UNIVERSITY OF GHANA

THE IMPACT OF WORKING CAPITAL MANAGEMENT ON THE PROFITABILITY OF MANUFACTURING COMPANIES LISTED ON THE GHANA STOCK EXCHANGE

BY

ABIGAIL AKEY

(10226467)

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DECLARATION

I hereby declare that this paper constitutes my own product, that where the language of others is set forth, quotation marks so indicate, and that appropriate credit is given where I have used the language, ideas, expressions or writings of another.

……. **……...**

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(10226467)

CERTIFICATION

I hereby certify that this thesis was supervised in accordance with the procedures laid down by the University.

…… …….

DR. CHARLES ANDOH **DATE**

(SUPERVISOR)

DEDICATION

I dedicate this long essay to my family, my husband Samuel Kwadwo Antwi and children Ethan Kwaku Antwi and Kendrick Kwame Antwi. God bless you all for the part you play in my life

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I am grateful to the many people who believed in my study and gave so much to make this long easy possible. My utmost gratitude is to the most High God for his infinite mercies and grace upon my life throughout this programme.

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LIST OF TABLES

LIST OF ABBREVIATIONS

ACP = Average Collection Period,

APP = Average Payment Period,

BSIZE = The Size of Firms.

CCC = Cash Conversion Cycle,

LQ = Liquidity

NTC = Net Trading Cycle,

ROA = Return on Asset

ROE = Return on Equity

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ABSTRACT

The purpose of the study is to examine the impact of working capital management on the performance of some selected listed manufacturing companies in Ghana. To achieve this, 10 manufacturing firms listed on the Ghana Stock Exchange were employed. Data was sourced from firm annual financial report for a period of Nine (9) years from 2009-2017. The panel regression model was used for the analysis.

With two performance indicators; return on asset and return on equity, the study found the average collection period, cash conversion cycle and liquidity independent variables to have significant implications on the return on asset variable of the manufacturing companies employed in this study. The average collection period and cash conversion cycle were found to have a negative and significant relationship with return on asset while liquidity have a positive and significant relationship with return on asset. Also, the average collection period, net trading cycle and the business size were found to have significant impact on return on equity. The average collection period and net trading cycle were found to have a positive and significant relationship with return on equity while the business size had a negative and significant relationship.

It is recommended that firms should strive to have a shorter cash conversion cycle to make manufacturing firms more efficient in managing the cash flow. Manufacturing firms need to collect accounts receivables more quickly, through improving the efficiency of the collection processes, offering discounts and charging interest on overdue accounts.

Key words: *Manufacturing Firms, Working Capital Management, Performance, Stock Exchange.*

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Since time immemorial the management of working capital has been one topical issue financial analysis and managers consider critical in any firm performance. This is mainly because, the goal of working capital management is to ensure that a firm is able to continue its operations and that it has sufficient ability to satisfy both maturing short-term debt and upcoming operational expenses Essentially, the concept of management of working capital involves managing inventories, accounts receivable, accounts payable and cash and cash equivalent, In modem financial management, administration of working capital is an important and challenging task due to high proportion of working capital in a business and some of its peculiar characteristics The management of current assets (normally converted into cash within an accounting year) and current liabilities (generally discharged within a year) and the interrelationship that exists between them may be termed as working capital management Excessive levels of current assets may have a negative effect on the firm's profitability whereas a low level of current assets may lead to lower level of liquidity and stock outs resulting in difficulties in maintaining smooth operations (Van Horne and Wachowicz, 2004) Traditional concept of working capital is the different between assets and current liabilities Thus, working capital management is an attempt to manage and control the current assets and the current liabilities in order to maximize profitability and proper level of liquidity in business

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

Inefficient financial management including working capital management may damage business enterprise's profitability (Gebrehiwot & Wolday, 2006) The efficient management of working capital is a fundamental part of the overall corporate strategy to create shareholders value (Nazir and Afza, 2008) In addition, efficient working capital management leads to improve the operating performance of the business concern and it helps to meet the short-term liquidity (Paramasivan, Subramanian, 2009) Therefore, firms try to keep an optimal level of working capital that maximizes their value (Deloof, 2003) In addition to that, the effective working capital management is very important because it affects the performance and liquidity of the firms (Taleb et al., 2010) The main objective of working capital management is to reach optimal balance between working capital management components (Gill, 2011) Large inventory and generous trade credit policy may lead to high sales Large inventory also reduces the risk of a stock-out Trade credit may

stimulate sales because it allows a firm to access product quality before paying (Raheman & Nasr, 2007)

