitoring of working capital components such as accounts receivable, account payable and inventories.

It is a critical issue to know and understand the effect of working capital management and its influence on companies' profitability. Many studies have been conducted on this topic in other countries.However, in Ethiopian SNNPRS, limited evidence in the content of this regional state along the importance of working capital management in light of the above points.

1.2.Statement of the problem

Working capital management is significant issue in any company. Hence, without a right management of working capital component it is unmanageable to illustrate the company's process effectively. Brigham and Houston (2003) remarked that about 60 percent of a distinctive financial manager's time is committed to working capital management. So, the important part of managing working capital is asserting the expected liquidity in daily process to ensure companies smooth running and to fit its responsibility (Eljelly, 2004).

According to Shin and Soenel (1998) working capital management is very crucial due to the fact that the effectiveness of working capital management can have a significant impact both liquidity and profitability of a firm; similarly administration of working capital is very

important part of company finance because it directly affects firms' liquidity and profitability. Companies are required to maintain optimal level of working capital that maximizes shareholders value. This is because the goal of any companies is to maximize shareholders value and the efficient management of working capital is important for business survival. (Deloof, 2003) and (Elijelly, 2004).

According to Pass and Pike (1987), the short term finance area particularly working capital management are given very less attention in contrast to long term investment even if it played a very important role in the growth of company and enhancement of profitability**.** Hence, the problem of planning and control of working capital management is the main cause of business failures'.

Lamberson (1995) showed that working capital management is essential in managing finance aspect of the company. Many financial managers are fronting difficulties to identify the important motor of working capital management that can enhance their firm of profitability.

According to Rimeli (2012), holding too much working capital implies ineffectiveness while too little working capital indicates that the company's liquidity is in question. Most business firms do not hold the appropriate amount of current assets, due to this the firm is unable to meet its short term obligation. The lack of enough working capital shows that the company is unable to expand production and increase its sales, thus limiting the growth and profitability of the business**.**

Working capital management in manufacturing company is depend on various factors like nature of business, scale of production, production cycle, credit policy and availability of raw materials. Most of the researchers find a strong negative cause and effect relationship between number of days, inventories, cash conversion cycle, account receivable and company profitability (Shin and Soenel, 1998; Deloof, 2003).In contrast positive relationship between numbers of days account payable with the company profitability (Lazaridis and Tryfonidis, 2006). Nabone and Abdullatif (2010),concludes a positive relation between cash conversion cycle, number of days account receivable and numbers of days inventory with the firms operating income to sales where a number of day account payable as significant negative impact on the company's performance.

In general, working capital management is not only improving financial performance in today's cash-strapped and uncertain economy, but also the question of meeting firm's day to day operation. Therefore, it is an important issue to know and understand the impacts of working capital management and its influence on company's profitability. So, a lot of researches have been conducted on this title in other countries to show the effect of working capital components on company's profitability.

In Ethiopia many public and private manufacturing sector do not have working capital management exercise due to no longer in use business process and structure of the business firm. Therefore, there is a vast problem in manufacturing sector Samuel & Tarekegn (2011). So, companies related to this Spheres are the target responding for measuring the perceptual experience and the application of these exercise.

According to World Bank report (2009), in Ethiopia the share of the manufacturing sector is 14 and 7 percent for the GDP and employment creation respectively and also it contributes more than 3.8 percent for trade balance.

The comparability of the world working capital management exercise in Ethiopia still newcomer. If manufacturing sector in Ethiopia follows working capital management, this would be directly touching profit and value maximization of the company, (Ephraim, 2011). Mathuva (2009) found out that shortening days in collection period would result in increase on profitability and further noted that companies with shorter accounts payable period are less profitable and quick turn of inventory would increase profitability. In another way, Sharma and Kumar (2011) found that WCM and profitability is positively correlated. Their study reveals that ARP and CCC exhibit a positive relationship with profitability as well days account payable and inventory of number of days are negatively correlated with firms profitability. Tewodros (2010) also suggested that reduction of CCC and quick turnover of inventory would increase profitability. Tiringo (2013) also suggested that firms with shorter account payable period are less profitable.

Hence, lack of proper research study on the area gives a chance for Ethiopian company's managers to have limited awareness in relation to working capital management to increase firm's profitability. So, as per the knowledge of the researcher, it is almost untouched in

Ethiopia or some research has been done in this area**.** This limited evidence in the context of Ethiopia along with the effect of working capital management pinpoint for research on their impacts on companies' profitability. Thus, while searching on internet, browsing through the books and journals the researcher didn't find directly related research topics carried out in Ethiopian SNNPRS to increase firm's profitability. Therefore, by keeping the above problem in mind, the study is try to find out the impacts of working capital management on companies profitability in SNNPRS, Ethiopia.

1.3. Objective of the study

The general and specific objectives are as follows

1.3.1 .General objective

This study aims to examine the effect of working capital management components on profitability, evidence from selected manufacturing companies in SNNPRS, Ethiopia from the period of 2010 to 2017

1.3.2. Specific objectives

To achieve the general objective, the following specific objectives were used:

1. To Analyze the Effect of Account Receivable Management on Firms Profitability
2. To Examine the Effect of Inventory Holding Period on Firms Profitability
3. To Analyze the Effect of Account Payable Period on Firms Profitability
4. To Evaluate the Effect of Cash Conversion Cycle on Firms Profitability

1.4. Research hypothesis

Many statement of hypothesis can be done to justify the impacts of working capital management on company's profitability. In believing the above thesis aim the next discussions express the hypothesis (HP) that this study will attempt to examine.

HP1: Account receivable management has significant negative effect on profitability of Manufacturing Companies.

HP2: Inventory holding period has significant negative effect on profitability of manufacturing companies

HP3: There is a positive significant relationship between account payable day and profitability of manufacturing companies

HP4: A cash conversion cycle of a company is significant negatively related to a company's profitability.

1.5. Significance of the study

The aim of this thesis is to examine whether working capital management can affect company's profitability in SNNPRS, Ethiopian selected manufacturing companies. It is predictable that the outcome of this research regarding working capital management in the selected manufacturing companies gives to present awareness on the presentation of the companies. Effective financial management needs the presence of certain purposes. This is because judgment as to whether or not a financial decision is efficient must be made in light of a suitable management of working capital although at the same time satisfying decent returns to the investors. This study would significantly advantage for financial managers of manufacturing companies in SNNPRS, Ethiopia. By accepting the connection between working capital management policies and profitability, finance managers would be well-appointed to plan their working capital policies based on working capital management strategies that improve profitability.

The paper is significant for management accountants and students who will be interested in this study and help investors to invest large companies under study that are managing their working capital well. Hence, the finding of this research have been great contribution to the body of knowledge by identifying how working capital management efficiency are affect the profitability of firms in SNNPRS, Ethiopia.

1.6. Scope of the study

This research concentrate on the impact of working capital management component on the company's profitability, evidence from selected manufacturing companies in SNNPRS, Ethiopian from a period of 2010 -2017 .There is a lot of business service existing in

SNNPRS, Ethiopian this study concentrated on manufacturing sphere and the determination to use manufacturing company is based on the next two facts that raise the effectiveness of the study. First, manufacturing companies represent an appropriate sample in order to analyze working capital management. Because all of three components of working capital (inventory, account receivable and account payable) usually play important roles in the manufacturing sector and comparability of the sample companies will be improved. For instance, service companies most probably hold much less inventory and accounts receivable. Hence, they represent a less reliable source of information for this specific study, and also based on budget and time**.**

In general this study focuses on the impact of working capital management on the company's profitability, evidence from selected manufacturing companies in SNNPRS, Ethiopia from a period of 2010 to 2017.Therefore, selecting six years because limited number of firms with an operating life of more than eight years doing so, sample of 11 companies was selected.

1.7. Limitation of study

The quality of one study is extremely contingent on the honest evidence acquired from concerned populations or companies. So that, the sample size for this study may not be large enough to study the subject and to symbolize the study population. The restriction of the sample size was operating life of manufacturing companies in the study area. For this reason there are imperfect numbers of companies with only an operating life of more than eight years. Finally, over-all the vital factor that limited the study output was shortage of time and finance to increase the sample size.

1.8. Structure of the paper

The research is structured in five chapters; the first Chapter runs an overview of the full study comprising the statement of the problem, objectives of the study, research hypothesis, significance of the study, scope and limitation of the study, and how the study was organized also took in this chapter. The second chapter, literature review gives a wide literature study on working capital and the managements of its different parts.

The third Chapter presents the methodology used for the study and gives a full indication of the population, sampling technique, the research design, data source and collection procedures data analysis procedures. It also provides the model and model selection. The fourth Chapter focuses on the description of the relevant variables that was included in and normality test analysis on the model specification used for the study results and analysis. The fifth Chapter includes summaries, conclusions and recommendations for the research.

CHAPTER TWO

LITERATURE REVIEW

Introduction

This part of the chapter discussed the evidence of working capital management and profitability measure of a company. Hence, this part of the study is arranged in to three sections. The first part is theoretical review of working capital management while the second part is empirical evidence relating to working capital management. The last part is conclusion on the literature review and identifies the knowledge gap of the research.

2.1 Theoretical literature review

The thought of working capital management was crucial and continues to be important to all industries and it pass over from manufacturing companies to service oriented company. Management of working capital involves the relationship between a company current assets and current liabilities (Pandey,2004). The goal of management of working capital is to ensure that the business company is able to continue in process in the predictable upcoming. Deloof (2003) indicated that, the way in which working capital is handle has significant impact on profitability of companies especially for manufacturing sector. This is because manufacturing companies maintain relative higher components of working capital. The management of working capital involves administration of inventories, accounts receivables and payables and cash (Naser, Nuseibeh and Al-Hadeya, 2013). For any business company to increase and keep its liquidity position it must hold appropriate level of working capital in order to trade-off between liquidity and profitability. The needs of working capital depends much on type and nature of business and industry, however the components generally includes cash, debtors, receivables, inventories, marketable securities and exchangeable futures (Appuhami, 2008). It has been observed that by minimizing amount of funds invested in current assets, companies can cut-off unnecessary financing cost and possibly reserving aside enough funds for capital expenditures like expansion of manufacturing plant and equipment aiming to raise production of goods and services. Due to its important in daily life, manufacturing company is required to maintain adequate working capital while conducting its day to day operations. Having inadequate amount of working capital, it is negatively affect companies liquidity position not only that but also

holding excess working capital results in the reduction of profitability of these companies. Hence, proper estimation of needed working capital is crucial for surviving of manufacturing companies.

2.1.1. Definition of key terms and concepts

This part of theoretical literature review, provide definition of key terms and concepts which are used in this thesis. It provides more clear understanding to these concepts.

Working capital: It represents working liquidity available to a business, organization or other entity, including governmental entity. (Madishetti and Kibona, 2013).Working capital is a common measure of a company liquidity, efficiency and overall health. It includes cash, inventory, account receivable, account payables and the portion of debts due within one year. There are two concepts of working capital.

Net working capital: The difference between current assets and current liability. Net working capital either be positive or negative, positive net working capital occurs when current asset exceed current liabilities. This shows that the company is able to pay its short term obligation. Negative net working capital occurs when current liability exceeds current assets. This shows that the company is not able to pay its short term obligation.

Gross working capital: means the company's current assets. Current assets are those which can be converted in to cash within one year and consists of cash and cash equivalents inventories and receivables are those claims which in one accounting period usually one year.it may include creditors, account payables and outstanding expense.

Management: it is the concept which concerns with plant to get things done, organize the company to be efficient and effective lead and motivate employee and out in place control to make sure plans are followed and goals are meet (Krajewski, and Ritz man, 1999)

Working capital cycle : the time between the points at which the cash is first spent on the production of a product and the final collection of cash from the customer.

Profitability: profitability means ability to make profit from the business activities. It includes how the management efficiency in utilization of business resources to generate

profit. Profit is the term which means the excess of revenues over associated expenses for an activity over a specified period of time usually one year or accounting period (Pandey, 2004). It is closely linked with the efficient managing of the components of working capital and it is an engine that drives the business enterprise. Any business in order to survive in the market, it should have to earn relative revenue to cover operating expense and residual is a profit.

2.1.2. Components of working capital

Working capital can be divided in to the following major components and it is recurrent to measure these components in period of time, normally days. The current assets can be framed in to number of days of accounts receivable and number of days of inventory and on the side of the current liabilities the number of days of accounts payable cash and marketable securities can be found.

Receivables: The stay between sales and relate cash flow continues create the account receivable. Accounts receivable stands for the amount the clients have to pay to the firm on a current basis and are related with the operating activities. A higher figure of accounts receivable, means higher short term loans given by the firm to the customers. Companies which facilitate trade credit to customers have more number of day accounts receivable meaning higher investment in working capital, but companies which receivable the payments from the customers close to the moment on which they deliver the product, service, have less cash invested in working capital.