Another component of working capital is accounts payables, Raheman & Nasr (2007) indicated that delaying payment of accounts payable to suppliers allows firms to access the quality of obtaining products and can be inexpensive and flexible source of financing On the other hand, delaying of such payables can be expensive if a firm is offered a discount for the early payment By the same token, uncollected accounts receivables can lead to cash inflow problems for the firm A popular measure of working capital management is the cash conversion cycle, that is, the time span between the expenditure for the purchases of raw materials and the collection of sales of finished goods Deloof (2003) found that the longer the time lags, the larger the investment in working capital, and also a long cash conversion cycle might increase profitability because it leads to higher sales However, corporate profitability might decrease with the cash conversion cycle, if the costs of higher investment in working capital rise faster than the benefits of holding more inventories or granting more trade credit to customers And the main cause of the failure of a business enterprise has been found to be the shortage of working capital, their mishandling, and mismanagement of working capital and underutilization of capacity (Vataliya, 2009) In general, working capital management is not only improving financial performance in today's cash strapped and uncertain economy, but it is the question of meeting firm's day to day operation

With this, it is a significant issue to know and understand the impacts of working capital management and its influence on firms' performance This study provides the understanding into working capital management and performance of listed manufacturing companies in Ghana

1.2 Statement of the Problem

The working capital of every manufacturing company is imagined to be the blood current in the vessels of a business entity In order to save the survival of the business entity, management of this part is claimed to be key to the business entity and the engine to the survival of the organization Experiences have shown that one of the main reasons for financial disturbances and bankruptcies in most companies is the mismanagement of working capital (Setayesh, 2009) Essentially, working capital management is not only improving financial performance in today's cash strapped and uncertain economy, but it is the question of meeting firm's day to day operation

Therefore, it is a significant issue to know and understand the impacts of working capital management and its influence on firms' performance Also, several research works have identified the impact of working capital management on the performance of organizations, but no significant work appears to have been done on the impact of working capital management on the performance of listed manufacturing companies in emerging economics like Ghana This limited evidence in the context of Ghana along with the importance of working capital management invite for research on their impacts on firms' performance Considering of the above points, the general objective of the study will be to examine the impacts of working capital management on the performance of listed manufacturing companies in Ghana.

1.3 Research Purpose

Many companies has suffered competitive push out of various industries for poor management of working capital. Therefore, proper working capital management is essential for the growth and stability of every firm. For this reason, the purpose of this study is mainly to provide a detailed understanding into the concept of the working capital management and its effect on the performance of manufacturing companies listed on the Ghana Stock Exchange Market.

1.4 Research Objectives

The study broadly examines the impact of working capital management on the performance of some selected listed manufacturing companies in" Ghana. Most specifically the study seeks to;

- examine the impact of cash management on firm performance of listed manufacturing firms in Ghana
- evaluate the effect of inventory management on firm performance of listed manufacturing firms in Ghana
- "determine the impact of liquidity management and firm performance of listed manufacturing firms in Ghana

1.5 Research Questions

From the objective of the study which examines the impact of working capital management on the performance of listed manufacturing companies in Ghana, the research is motivated to as the following questions.

- What is the impact of cash management on firm performance of listed manufacturing firms in Ghana?
- What is the effect of inventory management on firm performance of listed manufacturing firms in Ghana?
- What is the impact of liquidity management and firm performance of listed manufacturing firms in Ghana?

1.6 Significance of the Study

The study aims at explaining the impact that working capital management have on the performance of listed manufacturing firm in Ghana. The benefits of managing firm capital properly, the extent of asset management as well as determine whether they are more likely managing these capitals efficiently to maximize shareholders wealth.

This research paper seeks to add to already existing knowledge towards developing strategies for providing measures to managing financial assets, create awareness towards enabling and encouraging them to save money, accessing credit facility or undertaking financial transactions to enhance the working conditions of manufacturing companies in Ghana.

1.7 Scope of Work

The research is restricted to the knowledge in working capital management based on these thematic of study from the listed manufacturing companies in Ghana and to identify the other

issues of working capital management that affect performance of financial institution in Ghana The research is also for a period of one year from 2018-2019.