Inventories: are goods or materials waiting to be sold and to be converted in cash in the short turn, more investment on inventories means more cash tide up waiting to generate returns. The physical storage costs depend essentially in the nature of the product and the stage of the product.

Payable: Account payable stands for an obligation to pay in short term period. Normally they refer to transaction to supplies in the operational activities which were not already paid. They correspond to the amount due to supplies starting from the exact moment the company receive the material and ending in the exact moment the company pay for these materials.

Cash and marketable securities: cash is the most important current assets for the operation of the business, cash is the basic input needed to keep the business running on a continues basis, it is also the ultimate output expected to be realized by selling the service or product manufactured by the firm, cash consists of currency, demand, deposit and time deposits. (Copeland et a1, 2005).

The principal marketable security is commercial paper (short term unsecured notes sold by other firms). The government securities are Treasury bill and bounds, the main source of cash are account payable and equality. According to Donaldson (1961) account payable is money the firm used to its supplies, it is short-term source of finance.

2.1.3.. Types of working capital

Working capital is capitalized typically in all kinds of inventories such raw materials, spares, finished goods etc. Hence, based on time, working capital may be classified in to two important types as temporary and permanent working capital. This can be mathematically presented as, Working capital=Current assets-Current liability.

2.1.3.1. Temporary working capital: Fabozzi and Peterson (2003 p 678), defined as increases of working capital from periodic variation in a company's corporate. Since company not upholds this form of working capital through out in the year or year after year, it may be healthier to use short term rather than long-term sources of capital to fulfill provisional wants. On the other hand it signifies extra current assets essential at dissimilar time in the operational year. Temporary working capital varies period to periods and distinct wants of company processes. Hence, temporary working capital is financed by short –term debit.

2.1.3.2. Permanent working capital:-It denotes that a lowest amount of investment in all working capital which is compulsory at all times to do smallest level of corporate doings (Bringham and Houston, 2003). On the other hand, it characterizes the current assets needed on a ongoing foundation over the whole year. Additional, working capital has a restricted existence and typically below a year, in real exercise portion of the investment in that is continuously stable. Then companies have comparatively lengthier life and production does not halt at the end of a specific accounting period some investment is

continuously protected up in the form of raw materials, working progress, finished stocks, book debits and cash. Investment in these components of working capitals is easily carried onward to the following year.

2.1.4. Determine of working capital requirement: There are no specific set of rules or formulae to determine the working capital requirement of companies. The following is the description of factors which generally influence the working capital requirement of companies.

Nature of business: Working capital requirements of a firm are basically influenced by the nature of the business.

Sales and demand condition: There is a relationship between volume of sales and the working capital needs of an organization.

Technology and manufacturing police: The production process has a lot of impact on the working capital requirement. The longer the manufacturing cycle the bigger will be the company's working capital requirements.

Credit policy of the firm: The credit policy of the firm affects the working capital by influencing the level of borrower.

Operating efficiency: This relates to the best utilization of resources at least costs.

Price level changes: price is relevant to purchase of material, Packaging of finished goods and eventual sales. The rising price level will require a firm to maintain higher amount of working capital.

Credit granted by supplies: A firm which can get bank credit easily on favorable conditions will operate with less working capital than a firm without such facility.

2.1.5. Risk of excess working capital: The risks of excess working capital to a business are as follows.

- It results needless gathering of inventories.

- It is a sign of imperfect credit policy and slow collection period
- Unnecessary working capital makes management complacent which degenerates in to managerial inefficiency.

2.1.6. Risk of insufficient working capital: Firm with insufficient working capital suffers a great disadvantage. The following will be the effects on the company operating with insufficient working capital.

Stagnant growth: It becomes difficult for the company to take advantage of new opportunities or produce new products.

Loss of credit opportunity: Inadequacy of working capital funds make firms unable to secure attractive credit opportunities.

Loss of cash discount: A company with inadequate working capital funds will not be able to enjoy the benefit.

Loss of good will: A firm will lose its reputation when it is not in position to honor its short-term obligations.

Organizational control by creditor: If the working capital of a business is grossly in adequate, it will be forced to finance its operations mere by short-term borrowing.

2.1.7. Working capital policies

Working capital policy can be described as a strategy which provides the guideline to manage the current assets and current liabilities in such a way that it reduces the risk of default (Brian, 2009).The role of working capital management police on firm performance and the importance of a tradeoff between liquidity and profitability were investigated by (Vishnami and Shah, 2007) they provided two basic reasons behind the tradeoff between profitability and liquidity. On the one hand if a firm wanted to take higher risk for higher profits, than it reduced the level of its working capital. On other hand if firm wanted to improve liquidity, it increased the amount of working capital which puts a negative impact on the profitability of firm.

2.1.7.1. Type of working capital police

2.1.7.1.1. Aggressive policy: An aggressive policy means that a company chooses to operate with lower levels of inventory, trade receivables and cash for a given level of activity or sales (Cheatham 1989). According to Gallagher & Joseph (2000) an aggressive policy will increase profitability since less cash will be tied up in current assets, but it will also increase risk because the difference between short term or liquid asset and short term liabilities turns very little. Such a policy is adopted by the company which is operating in a stable economy and is quite certain about future cash flows. A company with aggressive working capital policy offers short credit period to customers, holds minimal inventory and has a small amount of cash in hand. This policy increases the risk of default because a company might face a lack of resources to meet the short term liabilities but it also give a high return as the high return is associated with high risk (Vishnai&Shah,2007).

2.1.7.1.2. Conservative policy: A policy will give rise to a lower risk of financial problems or inventory problems at the expense of reducing profitability because long term debt offers high interest rate which will increase the cost of financing (Cheatham, 1989). Mostly the companies that are operating in an uncertain environment prefer to adopt such a policy because they are not sure about the future prices, demand and short term interest rate. In such a situation it is better to have a high level of current assets. This policy provides the shield against the financial distress created by the lack of funds to meet the short term liability but as we discussed earlier long term debt have high interests the cost of financing. Similarly, funds tie up in a business because of generous credit policy of the company also have its opportunity cost. Hence this policy might reduce the profitability and the cost of following this policy might exceed the benefits of the policy (Arnold, 2008).

2.1.7.1.3. Moderate policy: A modern policy would a middle path between the aggressive and conservative approaches. So, In order to balance the risk and return these firms are following the moderate approach .This approach is a mixture of Conservative and aggressive working capital policy. In these approach temporary current assets, assets which appear on the balance sheet for short period will be financed by the short term borrowings and long term debts are used to finance fixed assets and permanent current asset. Thus the follower of this approach finds the moderate level of working capital with moderate risk

and return. All three approaches are shows that the working capital policies of a company can be characterized as aggressive, moderate and conservative only by comparing them with the working capital policies of similar companies. There are no absolute benchmarks of what may be regarded as aggressive or otherwise, but these characterizations are useful for analyzing the ways in which individual companies approach the operational problem of working capital management.

2.1.8. Working capital management.

The regular adjustment and control of the balance of current asset and current liabilities of an organization are made and the fix assets are properly services (Ross et al 1996). According to Nzioki, Kimeli, Abudho, and Nithiwa (2013) working capital management is the administration of current assets and current liabilities. It deals with the management of current assets and current liabilities and directly affects the liquidity and profitability of company. According to (Deloof, 2003) efficient working capital management involves excessive planning and controlling and it is very important to equalize between current assets and current liabilities to eradicate the risk of insolvency.

2.1.8.1. Account receivable management

Profit may only be called real profit after the receivable are turned in to cash. The management of accounts receivable is largely influenced by the credit policy and collection procedure. A credit policy specifies requirement to value the worth of customers and collection procedure provide guidelines to collect unpaid invoice that will reduce delays for customers who have not yet made payment for goods or services and outstanding receivables (Richard and Laughlin, 1980). The objective of receivable management is to minimize the time gap between achievements of sales and receipts of payment. In this respect account receivable period (ARP) is calculated as receivables divided by sales. This variable represents the rate at which the firm collects payment from its customers. **(**Falope and Ajilore 2009), (Samioglu and Demirqunes**,** 2008) and (Sharma and Kumar, 2011) are examined the influence of accounts receivable on profitability in their different countries.

2.1.8.2. Inventory management

It represents investments made for the purpose of obtaining a return. The return is derived from the expected profits which may result from sale. In most companies a certain level of inventory must be kept order to generate an adequate level of sales. If the stoke level is inadequate, the sales volume will fall below the level otherwise attainable. Excessive stocks, on the other hand, expose the company to expenses such as storage costs, insurance and taxes, as wail as risk of loss value through obsolescence and physical deterioration moreover ,excessive stock tie up funds which can be used more profitably.

Inventory play an important role to determine the activities in producing, marketing and purchasing since inventory determined the level of activities in a company managing, it strategically contributes to profitability. Furthermore, a company's ability to respond to demand is largely dependent on how efficient the company manages inventories and how committed its supplies are to support a company's production lines.

2.1.8.3. Account payable management.

Account payable is one of the major sources of secured short-term financing (Gitman 2009). Utilizing the value of relationship with payee is a sound objective that should be highlighted as important as having the optimal level of prevention (Hill and Sartorial 1992**)** A**s** a consequence strong alliance between company and its supplies will strategically improve production lines and strengthen credit record for future expansion. Creditor is a vital part of effective cash position purchasing initials cash outflows and over-lively interest purchasing function can create liquidity problems.

2.1.8.4. Cash conversion cycle management.

Cash conversion is not constant for example; Stewart (1995) defined cash conversion cycle describing the average basic unit of many investments in material into dollar collected from a customer. Brealey and Myers (2006) described cash conversion cycle as the length of time from the payment for the purchase of raw materials to manufacture a product until the collection of account receivable associated with high profitability because it improves the efficiency of using the working capital. Although the length of cash conversion cycle is an important measure of the efficiency of working capital management and the cash

conversion cycle is introduce by (Richards and Laughlin ,1980**)** is a power full performance measure for assisting how well a company is managing its working capital. In general there is no the same definition of Cash conversion cycle.

2.2 Empirical review

The pervious section presented the theories of working Capital Management and other linked issues. This section is devoted to review the empirical studies on working capital management and its effect on profitability.

Mulualem (2011**)** showed that impact of working capital management on firm's profitability in 13 sample manufacturing companies for the period of five years. The thesis was operated stratified sampling design based on background of companies. The results presented significance negative relationship between profitability and working capital management. Additionally the study originate that there is powerfully significant positive relationship between size and firm profitability and there is no statistically significance negative relationship between debt and companies profitability.

Kumar (2014) investigated the connection among working capital management determinants on profitability. The independent variables are account receivable period , inventory turnover in days, account payable period, cash conversion cycle, and net trading cycle then, the researcher evaluate working capital management, and return on total asset. The paper was measured ten huge steel manufacturing corporations in India in the period of ten years. The study was prepared by using OLS regression and the result displays in significant connection among these variables. From the outcome it is obvious that working capital management has insignificant influence on profitability.

Lawal, Abiola and Oyewole (2015) suggest by observing six selected companies in Nigeria casing the time of eight years used for the thesis, purposive sampling system was applied and data was evaluated using panel data least square method of regression. The thesis originates a significant negative relationship between the components of working capital and (ROI) and the investigation determine that working capital management has significant effect on profitability of manufacturing firms.

Tewoderos (2011) showed that effect of working capital management policies on company's profitability in Ethiopia five years period in a sample of 11 manufacturing private firms. The outcomes display that lengthier accounts receivable and inventory holding periods are linked with lower profitability. There is also negative relationship between accounts payable period and profitability. The outcomes moreover display that there occurs of significant negative connection among cash conversion cycle and profitability in the private limited companies. The paper shows that there insignificant connection among current assets to profitability. Then again, the results display that extremely positive significant interactions among current liabilities to total assets ratio and profitability, lastly, negative interactions among liquidity and profitability have been noticed.

Waweru (2011) studies on the relationship between working capital management and the value of companies quoted at the Nairobi stock exchange. The paper obtained the data from annual reports and audited financial statement of companies listed on the NES. A sample of 22 companies listed on the NSE for a period of seven years was deliberate. The middling stock price was used to measure the value of the company. The outcome of the person correlation specified a negative relationship among average cash collection period, and cash conversion cycle and inventory turnover in days.

Adina (2010) states in his paper working capital management and profitability, A case of Alba county companies hence, the aim of the study was to analyze the efficiency of working capital management, the researcher observed the relationship between the efficiency of working capital management and profitability using person correlation analyses and using a sample of 20 companies of annual financial statement of casing period 2004-2008. The researcher decided that there was a weak negative linear correlation between working capital management pointer and profitability rates.

Sharma (2011) observe the effect of working capital management on profitability of India Company. The collected data which are eight year 263 non-financial BSE in 500 companies registered at the Bombay stock exchange (BSE) eight years and assessed the data using ordinary least square multiple regression. The outcomes of the study significantly leave from the numerous global, researches conducted in dissimilar markets.

The outcome exposed that working capital management and profitability was positively unified in Indian companies. The researchers' additional shown that number of inventory days and number accounts receivable days and cash conversion period.

Ephrem (2011) observed impact of working capital management on profitability of the selected small and medium enterprise in Addis Ababa. The researcher acquired sample of 30 small micro enterprises were selected and analysis was prepared in five years. The researcher also used Person correlation, regression analysis and pooled ordinary least squares for data analysis. The outcome showed that cash conversion cycle and average collection period has negative impact on net operating profitability of a company. Lastly, he decided that a decent working capital management performs can promote the profitability of small and medium enterprise.

Wubshet (2014) observed the impact of working capital management on company's performance by means of a sample of 11 metal manufacturing PLC in Addis Ababa, for the period of five years. The outcomes show that lengthier accounts receivable and inventory holding periods are associated with lower profitability, and also the results show that there is significant negative relationship between cash conversion cycle and profitability. Insignificant relationship among ARP, CCC, ICP and APP with return on investment capital has been detected. The result display that a highly significant negative relationship among ARP, CCC, ICP and APP with ROA.

Richard Kofi Akoto, et al, (2013) studied the relationship between working capital management practices and profitability of listed manufacturing companies in Ghana by using panel data methodology, researchers used secondary data collected from 13 listed manufacturing companies in in the country casing the time from 2005-2009. The paper revealed a significantly negative relationship between profitability and accounts receivable days, though, the firm's cash conversion cycle, current assets ratio, size, and current assets turnover significantly and positively influence profitability.

Karaduman, et al (2011) in their investigation Effects of working capital management on profitability, the case of selected companies in the Istanbul stock Exchange (2005-2008). The paper mainly aimed to provide some empirical evidence on the effects of working

capital management on the profitability of selected companies in the Istanbul stock Exchange. The panel data methods were worked in order to analyze the unquestionably influence the companies in the ISE. The results were similar to the previous studies of Deloof (2003), Lazaridis and tryfondis (2006) Gracia—Teruel and Martineg –Solano (2007) Afza and Nazir (2009**)** made an effort so as to examine the traditional relationship between working capital management policies and a firms profitability for a sample of 304 non-financial companies registered on Karachi stock exchange (KSE) for the period 1998-2005 the research originate alteration among their working capital dissimilar industries furthermore, regression outcome originate a negative relationship between the profitability of companies and negative relationship between the profitability of companies and degree of negative relationship between the profitability of companies and degree of aggressiveness of working capital investment and financing policies. The researchers recommended that manager could create value if they adopt a conservative approach toward working capital investment and working capital financial policies.

Padachi (2006) study on the tendency in working capital management and its effect on company's performance: analysis of Mauritian small manufacturing firm's to identify the cause for any significant difference between the industries. The dependent variable return on total assets is used as a measure of profitability and the relation between working capital management and corporate profitability was investigated for a sample of 58 small manufacturing firms, using panel data analysis for the period 1998-2003. The regression result shows that high investment is inventories days, accounts receivables days, accounts payable days and cash conversion cycle. A strong significant relationship between working capital management and profitability has been found as of pervious empirical work.

Tiringo (2013) observed impact of working capital management on profitability of micro and small enterprises in Ethiopia. The paper used a sample of 67 micro and small enterprise. Data was gathered from the financial statement of the enterprise registered on Bahirdar city micro and small enterprises agency for the study period. The out outcome displayed that there is a strong positive relationship between number of day's accounts and payable and enterprise profitability. On the other hand, number of days accounts receivable, number of days inventory and cash conversion cycle have a significant negative impact on profitability.

Eljelly (2004) examined that efficient liquidity management involves planning and controlling current assets and currents liabilities in such a manner that eliminates the risk of inability to meet due short term obligation and avoids excision investment in these assets. Then relationship between profitability and liquidity was examined, as measured by current ratio and conversion cycle on a sample of joint stock companies in Saudi Arabia using correlation and regression analysis. The research originate that the cash Conversion cycle was more significance as a measure of liquidity than the current ratio that effect on profitability. The size variable was originated to have significant effect on profitability at the industry level. The outcomes were stable and significant consequence for liquidity management in various Saudi companies. A negative relationship between profitability and liquidity indicators such current ratio and cash conversion cycle in the Saudi sample inspected. The research also exposed that there was countless difference between industries with admiration to the important measure of liquidity.

Mathuva (2009) inspect the effect of working capital management constituent on company profitability by using a sample of 30 companies listed on the Nairobi stock Exchange (NSE) for the period 1993-2008. The researcher used the pooled ordinary lest square (OLS), and the fixed effects regression models to conduct data analysis. The outcome of the research were, a highly significant negative relationship between the account receivable period and profitability, and a highly significant relationship between the inventory conversion period and profitability also theirs is a highly significant positive relationship between the account payable period and profitability.

Falope and Ajilore (2009) studied the working capital management and company, profitability, evidence from panel data, analysis of selected quoted companies in Nigeria. The researcher used the sample of Nigerian quoted non-financial companies for the period 1996-2005. The research originate a significant negative relationship between net operating profitability and the account receivable period, inventory turnover in days, account payable period and cash conversion cycle for a sample of fifty Nigerian firms listed on the Nigeria stoke Exchange. Also, the research originates no significant difference in the effects of working capital management between large and small companies. These outcomes recommend that management can make value for working capital in more well-organized

way by reducing the number of day's accounts receivable and inventories to a reasonable least.

Mefita Ahimed (2016) examined the impact of working capital management on profitability of manufacturing Share Company in Ethiopia by using a sample of 16 manufacturing share companies in Ethiopia, for the period of 2008-2014. The result shows that the shorter the firms cash conservation cycle, the higher the profitability and vice versa the negative relationship between accounts receivable period and profitability suggests that high profitability pushed an increase of their account receivable. The negative relationship between inventory holding period and profitability suggests that firms should make speed the turnover of inventory to be profitable. There for, according to his research for profitability making lower the length of cash conversion cycle and keeping each different company (accounts receivable, account payable, and inventory) to the optimal level.

Ashratck (2012) examined a sample of the Indian firms, on BSE including companies from dissimilar sectors of economy for a period of 2006-2011. The study observed the effect of debt ratio, account receivable period, inventory turnover in days, average payment period, cash conversion cycle and current ratio on the working profitability of sample companies. Descriptive and regression are used for analysis. The outcome displays that there is a strong negative relationship between variables of the working capital management and profitability of the companies except the size of the firm.

2.3. Summary of literature review and knowledge gap

The summary of present literature discloses an enormous number of researches investigative working capital management and profitability in dissimilar countries, including Ethiopia. Ching et al (2011), used return on sales and on equity to measure profitability. The researcher originate that there was a strong significant relationship between working capital management and profitability. Takon (2013) get liquidity has a positive and significant relationship with ROA. Lyrondi and lazardis (2000) originate research that cash conversion cycle was relatively connected with the study showing alteration between current ratio but positively connected with quick ratio. Vishanami and shah (2007) found out in their study that no established relationship exists between liquidity and profitability although majority of the companies revealed positive association between

liquidity and profitability**.** Amit, Mallik and Dabdas, (2005) found and concluded in their study that there is no definite relationship established between liquidity and profitability. Sharma and kumar (2011**)** exposed that inventory number of days and number of days accounts receivable and cash conversion-period show a positive relationship with company profitability.

Tewoderose (2010) also suggest that reduction of CCC and quick turnover of inventory would increase profitability. Tirngo (2013) also suggested that companies with shorter account payable period are less profitable. Other researchers have also supported and applied return on asset as measurement of profitability.

By and large, the literature review shows that working capital management has impacts on profitability, liquidity and performance of a firm. Even if, the literature review showed that working capital management has impact on the profitability, liquidity and performance of firms but there is still vagueness regarding the appropriate variables, hypotheses and effect size measures that might serve as proxies for working capital management as a whole.

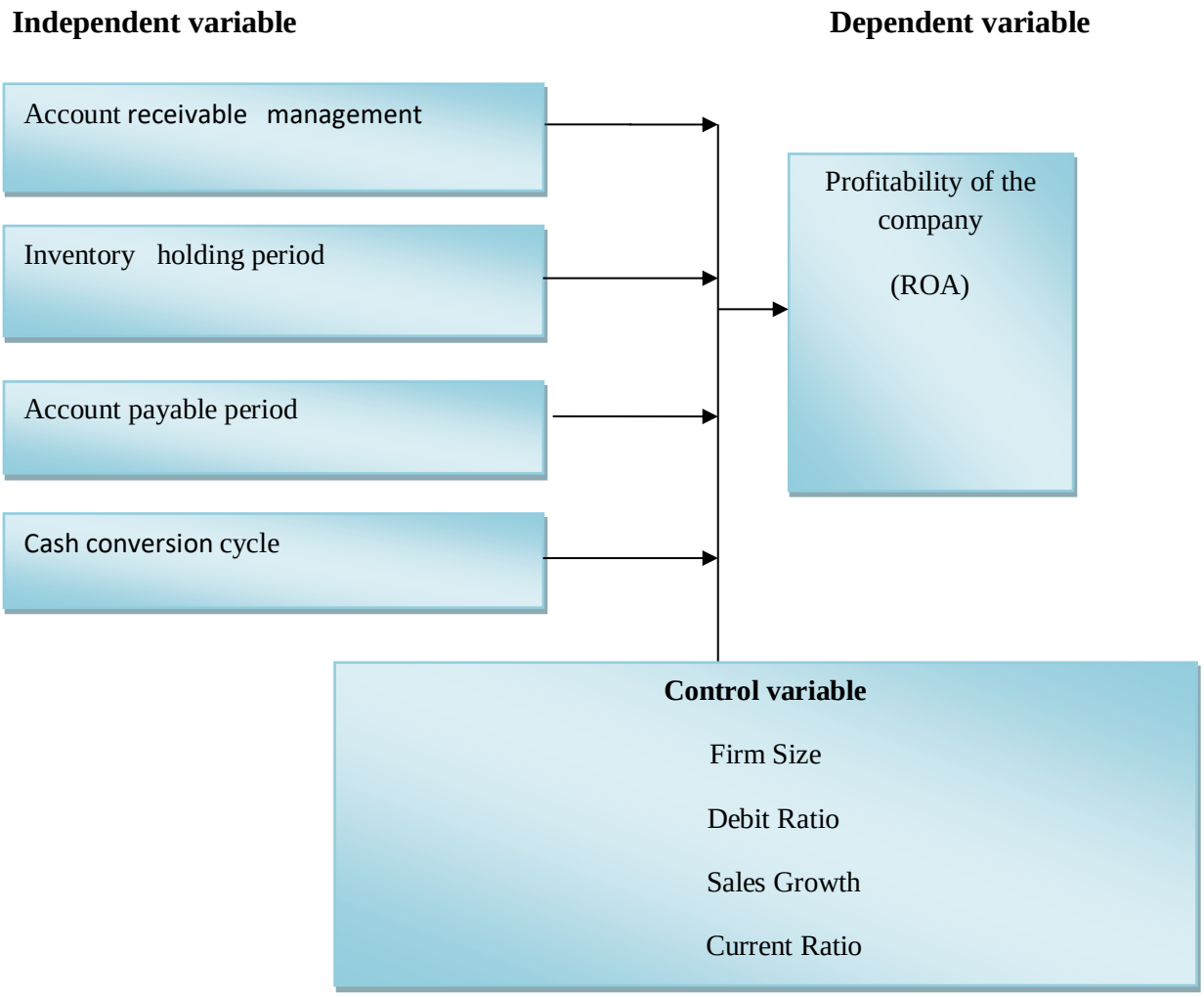
After the thesis listed above it could be showed that working capital has impact on profitability. Mathuva (2009) originate that shortening days in collection period would result in increase on profitability and further noted that companies with shorter accounts In another way, Sharma and Kumar (2011) found that WCM and profitability is positively correlated. Their study reveals that ARP and CCC exhibit a positive relationship with profitability as well days account payable and inventory of number of days are negatively correlated with firms profitability. It is clear from the empirical evidence; there are no common results on the impact of working capital on profitability.

In general, there is No research has been done in spite of the learned impact in the area of the provision of empirical evidence in support of the impact of working capital management on profitability Evidence from manufacturing Company in SNNPRS, Ethiopia. Impact of working capital management on profitability of selected manufacturing companies in SNNPRS, Ethiopia with special reference to greater than 10 years age and eight million birr capital so, when the scoop was restricted in some area the sample size was very little. Given this lack of empirical studies, it is hoped that this study fills a gap and

provide useful support for better understanding of the effect of working capital management on profitability in manufacturing companies. So, the researcher keeps in mind it is necessary to fill this gap.

Figure 2.1.Conceptual frame work

The following figure present conceptual frame work of the relationship between WCM measures and profitability of companies.



Source: Relationships identified in previous study (Kimeli, 2012)

Table 2.1. Summary of Previse Study's finding

Variables	Researcher's name	Year	negative relation on company's profitability	positive relation on firm's profitability
Number of Days Accounts Receivable	Deloof	2003	Deloof	Sharma and kumar
	Laziridis and Tryfonidis	2006	LaziridisandTryfonidis	
	Padachi	2006	Padachi	
	Afza and Nazir	2007	Afza and Nazir	
	Raheman& Nasr	2007	Raheman& Nasr	
	Karaduman et at	2011	Karaduman et at	
	Falope andA jilore	2009	Falope and Ajilore	
	Mathuva	2009	Mathuva	
	TewoderosAbera	2010	TewoderosAbera	
	Makkori and Jagonogo	2013	Makkori and Jagonogo	
Number of Days Accounts Payables'	Deloof	2003	Deloof	Mathuva
	Laziridis and Tryfonidis	2006	Laziridis andTryfonidis	Makkori and Jagongo
	Padachi	2006	Padachi	
	Afza and Nazir	2007	Afza and Nazir	
	Raheman & Nasr	2007	Raheman& Nasr	
	Samiloglu and Demirgunes	2008	Samiloglu and Demirgunes	
	Falope and Ajilore	2009	Falope and Ajilore	
	TewoderosAbera	2010	Tewoderos Abera	
	Sharma and Kumar	2011	Sharma and Kumar	
Number of Days Inventories	Deloof	2003	Deloof	Padachi
	Leziridise and Tryfonidis	2006	LeziridiseandTryfonidis	Mathuval
	Afza and Nazir	2006	Afza and Nazir	Makkori and Jagongo
	Raheman and Naser	2007	Raheman and Naser	
	Samilogua and Demirgunes	2008	Samilogua and Demirgunes	
	Falopea and Ajiore	2009	Falopea and Ajiore	
	Tewoders Abera	2010	TewodersAbera	
	Sharma and Kumar	2011	Sharma and Kumar	

Sources: From the Previous Studies

CHAPETER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The preceding part of the thesis defined theory linked of working capital management by dissimilar writers. This section though goes to presenting the means of relevant data and its gathering approaches have aided prove that certainly working capital management is essential for manufacturing companies. It shelters study designs, data source and collection methods, targeted population and sample size, clarification of variables, and model specifications.

3.2 Research design

A research design is the arrangement of condition for collection and analysis of data that aims to combine relevance to the research purpose with economy in procedures (Kothari, 1990). At the time of conducting this study an explanatory research design was employed, it was due to the fact that, a quantitative research design through the use of secondary data on profitability of the company will change either increasing or decreasing depends on whether there is an efficiency working capital management or not . According to Grover and Malhotra (2003**)** explanatory research is devoted to finding causal relationship among dependent and independent variable. Rendering to the researchers the quantitative data gathering method are useful especially which a study needs to measure the cause and effect relationships between per-selected and discrete variable

The selection of explanatory research design was due to the fact that the study concerned with the impact of working capital components on profitability. These working capital components include the following:-Account Receivable Management (ARM), Account Payable Period (APP), Inventory Holding Period (IHP) and cash conversion Cycle (CCC).

3.3. Data source and collection procedure

The study employed secondary source of data. The data was derived from financial statements of selected manufacturing companies. These data included audited balance sheet

and income statements of the sampled companies. The data was collected for a period of eight years. The period of the data collection period was from 2010 to 2017.

3.4. Target population

A population is the whole group of elements about which the investigator creates certain inferences. The gathering of altogether likely observations of a stated typical of interest is named a population while a group of observations representing only a share of the population is named a sample. In this research, the target population is selected manufacturing companies in SNNPRS, Ethiopia. The population inference (logical judgment) is made because of the availability of the facts essentially for the study and also most of the manufacturing companies located in ERCA Hawassa branch bureau. .

In order to solve this problem the researcher limits the study population only to those manufacturing Companies who have more than eight million birr capital and the age of more than ten years of operation in SNNPRS ,Ethiopia.

According to obtained data from investment bureau, of Ethiopian SNNPRS, formally registered manufacturing companies are 18. The total number of population used for the study has been 18 manufacturing companies. The study coverage was the age and capital of those companies greater than ten years old and eight million birr initial capital of selected manufacturing company's found in SNNPRS, Ethiopia. Hence, the population inference is made due to the availability of the data necessary for the study and also most of the manufacturing firms reside in Hawassa branch office.

3.5 Sample and sampling technique

The population of the study composed of all purposively selected manufacturing companies in SNNPRS, Ethiopia. The sampling method used as due to the following requirements. The first select sample units to be included was that the status of manufacturing companies in SNNPRS. According to, the South region investment bureau, 18 selected manufacturing companies were running business in the region as of January 31, 2018.(based on their capital and age).The second level sample restriction in selecting sample unit to be included in the study was holding a complete eight years financial statement data from the study

period of 2010-2017. The companies whose data are not available and uniform excluded from the sample selection Period of 2010-2017. Hence, within 18 companies 11 companies those data were available for the entire study period or whose financial years were uniform were included from the sample selection. The researcher try to make the sample representative of the population manufacturing companies of purposively selected in SNNPRS, Ethiopia.

3.6 Research variables

Variables are properties or characteristics of people or things that vary in amount or greatness from individual to individual or from object to object. In another word, variable is anything that can take on a variation of dissimilar values. The variables are classified as dependent, independent and control variables. In this study variables used have been selected based on previous researchers' study and presented below:-Thus the variables are defined to be constant with those Tervel and Solano (2007),Deloof (2003), Shian and Soenel (1998**)** and Karaduman et at (2011).

3.6.1. Dependent variable (Profitability)

The dependent variable in this study is company's profitability. In order to analyze the effect of working capital management on the company's profitability, return on assets was used as dependent variable. This is because return on assets is a pointer of managerial efficiency. (Lizards and Trynids. (2006) Deloof (2003) ,Shin and Soenel (1998) Falope and Ajilore(2009) Singh and Pandey. (2008) Karaduman et at (2011), Sharma and Kumar (2011**)** Mogaka and Jagongo (2013).

ROA is calculated by the following formula $\mathrm{ROA} = \frac{\mathrm{EBIT}}{\mathrm{TA}}$

Where:

ROA: Return on Assets

EBIT: Earnings Before interests and Taxes

TA: Total Assets

3.6.2. Independent variables

With respects to the independent variables working capital management is measured by using Accounts receivable Management (ARM) inventory holding period (IHP) Account payable period (APP) and the cash conversion cycle (CCC) used as compressive of working capital management

3.6.2.1. Accounts receivables management

Accounts receivable period measures the number of days it takes to collect cash from debtors. (Fried *et al,* 2003) state that days sales in receivables measure the effectiveness of the firm's credit policy. The objective of debater management is to minimize the time gap between completion of sale and receipt of payment. In this respect accounts receivable period (ARP) is calculated as accounts receivable /sales. This variable represents the receivables that the company will collect from its clients Samilogu and Demirq (2008) Falope and Ajilore (2009) and Sharma and Kumar (2011**)**.The above authors studied the influence of accounts receivable have on profitability in their different countries.

Accounts Receivable Management (ARP) = [Ending Accounts Receivable /Net Sales] X 365 days

3.6.2.2. Inventory holding period

Inventory holding day measures the number of days held by the company before it is sold. The less number of days sales in inventory shows that inventory dose not remain in warehouses or on shelves but rather turns over rapidly from the time of acquisition to sale (Fried et al,2003). This ratio is measured as follows:

Inventories Holding Period (IHP) = [Ending Inventories /Costs of Good Sold] X 365 days

3.6.2.3. Accounts payable period

Account payable days used to substitution for payment police and it state how long it receipts the company to refund for purchasing of inventory. Account payable is an interest free form of short term financing and many companies use it to the last day possible before payment is due. Positive relationship between accounts payable day and profitability can be

explained by the increased availability of funds caused by the delayed payment of accounts payable because such funds can used for productive purposes that can increase profitability. Arshad, (2013) Lazaridis and Tryfonidis (2006) stated that account payable is the largest source of short term financing.

Account Payable Period (APD) = [Ending Accounts Payable/ Net Purchases] X 365 days

3.6.2.4. Cash conversion cycle

Cash conversion cycle (CCC) is a comprehensive measure of working capital management. It shows the time lag between expenditure for the purchases of raw materials and the collection of sales of finished goods. The longer the cycle, the larger the funds blocked in working capital hence, the greater for needs of financing of current asset. According to Shin and Soenel (1998),Lazaridis and Tryfonidis (2006) Faiop and Ajilore (2009) the relationship between CCC and ROA shows a significant and negative relationship.

The formula to calculate CCC is Accounts Receive Day (ARD) + Inventory Holding Day (IHD)-Account payable Day (APD).

3.6.3. Control variables

A control variable is one that is held fixed in order to determine the relationship between independent and dependent variable**.** Spector and Brannick (2013) Explain that roles of control variables, as to intend to purify the observed relationship among variables of interest and to avoid contamination in the measurement of variable of interest. Control variables refer to variables that are fixed or eliminated to clearly identify the relationship between an independent variable and a dependent variable. In this study the following variables were used so as to come up with effective output.

3.6.3.1. Company size

Size of the company can influence the company's performance in several ways through crating of goodwill which enable the company to earn huge market share. Also size of the firm may facilitate building strong distribution system or channels so as to access easily consumers. Company size may motivate lenders to advance loan when needed by the firm.

Size of the firms = Natural logarithms of sale

3.6.3.2. Sale growth

Sale growth is ability of the firms to generate more revenue in the current financial year in comparison with the previous financial year. Sales growth measurers as follow:-

$$\text{Sales growth} = \frac{Sale_t - Sale_{t-1}}{\text{Sale}_{t-1}}$$

Where

$Sale_t$ =Current sales value

$Sale_{t-1}$ =Previous sales value

3.6.3.3. Current ratio

The current ratio measures the adequacy of current assets meet the liabilities as they fall due. A high or increasing figure may appear safe but should be regarded with suspicion as it may be due to high level of inventory and receivables and high cash levels which could be put to better use like investing in non-current assets. Current ratio measure as follows:-

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

3.6.3.4. Debit ratio

As measured by debt ratio which is calculated by total debt to total asset Fabozzi and Peterson (2003) to keep debt utilization effect constant, firm leverage was used for the study .

Debt Ratio = Total Liabilities/Total Asset

Table 3.1.Summary of key variables and expected impact on ROA

Variable	Variable type	Expected coefficient sign	Rationale
Accounts receivables management. (ARM)	Independent variable	Negative	ARM↑ ROA↓
Inventory holding period	Independent variable	Negative	IHP↑ ROA↓
Accounts payable period (APP)	Independent variable	Positive	APP↑ ROA↑
Cash conversion cycle (CCC)	Independent variable	Negative	CCC↑ ROA↓
Company size(CS)	Control variable	Positive	CS↑ ROA↑
Sale growth (SG)	Control variable	Positive	SG↑ ROA↑
Current ratio (CR)	Control variable	Positive	CR↑ ROA↑
Debit ratio (DR)	Control variable	Positive	DR↑ ROA↑

Source*: Relationships Identified in Previous Studies*

3.7. Model selection criteria (Random vs. Fixed effect model)

In this study the method used in each model is selected based on the Correlated Random Effects-Hausman Test. The Hausman test that examines whether the unobservable heterogeneity term is correlated with explanatory variables, while continuing to assume that repressor's are uncorrelated with the disturbance term in each period. The null hypothesis for this test is that unobservable heterogeneity term is not correlated or random effect model is appropriate, with the independent variables. If the null hypothesis is rejected then we employ Fixed Effects method (Padachi, 2006).

The pooled regression assumes that the intercepts are the same for each firm. This may be an inappropriate assumption; (Brooks, 2008) recommended that we could instead estimate a model with firm fixed effects, which will allow for latent firm specific heterogeneity. The simplest types of fixed effects models allow the intercept in the regression model to differ cross-sectionally.

3.8. Model specifications

To analyze the impact of working capital management on profitability, the study used the following methods: First, descriptive statistical analysis where in a description of features of the data in the study such as mean and standard deviation of each variable is presented. Second, regression analysis will be used to gauge the extent to which a unit change in each respective explanatory variable has on profitability. Pooled ordinary least squares method is used in regression analysis, where in times series and cross-sectional observations is combined in determining the causal relationship between profitability variable and the independent variables used in the study.

3.8.1. General regression model

To examine the impact of working capital management on profitability of selected manufacturing companies in SNNPRS Ethiopia, the model used by (Samiloglu&Demirgunes, 2008) has been adopted. This model is specified as:

$ROA_{it} = \beta_{0+} \beta_i Xit + \beta_{it+}$

Where:

ROA_{it} are Return on Assets of firm I at time t; i=1, 2, 3, 4…..11 firms

β_0 is the intercept of the equation

β_i are coefficients of Xit variables

Xit are independent variables at time t

t=time = 1,2…….5 years from year 2013 to 2017

βi is the error term

3.8.2. Specific regression model

Pooled OLS regressions are simply a linear regression applied to the whole data set. One of the biggest advantages of OLS method is that it relaxes the restriction of an enough large

data set and simplicity Deloof, (2003) Garcia-Teruel, Martinez-Solano & padachi,(2006) used OLS to investigate the impact of WCM on company profitability. Four models are developing in order to verify the research questions, when the above general model is converted in to the specified variable of this study. The following regression equations are run to obtain the impact of working capital management on the performance of manufacturing companies.

Model Specification (1) Regressed for Accounts Receivable Management

Model 1: $ROA_{it} = \beta_{0+} \beta_I (ARM_{it)+} \beta_{2(CRit)+} \beta_{3(SGit)+} \beta_{4(DRit)+} \beta_{5(FSit)+} \beta_{it}$

Model Specification (2) Regressed for Accounts Holding Period

Model 2: $ROAit = \beta_{0+} \beta_{i1(IHPit)+} \beta_{2(CRit)+} \beta_{3(SGit)+} \beta_{4(DRit)+} \beta_{5(FSit)+} \beta_{it}$

Model Specification (3) Regressed for Accounts Payable Period

Model 3: $ROAit = \beta_{0+} \beta_{i1(APpit)+} \beta_{2(CRit)+} \beta_{3(SGit)+} \beta_{4(DRit)+} \beta_{5(FSit)+} \beta_{it}$

Model Specification (4) Regressed for Cash Conversion Cycle

Model 4: $ROAit = \beta_{0+} \beta_{i1(CCCit)+} \beta_{2(CRit)+} \beta_{3(SGit)+} \beta_{4(DRit)+} \beta_{5(FSit)+} \beta_{it}$

Here: $\beta_{0=}$ intercept of the regression**.**

$\beta 1$, $\beta 2$, $\beta 3$, $\beta 4$, and $\beta 5$ = coefficients on each respective explanatory variables.

ROA it =Return on asset-for firm i at corresponding time t.

ARM it = Account receivable Management –for firm i at corresponding time t.

IHP it = Inventory holding Period –for firm i at corresponding time t.

APP it = Account Payable Period–for firm i at corresponding time t.

CCC it = cash conversion cycle –for firm I at corresponding time t.

CR it = Current ratio – for firm I at corresponding time t.

SG it = Sales growth for firm I at corresponding time t.

DR it = Debit ratio for firm I at corresponding time t.

FS it = Size of firm I at corresponding time t.

t = time= 1, 2 ….8 (from year 2010 to 2017).and

βit = is the error term of the regression – for firm I at time t.

3.8.3. Model Assumption Test

To determine whether the fixed effects are necessary or not, this study run a redundant fixed effects test as recommended by (Brooks, 2008) and others using Hausman Test

H0: Random Effects model is appropriate

H1: Fixed Effects model is appropriate

Decision Rule: Reject H0 if p-value less than significance level 5%. Otherwise, do not reject

H0. According to the results presented below the study adopt fixed effects model

Table 3.2 Redundant fixed effect test

Model 1: ROA C ARM CR LVG SG 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	28.890725	5	0.0000

Model 2: ROA C IHP CR LVG SG 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	31.986193	5	0.0000

Model 3: ROA C APD CR LVG SG 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	30.114425	5	0.0000

Model 4: ROA C CCC CR LVG SG 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	34.201884	5	0.0000

CHAPTER FOUR

RESULT AND ANALYSIS

4.1. Introduction

This chapter presents the outcome of the numerous indicators for presentation of manufacturing companies and their particular working capital variables. The research has employed 9 variables for the analysis function, 4 independent and 4 control variables and 1 dependent profitability variable.4 independent variables are representations for working capital management of the sample companies. Other 4 variables (credit ratio, debit ratio, firm size and sales growth) as measured by control variables.

The data used in this study are obtained from a sample of 11 companies in SNNPRS, Ethiopia for the period of 2010 to 2017, which represents the selected manufacturing company. The analysis of this study was examined by applying the statistical package of E-Views version 6 next, the effect of WCM components on the profitability of firms are investigated by testing on the hypotheses developed earlier in previous Chapter. The main aim of this research is to examine the impacts of working capital management on firms' profitability. The secondary data sources are the documentary review analysis of companies financial statements mainly income statements and balance sheet.

4.2. Normality testing

4. 2.1. Histogram of normally test

Normality is a situation in which the variables to be used in the model go behind the standard normal distribution. The Jarque-Bera statistics was used to test the normality of the variable under different situations and under the hypotheses;

Ho: The series is normally distributed

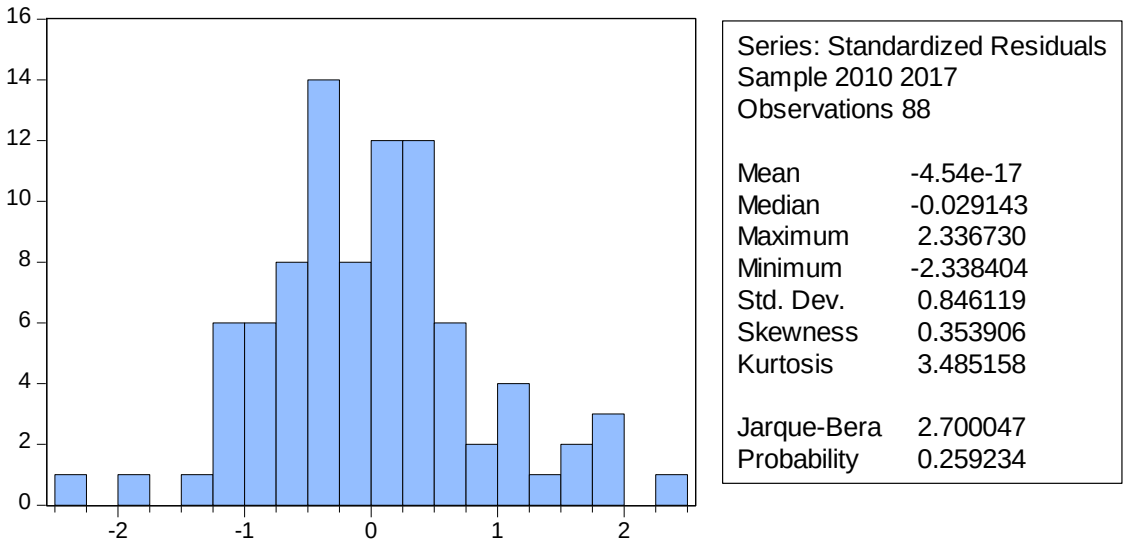
H1: The series is not normally distributed

If the series are normally dispersed, the histogram ought to be bell shaped and the J- B statistic insignificant. It hence, follows that series will be normally distributed at 5% level

of significance if the probability of J_B statistic is greater than 0.05. (Brooks 2008). Hence, the four models regressed found to be normally distributed as presented below.

Model 1: ROA C ARM CR DR SG FS

Figure 4.1: Normality test for the model effect of ARM on ROA

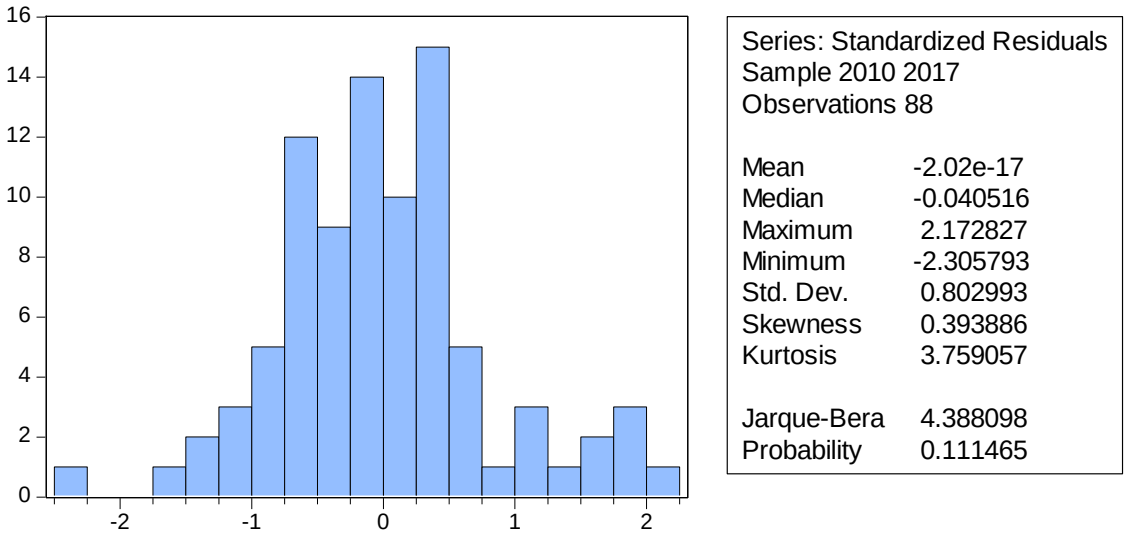


Source: E-Views Output Results *from Financial Statement of Sample Companies*

The normality tests for this study as shown in Figure 4.1, the majority of distributions are falls in to the bell shaped boundary of histogram with the mean of -4.54e-17 and standard deviation 0.86. The J-B statistic has a P-value of 0.256 implies that the p-value for the J-B test for models is greater than 0.05 which indicates that the errors are normally distributed. Based on the statistical result, the study failed to reject the null hypothesis of normality at the 5% significance level.

Model 2: ROA C IHP CR DR SG FS

Figure 4.2: Normality test for the model effect of IHP on ROA

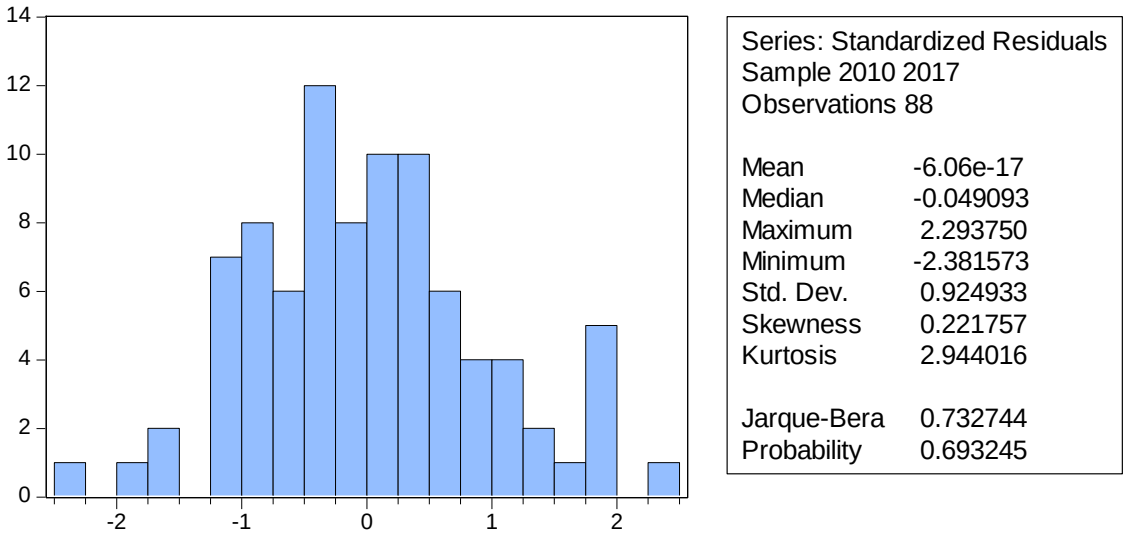


Source: E-Views Output Results *from Financial Statement of Sample Companies*

The normality tests for this study as shown in Figure 4.2, majority of distributions are fall's in to the bell shaped boundary of histogram with the mean of -2.02e-17 and standard deviation 0.802. The J-B statistic has a P-value of 0.111 implies that the p-value for the J-B test for models is greater than 0.05 which indicates that the errors are normally distributed. Based on the statistical result, the study failed to reject the null hypothesis of normality at the 5% significance level

Model 3: ROA C APP CR DR SG FS

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

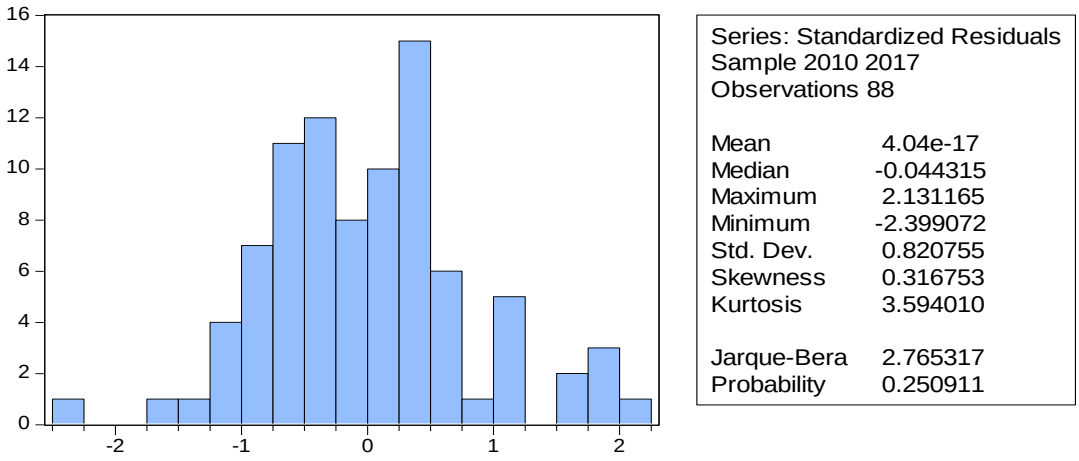


Source: E-Views Output Results *from Financial Statement of Sample Companies*

The normality tests for this study as shown in Figure 4.3, the majority of distributions are fall's in to the bell shaped boundary of histogram with the mean of -6.06e-17 and standard deviation 0.924. The J -B statistic has a P-value of 0.693 implies that the p-value for the J-B test for models is greater than 0.05 which indicates that the errors are normally distributed. Based on the statistical result, the study failed to reject the null hypothesis of normality at the 5% significance level

Model 4: ROA C CCC CR DR SG FS

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



Source: E-Views Output Results *from Financial Statement of Sampled Companies*

The normality tests for this study as shown in Figure 4.4, the majority of distributions are fall's in to the bell shaped boundary of histogram with the mean of 4.04e-17 and standard deviation 0.820. The J–B statistic has a P-value of 0.250 implies that the p-value for the J-B test for models is greater than 0.05 which indicates that the errors are normally distributed. Based on the statistical result, the study failed to reject the null hypothesis of normality at the 5% significance level.

4.2.2. Heteroscedasticity test

According to (Brooks, 2008), Heteroscedasticity means that error terms do not have a Constant variance. If heteroscedasticity occur, the estimators of the ordinary least square method are inefficient and hypothesis testing is no longer valid as it will underestimate the variances and standard errors. There are several tests to detect the Heteroscedasticity problem, which are Park Test, Glesjer Test, Breusch-Pagan-Goldfrey Test, White's Test and Autoregressive Conditional Heteroscedasticity (ARCH) test This study used Breusch-Pagan-Goldfrey Test and Glesjer Test to detect the presence of Heteroscedasticity.

H0: The model is Heteroscedastic

H1: The model is Homoskedasti

Decision Rule: Reject H0 if p-value greater than significance level. Otherwise, do not reject H0.

4.2.2.1. Breusch-Pagan-Godfrey Heteroskedasticity Test

Model 1: ROA C ARM CR DR SG FS

Table 4.1 Breusch-Pagan-Godfrey Heteroskedasticity Test for Model 1**:**

F-statistic	0.435844	Prob. F(5,81)	0.8223
Obs*R-squared	2.279320	Prob. Chi-Square(5)	0.8093
Scaled explained SS	8.377094	Prob. Chi-Square(5)	0.1366

ource: Eviews Output from Financial Statement of Sample Companies

According to the Breusch-Pagan-Godfrey test for heteroskedasticity on the above model indicates the probability of F-statistic is 82.2 percent. The probability of chi-square for R2 and Scaled explained SS are 80.90 and 13.67 percent respectively.

Model 2: ROA C IHP CR DR SG FS

Table 4.2. Breusch-Pagan-Godfrey Heteroskedasticity Test for Model 2:

F-statistic	0.615360	Prob. F(5,82)	0.6884
Obs*R-squared	3.182520	Prob. Chi-Square(5)	0.6719
Scaled explained SS	10.72971	Prob. Chi-Square(5)	0.0570

Source: EViews Output from Financial Statement of Sample Companies

Regarding the Breusch-Pagan-Godfrey test for heteroskedasticity on the above model indicates the probability of F-statistic is 68.84 percent. The probability of chi-square for R2 andScaled explained SS are 67.19 and 5.70 percent respectively

Model 3: ROA C APP CR DR SG FS

Table 4.3. Breusch-Pagan-Godfrey Heteroskedasticity Test for Model 3:

F-statistic	0.250325	Prob. F(5,82)	0.9385
Obs*R-squared	1.323011	Prob. Chi-Square(5)	0.9325
Scaled explained SS	5.079947	Prob. Chi-Square(5)	0.4062

Source: Eviews Output from Financial Statement of Sample Companies

Regarding the Breusch-Pagan-Godfrey test for heteroskedasticity on the above model indicates the probability of F-statistic is 93.85 percent. The probability of chi-square for R2 and Scaled explained SS are 93.25 and 40.62 percent respectively

Model 4: ROA C CCC CR DR SG FS

Table.4.4. Breusch-Pagan-Godfrey Heteroskedasticity Test for Model 4:

F-statistic	0.549959	Prob. F(5,49)	0.7375
Obs*R-squared	2.922499	Prob. Chi-Square(5)	0.7119
Scaled explained SS	6.554697	Prob. Chi-Square(5)	0.2559

Source: Eviews Output from Financial Statement of Sample Companies

Regarding the Breusch-Pagan-Godfrey test for heteroskedasticity on the above model indicates the probability of F-statistic is 73.75.80 percent. The probability of chi-square for R2 and Scaled explained SS are 71.19 25 and 25.59 percent respectively

4.2.2.2. Glejser Heteroskedasticity Test

Model 1: ROA C ARM CR DR SG FS

Table 4.5. Heteroskedasticity Test: Glejser for Model 1:

F-statistic	0.528630	Prob. F(5,82)	0.7540
Obs*R-squared	2.747975	Prob. Chi-Square(5)	0.7388
Scaled explained SS	3.923801	Prob. Chi-Square(5)	0.5604

Source: Eviews Output from Financial Statement of Sample Companies

Regarding the Glejser test for heteroskedasticity on the above model indicates the probability of F-statistic is 75.40 percent. The probability of chi-square for R2 and Scaled explained SS are 73.88 and 56.04 percent respectively.

Model 2: ROA C IHP CR DR SG FS

Table 4.6. Heteroskedasticity Test: Glejser for Model 2:

F-statistic	0.597976	Prob. F(5,82)	0.7016
Obs*R-squared	3.095776	Prob. Chi-Square(5)	0.6852
Scaled explained SS	4.347067	Prob. Chi-Square(5)	0.5006

Source: Eviews Output from Financial Statement of Sample Companies

According to the Glejser test for heteroskedasticity on the above model indicates the probability of F-statistic is 70.16 percent. The probability of chi-square for R2 and Scaled explained SS are 68.52 and 50.06 percent respectively

Model 3: ROA C APP CR DR SG FS

Table 4.7. Heteroskedasticity Test: Glejser for Model 3:

F-statistic	0.734964	Prob. F(5,82)	0.5993
Obs*R-squared	3.774555	Prob. Chi-Square(5)	0.5823
Scaled explained SS	5.439963	Prob. Chi-Square(5)	0.3646

Source: E views Output from Financial Statement of Sample Companies

Regarding the Glejser test for heteroskedasticity on the above model indicates the probability of F-statistic is 59.93 percent. The probability of chi-square for R2 and Scaled explained SS are 53.23 and 36.46 percent respectively.

Model 4: ROA C CCC CR DR SG FS

Table 4.8. Heteroskedasticity Test: Glejser for Model 4:

F-statistic	0.523277	Prob. F(5,82)	0.7580
Obs*R-squared	2.721010	Prob. Chi-Square(5)	0.7429
Scaled explained SS	3.718125	Prob. Chi-Square(5)	0.5907

Source: Eviews Output from Financial Statement of Sampled Companies

Regarding the Glejser test for heteroskedasticity on the above model indicates the probability of F-statistic is 68.84 percent. The probability of chi-square for R2 and Scaled explained SS are 67.19 and 5.70 percent respectively

4.2. 3. Multicollinearity Test

Multicollinearity is an assumption of a linear relationship between explanatory variables that creates biased regression model. This problem occurs when the explanatory variables are very highly correlated with each other (Brook, 2008).According to (Hair et al., 2006). multicollinearity problem exists when the correlation coefficient among the variables are

greater than 0.90. However, (Kennedy, 2008) suggested that any correlation coefficient above 0.7 could cause a serious multicollinearity problem as it appears in the correlation matrix in the below tables all the modes are less than the stated value.

Table 4.9. Correlation matrix between explanatory variables

	ROA	ARM	APP	IHP	CCC	SG	CS	DR	CR
ROA	1.0000	0.2815	0.2351	0.2482	0.1352	0.2331	0.0997	0.0797	-0.1129
ARM	-0.2815	1.0000	0.6603	0.3755	-0.4707	-0.0753	-0.0511	0.1921	-0.1347
APP	-0.2351	0.6603	1.0000	0.5763	-0.9158	-0.0677	0.0083	0.4712	-0.1375
IHP	-0.2482	-0.3755	-0.5763	1.0000	-0.2351	-0.0884	-0.2819	0.2148	0.2328
CCC	0.1352	-0.4707	-0.9158	-0.2351	1.0000	0.0328	-0.1475	-0.4853	0.2527
SG	0.2331	-0.0753	-0.0677	-0.0884	0.0328	1.0000	0.1754	-0.1117	-0.0385
CS	0.0997	-0.0511	0.0083	-0.2819	-0.1475	0.1754	1.0000	0.2740	-0.1345
DR	0.0797	0.1921	0.4712	0.2148	-0.4853	-0.1117	0.2740	1.0000	-0.2829
CR	-0.1129	-0.1347	-0.1375	0.2328	0.2527	-0.0385	-0.1345	-0.2829	1.0000

Source: E-Views Output results from financial statement of sampled companies

In terms of the correlation coefficient between dependent and independent variables, account receivable management (ARM) and Account payable period (APP) are negatively correlated with return on asset (ROA) respectively by -.281 and -.248. Similarly, there is negative correlation between firms' profitability and Inventory holding period (IHP) -235 and credit ratio (CR)-112 but, cash conversion cycle (CCC), debt ratio (DR) sales growth (SG) and company' size (CS) are positively correlated with return on asset respectively by 0.13.5, 7.9, 23.3 and 9.9 (table 4.1).

4.3. Descriptive results

Descriptive analysis shows the mean and standard deviation of the different variables of interest in the study. It also presents the minimum and maximum values of the variables which help in receiving an image about the maximum and minimum values a variable can realize.

Table-4.10. Descriptive statistics

	ROA	ARM	APP	IHP	CCC	SG	CS	DR	CR
Mean	0.11311	29.4406	125.888	71.5190	-24.9236	1.39851	7.364454	0.306026	15.09804
Med	0.08545	8.27242	37.1804	27.6700	8.92082	0.11656	7.36211	0.20803	1.603536
Max	0.724196	331.1842	2291.854	422.3928	365.9850	56.68452	8.960306	1.380510	203.8400
Min	-0.114459	0.053225	0.265643	0.000000	-1538.277	-0.951605	5.595138	0.001831	0.056354
Std. Dev.	0.133868	54.14279	297.7914	98.59479	224.0672	6.535888	0.750551	0.311907	39.60758
Obs.	88	88	88	88	88	88	88	88	88

Source: E-Views 6 Output data summary statistics result based on the annual reports of sampled manufacturing companies.

In table 4.10, the mean value of firms return on asset is nearly 11.31 percent of total assets. The higher the return on assets indicates that the firms is effective enough in generating profit from its available assets and the reverse is true for decrease in return on assets. The standard deviation is 0.1338 it means that value of profitability can deviate from mean to both sides by 13.34 percent. The minimum value of return on asset is -11.45 percent whereas the maximum is 72 percent.

Similarly, the Accounts receivable management, a measurement for collection policy, is averaged to 29.44 days for the sampled companies. This average of the account receivable management shows that, firms in the sample wait 29.44 days on average to collect cash from credit sales. The Account receivable period can vary by 54.14 days to both sides of the mean value. The minimum and the maximum Account receivable management for the sampled firms are 5.32 and 331.18 days respectively. This minimum and maximum of the account receivable management shows that, firms in the sample wait 5.32 in minimum days and 331.18 in maximum days to collect cash from credit sales.

The Mean value of Inventory conversion days is 71.52 days. This means, companies in the sample wants on average 71.52 days to sell inventory. As it is shown in the above table, the standard deviation of inventory holding period is 98.59 days. To the sample firms the inventory holding period ranges between 0 and 422.39 days of minimum and maximum

values respectively. This means, companies in the sample needs on minimum 0 days to sale their inventory and on maximum 422.39 days to sell their inventory.

On average, firms wait 125.89 days to pay for their purchases. Its standard deviation for the firms under study is 297.79 days which deviates from both sides of the mean value. The accounts payable period ranges from 26.56 to 2291.85 days to pay their credit purchases. The result implies that, firms wait longer to pay their bills 26.56 days on minimum and 2291.85 on maximum respectively.

The cash conversion cycle, used as a broad measure of working capital management has an average -24.92 days with the standard deviation of 224.01 days. This negative result implies that firms are not quick at all in investing cash by buying stocks which would be sold and be received as cash for further investments. The minimum value of -1538.28 days shows a firm records a large inventory turn-over and/or cash collections from credit sales before making a single payment for credit purchases. It means that the accounts receivable period and/or the inventory holding period are very short and/or the accounts payable period of the firm is very long. On the other hand, the maximum time for cash conversion period is 365.99 days which is a very long period and it shows that a firm records a large inventory turn-over and/or cash collections from credit and/or shortest payment period for credit purchases. It means the accounts receivable period and/or the inventory holding period are very long and/or the accounts payable period of the firm is very short.

The descriptive statistics of control variables, current ratio shows that on average manufacturing companies keep current assets at 15.1 times current liabilities with a standard deviation of 39.61. The highest current ratio for a firm in the study period is 203.84, with the lowest at 5.63.

The results of descriptive statistics show that the average debit ratio for the manufacturing companies is 30 percent with a standard deviation of 31 percent. The maximum debit financing used by the firm is 138 percent and its minimum level is 0.18 percent. This shows that there is a firm that uses little debt in its operation.

The other control variable, firm size, as measured by the natural logarithm of annual sales, is 7.36 on average and standard deviation is 75.06. The minimum and maximum values of

firm size for the firm measured by natural logarithm of annual sales are 5.59 and 8.96 respectively.

Last but not least, the firm sales growth measured by changes in annual sales has an average of 139.85 present and there is a deviation of 75 percent from mean value of sales growth to both directions.

4.4. Regression results

The regression is expectable and run using return on asset as an independent variable. additionally, all independent variables are run using account receivable day, inventory holding day, account payable day and cash conversion cycle including control variables such as debit ratio, current ratio, sales growth and company seize .so, this study estimates determination of companies profitability using ordinary least squares (OLS) as Consistent with Garcia-Teruel and Martinez-Solano (2006) and Mathuva (2010).

The regression models have been run in order to examine the impact of working capital management of company's profitability as follows.

4.4.1. Regression result of model specification 1

Model Specification 1 Regressed Effect of Accounts Receivable Management on ROA.

Model 1: ROA it = $\beta 0 + \beta\ 1(ARM\ it) + +\beta 2(CR\ it) + \beta 3(SG\ it) + \beta 4(DR\ it) + \beta 5(CS\ it) + \varepsilon\ it$

Table 4.11. Regression Results of Profitability Measures and ARM

Dependent Variable: ROA
Method: Panel Least Squares
Date: 06/09/18 Time: 10:08
Sample: 2010 2017
Periods included: 8
Cross-sections included: 11
Total panel (balanced) observations: 88

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.432375	0.214360	-2.017047	0.0474
ARM	-0.000608	0.000250	-2.433903	0.0174**
SG	0.004125	0.001744	2.365632	0.0207**
CS	0.074375	0.029277	2.540407	0.0132**
DR	0.027849	0.043542	0.639588	0.5245
CR	9.10E-05	0.000312	0.291828	0.7713

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.560951	Mean dependent var	0.113111
Adjusted R-squared	0.469483	S.D. dependent var	0.133868
S.E. of regression	0.097505	Akaike info criterion	-1.654862
Sum squared resid	0.684519	Schwarz criterion	-1.204437
Log likelihood	88.81392	Hannan-Quinn criter.	-1.473397
F-statistic	6.132729	Durbin-Watson stat	1.266100
Prob(F-statistic)	0.000000		

** Regression is significant at 5 %level *regression is significant at 1% level

Source: E-views output results 2010-2017

The table 4.11 discloses that the summing up data of regression specification model 1. The explanatory power of the model as shown is that the adjusted R squared values are equal to 47 percent. This shows that 47 percent of the difference in the return on assets can be explained by the variables used in the model. The Adjusted R-squared values in this study are found to be enough to conclude that the fitted regression line is very near to all of the

data facts taken collected (has more explanatory power). The F statistic is used to test the model specification. As of the above table the outcome show that the model is fit with F statistics 6.13 at p-value of 0.0000

The regression results in table 4.11 point out that holding other things constant a day increase in days sales receivable is related with a decrease in 0.0609 in profitability and statistically significant negatively at 5 percent .The finding is in line with findings of Deloof (2003) Lazaridis and Tryfonidis (2006), Raheman and Nasr (2007),Tewodros (2010), Mulualem (2011) and kumar (2014**)** and empirical results of this study show a significant negative relationship between accounts receivable period and company profitability. This negative relation shows that inactive collection of accounts receivables is related with low profitability. The above analysis is likewise with (Fabozzi and Peterson 2003) who stated that increase in accounts receivable period carried bad debt while increasing sales. Therefore, whenever collection period increases bad debt increases and hence profitability will full down and vice versa. .

The sales growth is connected with an increase in profitability of 0.4125 percent statistically significant. The size of a company shows a significant positive relationship with profitability which means that bigger size firms have more profitability compared to companies of small size firm. The regression coefficient of 0.0744 is telling that size of the company is playing greater role for firms' profitability in which an increase in size would lead to an increase in profitability but statistically not significant.

The regression outcome for debt ratio point out a unit increase in leverage associated with an increase in profitability of 0.0278 percent but statistically not significant. The first research hypothesis was that accounts receivable management having significant negatively related to a company's profitability. In agreement with hypothesis, the pointer of profitability, return on assets is negatively and significantly connected with accounts receivable management at 5 percent level. Therefore, the null hypothesis is definite and can be conclude that hypothesis one is exact.

4.4.2 .Regression result of model specification 2

Model Specification 2 Regressed Effect of Inventory Holding Period on ROA.

Model 2 **:** ROA it = β0 + β1(IHP it)+β2(CR it)+β3(SG it) + β4(DR it)+ β5(FS it)+ ε it

Table 4.12.Regression Results of Profitability Measures and IHP

Dependent Variable: ROA
Method: Panel Least Squares
Date: 06/09/18 Time: 10:11
Sample: 2010 2017
Periods included: 8
Cross-sections included: 11
Total panel (balanced) observations: 88

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.387331	0.237886	-1.628224	0.1078
IHP	-0.000293	0.000186	-1.574746	0.1197
SG	0.004346	0.001787	2.432040	0.0175**
CS	0.067845	0.032171	2.108921	0.0384**
DR	0.043805	0.046789	0.936218	0.3523
CR	0.000149	0.000321	0.464980	0.6433

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.540649	Mean dependent var	0.113111
Adjusted R-squared	0.444951	S.D. dependent var	0.133868
S.E. of regression	0.099734	Akaike info criterion	-1.609658
Sum squared reside	0.716172	Schwarz criterion	-1.159233
Log likelihood	86.82494	Hannan-Quinn criter.	-1.428193
F-statistic	5.649527	Durbin-Watson stat	1.246249
Prob(F-statistic)	0.000000		

* Regression is significant at 5 % level *Regression is significant at 1% level

Source: E-views output results 2010-2017

In the above table shows the summary statistics of regression specification 2. The descriptive power of the model as can be seen is that the adjusted R squared values are equal to 44.5 percent. This implies that 44.5 percent of the variation in the return on assets can be explained by the variables used in the model. The Adjusted R-squared values in this research are found to be enough to conclude that the fitted regression line is close to all of the data points taken together (has more explanatory power). The F statistic is used to test the model specification; from the table result of one can see that the model is fit with F-statistics 5.65 at p-value of 0.0000.

The regression result for inventory holding period in the table 4.12 implies a day increase in inventory holding period is connected with a decrease in profitability by 0.029 but statistically not significant.

The sales growth and company size which are considered important indicators of firm performance are generally found to be associated positively related with profitability and statistically significant. Then again, debit ratio specify a unit increase in leverage associated with an increase in profitability but statistically not significant.

Another vital observation that can be made from table 4.12 is that the conventional measure current ratio related with return on assets, and the results are consistent with earlier studies of (Zariyawati et al., 2009). The regression result for current ratio which is a traditional measure of liquidity implies a unit increase in current ratio is associated with an increase in profitability but statistically not significant.

The results from regression model specification 2 are used to determine hypothesis stated in chapter one as shown the second research hypothesis mainly tested inventory holding period of a firm is negatively associated with profitability. In agreement with hypothesis, the pointer of profitability, return on assets is negatively linked with inventory holding period and but statically not significant. Therefore, the null hypothesis is not confirmed and can be completed that hypothesis 2 rejected.

4.4.3. Regression result of model specification 3

Model Specification 3 Regressed Effect of Accounts Payable Period on ROA.

Model 3**:** ROA it = β0 + β1(APP it)+ β2(Cri t)+β3(SG it) + β4(DR it)+ β5(FS it)+ ε it

Table 4.13 Regression Results of Profitability Measures and APP

Dependent Variable: ROA
Method: Panel Least Squares
Date: 06/09/18 Time: 10:06
Sample: 2010 2017
Periods included: 8
Cross-sections included: 11
Total panel (balanced) observations: 88

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.370116	0.218741	-1.692032	0.0950
APP	-0.000122	4.66E-05	-2.620429	0.0107**
SG	0.004653	0.001743	2.669841	0.0094*
CS	0.062903	0.030156	2.085938	0.0405**
DR	0.088368	0.050308	1.756535	0.0832
CR	0.000120	0.000310	0.387383	0.6996
	Effects Specification			
Cross-section fixed (dummy variables)				
R-squared	0.566200	Mean dependent var		0.113111
Adjusted R-squared	0.475825	S.D. dependent var		0.133868
S.E. of regression	0.096920	Akaike info criterion		-1.666888
Sum squared resid	0.676337	Schwarz criterion		-1.216463
Log likelihood	89.34307	Hannan-Quinn criter.		-1.485423
F-statistic	6.264999	Durbin-Watson stat		1.357702
Prob(F-statistic)	0.000000			

* Regression is significant at 5% level *Regression is significant at 1% level

Source: E-views Output results 2010-2017

Table 4.3.3.showes the summary statistics of regression specification 3.The explanatory power of the model as shown is that the adjusted R squared values are equal to 47.6 percent. This implies that 47.6 percent of the variation in the return on assets can be explained by the variables used in the model. The Adjusted R-squared values in this study approximately to be sufficient enough to conclude that the fitted regression line is very near

to the data points taken together (has more explanatory power). The F statistic is used to test the model specification. From the table the result shown that the model is fit with F statistics 6.26 at p-value of 0.0000.

The regression results in the table 4.13 point out that holding other things constant a day increase in accounts payable period is connected with a decrease in 0.0122 percent in profitability and statistically significant negatively at 5 percent level. Because according to (Deloof 2003) less profitable firms have delay payments and more profitable firms pay their bills earlier.

Sales growth and company size have a positive impact on firm profitability and statistically significant at 1and 5 percent respectively. Likewise, debit ratio and credit ratio have positive association with firm's profitability but not significant. The outcome is basically consistent with the findings of (Rahman and Nasr, 2007), (Sharma and Kumar 2011and (Tewodros 2010) this finding holds that more profitable firms wait longer to pay their bills. This implies that they withhold their payment to suppliers so as to take advantage of the cash available for their working capital needs. Deloof (2003) who found a negative relationship between profitability and number of days of account payable justifies in his result that less profitable firms have a tendency to delay payments and more profitable firms pay their bills earlier. The researcher accepts these results because; research findings indicated both negative and positive significant relationships between accounts payable period and profitability of firms. A positive significant relationship between accounts payable period and profitability can be explained by the increased availability of funds caused by the delayed payment of accounts payable. Such funds can thus be used for productive purposes that can increase profitability. On the other hand, a negative significant relationship between accounts payable period and profitability can be explained by the benefits of early payment discounts. While it is not delaying payment or making it fast that matters. What matters is for what purpose we use the fund at hand i.e. if we make it idle we expect no additional profits from delaying payments for accounts payable. Then again, if we use it for productive purpose we can expect some additional profits. As a result, there may be a significant negative relationship between accounts payable day and profitability of companies. In general opposed to the early hypothesis, the result of the regressions analysis has no positive significant impact (negative and significant) on firms' profitability.

Therefore, the null hypothesis is not confirmed and can be completed that hypothesis 3 is rejected.

4.4.4. Regression result of model specification 4

Model Specification 4 Regressed Effect of Cash Conversion Cycle on ROA.

Model 4: ROA it = β0 +β1(CCC it)+β2(CR it)+β3(SG it) + β4(DR it)+ β5(FS it)+ ε it

Table 4.14. Regression Results of Profitability Measures and CCC

Dependent Variable: ROA
Method: Panel Least Squares
Date: 06/09/18 Time: 10:09
Sample: 2010 2017
Periods included: 8
Cross-sections included: 11
Total panel (balanced) observations: 88

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.441641	0.214232	-2.061510	0.0429
CCC	-0.000152	6.43E-05	2.365245	0.0207**
SG	0.004693	0.001761	2.664597	0.0095*
CS	0.070956	0.029701	2.389016	0.0195*
DR	0.091182	0.052749	1.728608	0.0882
CR	0.000101	0.000313	0.322925	0.7477

Effects Specification			
Cross-section fixed (dummy variables)			
R-squared	0.559087	Mean dependent var	0.113111
Adjusted R-squared	0.467230	S.D. dependent var	0.133868
S.E. of regression	0.097712	Akaike info criterion	-1.650624
Sum squared resid	0.687426	Schwarz criterion	-1.200200
Log likelihood	88.62748	Hannan-Quinn criter.	-1.469160
F-statistic	6.086500	Durbin-Watson stat	1.345775
Prob(F-statistic)	0.000000		

** Regression is significant at 5% level *Regression is significant above 1% level

Source: E-views Output Results 2010-2017

The above shows the summary statistics of regression specification 4.The explanatory power of the model as shown that the adjusted R squared values are equal to 46.72 percent this shows that 46.72 percent of the difference in the return on assets can be explained by the variables used in the model. The Adjusted R-squared values in this found to be appropriate to conclude that the fitted regression line is near to the data points taken collectively which means more explanatory power. The F statistic is used to test the model specification. From the table the outcome shown that the model is fit with F statistics 6.09 at p-value of 0.0000.

The regression results in the table point out that holding other things constant cash Conversion cycle period is connected with an decrease in 0.0152 percent in profitability and statistically negative and significant at 5 percent level. The regression results show that sales growth and credit ratio have positive and significant impact on profitability at 1 percent level respectively. The regression results in table 4.14 indicate that holding other things constant a cash conversion cycle period is associated with a decrease in 0.0152 percent in profitability and statistically significant at 5%. The result indicate that when the net time interval between actual cash expenditures on a firm's purchase of productive resources and the ultimate recovery of cash receipts from product sales shortens by a day, profitability of manufacturing companies in SNNPRS, Ethiopia increases by 0.0152 percent. Therefore, decreasing the cycle by one day bring an increment of 0.0152 percent profit per year on performance of firms. In essence, this negative relationship suggests that corporate managers can increase profitability of their firms by shortening the time lag between a firm's expenditure for purchases of raw materials and the collection of sales of finished goods. Studies like Deloof (2003), Shin and Soenen (1998), Lazaridis and Tryfonidis (2006),Garcia-Teruel and Martinez-Solano (2006), Samiloglu and Demirgunes (2008), Tewodros (2010) and Makori and Jagongo (2013) all found a significant negative relation between the CCC and a firm's profitability. In conformity with hypothesis, the indicator of profitability, return on assets is negatively and significantly related with cash conversion cycle at 5% level. Therefore, the null hypothesis is confirmed and can be conclude that hypothesis four is exact.

4.5 Conclusion of the chapter

The research provided two kinds of data analysis; namely descriptive analysis and inferential analysis. The research first observed the explanation of working capital management components and profitability. I.e. accounts receivable management, inventory holding period, accounts payable period, cash conversion cycle, current ratio, sales growth, company size, debit ratio and return on assets. Their mean, standard deviation, minimum and maximum values were determined.

The results showed that account receivable management ,inventory holding period accounts payable period and conversion cycle had 29.44,125.88,71.51and -24.92 are the average days respectively on the other hand, return on assets 0.113 sales growth 1.39, company size 7.36, debit ration 0.30 and credit ratio 15 (Table 4.1).

The empirical results from the test hypothesis shows that except hypothesis (HP1), Account receivable management of the firm are significant negatively related and hypothesis (HP4), the cash conversion cycle of a firm are significant negative related to firms profitability; the study accepted the null hypothesis.

Table 4.15.Summary of actual and expected signs independent variable on dependent Variable

Variable	Variable type	Expected coefficient sign	Actual impact
Accounts Receivables Management. (ARM)	Independent variable	Negative and significant	Negative and significant
Inventory Holding Period	Independent variable	Negative and significant	Negative and not significant
Accounts Payable Period (APP)	Independent variable	Positive and significant	Negative and significant
Cash Conversion Cycle (CCC)	Independent variable	Negative and significant	Negative and significant

Source: Authors Design.

CHAPTER FIVE

5.1. CONCLUTION AND RECOMANDATION

The main strong-minded of this section is to present the general summaries of the study by generalizing the key results of the analysis portion and give upcoming study information.

Therefore, this section ongoing discussion by briefly recap the overviews of the study and its key findings. In part two grounded on the research finding the investigator focus some recommendations for the target populations the research revolving on and study fortes organized with the limitations of the study, upcoming study instructions are existing in this chapter .

5.1.2. Conclusions

This chapter presents finale drawn from the largely overviews of the study by accumulation the major result of the analysis part and give recommendation and prospect study direction.

According to Siddiquee and Khan (2008) Companies which are better at administration of working capital are found to be able to construct a better competitive advantage and they are also better at getting fund inside and also face smaller difficulty whereas looking for outside sources of financing. Well-organized level of working capital should be present for smooth operation of business in spite of the nature of business.

From this research, it is concluded that maintaining significant level of working capital is very essential for manufacturing company as well like all other company of business a sample of 11 selected manufacturing companies found in SNNPRS, Ethiopia which sheltered the period from 2010 to 2017 has been used to conduct the research.

Descriptive statistics were used to inspect the trend of the chosen variables among the Samples firms. As it is shown in table 4.1, the mean value of return on assets is around 11.31 percent and standard deviation is 13.34 percent. It means that value of profitability can deviate from mean to both sides by 13.34 percent. The minimum value of return on asset is 11.45 percent while the maximum is 72 percent and also the liquidity position as measured by current ratio is on average 15.09.

The firms receive cash collection from their customer on average at 29.44 days and have accounts payable period on average at 125.89 days.

The average inventory day that means the period from inventory purchased to inventory sold averaged is 71.52 days. On the other hand, cash conversion cycle as a comprehensive measure of working capital management of manufacturing companies of the study on average takes 29 days. Before the regression was run, the data have tested the assumptions underlying OLS and are fulfilled all tested assumptions completed.

In the regression analysis the paper used return on assets as, dependent profitability variable. Accounts receivable management, inventory holding period, accounts payable period and cash conversion cycle were used as independent variable on working capital management. On the other hand, current ratio, debit ratio, company size and sales growth used as a control variable.

There is negative significant at 5 percent relation between profitability and the account receivable management. This negative relationship can be discussed as the number of days to collect cash from credit clients come to be very long, it will unfavorably disturb profitability of the companies. This negative results since, if a firm gathers its accounts receivable speedily the fund will be available for other productive practice.

The researcher also found that the negative relationship between inventory holding period and profitability but statically not significant. It shows that the longer it takes companies to replenish the inventory, the less profitable they will be. This suggests the obsolescence of inventory due to longer inventory period leads to lower profitability.

Opposite to the research hypothesis the study has found that the negative significant relation at 5 percent level between account payable periods and profitability of manufacturing companies. This finding holds that more profitable firms wait longer to pay their bills. This implies that they withhold their payment to suppliers so as to take advantage of the cash available for their working capital needs.

The regression analyses of cash conversion cycle indicate that there is a significant negative relation at 5 percent level between this cycle and firm’s profitability. This means that the

shorter the firm's cash conversion cycle, the higher the profitability and vice versa. As stated earlier, cash conversion cycle is an improver function of accounts receivable management, inventory holding period and accounts payable period, the managing cash conversion cycle effectively, means effective management of these three components of working capital management.

5.1.3. Recommendation

Grounded on the paper outcome the researcher recommended the next points: The negative connection between companies' return on asset and account receivable management was decrease companies' profitability, if there is low collection of account receivables as an outcome, companies have to preserve neither liberal credit nor conservative policy so as to minimize bad debt and not to lose customers and also, raise company' profitability.

The paper found negative relationship between inventories holding day's and companies profitability at this point, higher inventory holding period will have higher costs like storage, carrying, spoilages, insurance, and it holds opportunity cost etc. As this outcome companies' manager has to see the appropriate ways of inventory control techniques depend up on the nature of materials they hold. Further, the researcher recommended that companies marketing, purchasing and manufacturing departments should have create powerful interactions since to provide for each other in firms' operations and reduce expenses.

Likewise, to the above findings account payable period has negatively relation to firms' profitability. The outcome shows that companies which stay longer to pay their account payables will increase profitability. However, the researcher recommended that company' have to pay all its debt on time for not losing their sellers in the long run.

Cash conversion cycle (CCC) has a positive significant relationship with companies' profitability. Therefore, regarding the CCC, the researcher recommended that lowering working capital cycle as a measure of efficient working capital management is the one to be appraised. However, the policy followed for each component has to be neither tight nor liberal like for average collection period which will loss customers and increase bad debt respectively. Similarly, as recommended above companies' has to manage their inventories

(raw materials, working process and finished goods) and account payables in day efficiently to a minimum level, so as to minimize the overall working capital Cycle of companies' and increase profitability.

In general the above deliberations demonstrates that paying suppliers longer and collecting payments from customers earlier, and keeping products in stock less time, are all linked with an increase in the company's profitability

Generally, it is important for further studies to take impact of working capital management on companies' profitability by incorporating more working capital variables that affects Profitability. This study focuses only on the relation between working capital management and profitability measured as return on asset. There are also other measures of profitability, like ROI, GOP, and ROE to consider about upcoming study. Also, this paper looks impact of working capital management on profitability of selected manufacturing companies in SNNPRS, Ethiopia by focusing of working capital components like accounts receivables, inventories ,cash conversion cycle and accounts payable. The future researcher should extend on manufacturing companies of SNNPRS, Ethiopia by using other financial working capital elements.

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Appendix 1

Name of Detail Manufacturing Companies

No	Company name	Establish-ment year	Initial capital	employ	Activity	Zone	Woreda
1	G.B.A General trading	2007	15,000,000	92	Flower mail	Siliti	Werabe
2	Serbeza Rahmeto plc	2006	9,000000	18	Flower factor	Gurage	Meskan
3	Aklam trading plc.	2007	10,000,000	16	Flower mail	Hawassa	Hawassa
4	Eden oil industry plc.	2006	20,000,000	20	Ginger processing	Welayta	Bolsosore
5	Yergalem PLC	2005	8,668,000	30	Flower mail	Hawassa	Hawassa
6	Sani industry plc.	2005	20,000,000	70	Food complex	hawassa	Hawassa
7	Workicch sediq plc.	2004	10,502,616	73	Production & processes of honey	Gedeo	wenago
8	Juked plc.	2003	12,115,000	48	Flower mail	sedama	Derara
9	Admas Tesfa plc.	2006	8,600,000	40	Flower mail & Food complex	Hawassa	Hawassa
10	Getus Bussiness plc.	2005	11,127,354	21	Food processing	Hawassa	Hawassa
11	Matewos Ersumo Gedebo plc.	2006	11,418,000	24	Flower mail food complex	K.T	Kedia Gamale
12	Awassa chipwood P.L.C	2005	34,960,852	283	Chip wood construction	Hawassa	Hawassa
13	Tabor ceramic Product plc.	2004	9,000,000	590	Ceramic factory	Hawassa	Hawassa
14	Juhar&Betula g/t .plc.	2006	9,668,000	17	,, ,,	Sidam	Dara
15	TekieZeray plc.	2006	12,667,570	19	Plastic shoe factory	Hawassa	Hawassa
16	Aleta land coffee PLC	2005	25,000,000	91	Plastic bag factory	Hawassa	Hawassa
17	Yichalal Shoe & leather PLC	2007	8,250,000	11	Plastic shoe bag…	Hawassa	Hawassa
18	Abera Langamo& Family PLC	2003	11,131,623	22	Furniture	Hawassa	Hawassa

Appendix 2

Name of Sample Companies

1. G.B.A General trading Flower mail plc.
2. Sani industry Food complex plc. Tele.046-220-67-09
3. Admas Tesfa Flower mail & Food complex plc. 046-220-86-60
4. Getus Bussiness Food processing plc.
5. Adinew and his family flour factory plc.
6. Eden oil industry plc. Ginger processing plc.
7. Yergalem PLC 046-220-16-02
8. Tabor ceramic Product factory plc. Tele. 046-220-10-89
9. Aleta land coffee plc. and Plastic bag factory plc.
10. Yichalal Shoe & leather and Plastic shoe bag plc.
11. Awassa chipwood Plc. Tele. 046-220-63-87