The research seeks to assess the impact of Working capital management and performance on listed manufacturing companies in the Greater Accra Region of Ghana The study is expected to span over a period of one year and would involve only the listed manufacturing companies in Ghana

1.8 Chapter Outline

Chapter one is the Introduction to the study, which comprises Research Background, the problem statement, research objectives and questions, Significance of the research, Scope of the research, and Research Limitations and delimitations The chapter two looks into the review of related literature for the study, including theoretical and empirical evidence that strongly supports the study objective.

Further, the chapter three comprehensively entails the econometric methodology which includes the profile of the study area, research design, data analysis and presentation, data source, model specification and data collection tools, sample size and procedure and survey instrument. Chapter four is be made up of will consist of data analysis and presentation and finally, chapter five will entail the summary, conclusions as well as recommendations of the entire research work.

Finally, the chapter five concludes the research. In this chapter the research outlines the summary of major findings obtained in the study and makes a comprehensive conclusion to the study. This is followed by some recommendations and gaps for future research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews the relevant theories and empirical literature in relation to management of working capital in organization. The chapter is divided into two parts; empirical framework and theoretical framework. The theoretical framework provides reviews on theories like transaction cost and agency theory impartation on working capital management. The empirical literature reviews the concept of working capital management in developing and developed economies. The empirical literature again provides reviews of literature on the impact or relevance and challenges of ensuring proper management of working capital in organisation.

2.2 Conceptual Review

2.2.1 Working Capital Management

Working Capital Management is the functional area of finance that covers all the current accounts of the firm It is concerned with the adequacy of current assets as well as the level of risk posed by current liabilities It is a discipline that seeks proper policies for managing current assets and liabilities and practical techniques for maximizing the benefit from managing working capital (Hampton, 2007).

Working capital management is also the administration of the firm's current assets- namely; cash and marketable securities, receivables, and inventory- and the financing (especially current liabilities) needed to support these current assets (Horne & Wachowicz, 2008) Again, it refers to all management decisions and actions that influence the size and effectiveness of the working capital Again, Working capital management is our ability to effectively and efficiently control current assets and current liabilities in a manner that will provide our firm with maximum return on its assets and will minimize payment for its liabilities (Adelman & Marks, 2007).

Pass and Pike (1984) indicated that, the two main objectives of working capital management are to increase the profitability of a company and to ensure that it has sufficient liquidity to meet short-term obligations as they fall due in order to continue as a going concern (See also Gitman & Hennessey, 2004) Gitman & Hennessey (2004) also indicated that, profitability in this sense can be related to the goal of shareholder wealth maximization, so that investment in current assets should only be made if an acceptable return is obtained There is always a conflict (trade-off) between these goals This is because as assets become more liquid they give rise to lower returns

Working capital is that portion of a company's capital invested in short term or current assets to carry on its day to day operations smoothly (Kishore, 2008) There are two major concepts of working capital- net working capital and gross working capital When accountants use the term working capital, they are generally referring to net working capital Financial analysts on the other hand, mean current assets when they speak of gross working capital Therefore their focus is on gross working capital which is the firm's investment in current assets such as cash and marketable securities, receivables and inventory (Horne & Wachowicz, 2008).

However, the study will be focused on net working capital. Net working capital is defined as current assets minus current liabilities (Brigham & Houston, 1998). The components of working capital are briefly outlined below:

2.2.2 Current Assets

Current assets are those assets which are convertible into cash within a period of one year The current assets are cash or near cash resources These include; Cash and bank balances, Temporary investments, Short –term advances, prepaid expenses, receivables, inventory of raw materials, stores and spares, Inventory of work-in-progress and inventory of finished goods (Kishore, 2008).

2.2.3 Current Liabilities

Current liabilities are those claims of outsiders which are expected to mature for payment within an accounting year These include; Creditors for goods purchased, outstanding expenses, Short-term borrowings, Advances received against sales, Taxes and dividends payable and other liabilities maturing within a year (Kishore, 2008).

Diverse academia and practitioners' have mentioned the following factors as determinants of banks profitability:

2.2.4 Size and Growth

Economic factors such as economies of scale and increased customers bargaining power have been linked to contributing to a long relationship between firm size and profitability (Mekonnen, 2011). Fairly, larger firms have quiet substantial total assets based and if managed well, are able to increase bank profit level hence outperforming smaller banks who have small total assets based.

In long run larger banks considerable attain a lower average costs (Mekonnen, 2011; Yeboah and Yeboah, 2014).

Additionally, Firms that have prospects of economic growth invest their funds in more than one avenue to yield larger profits. Growth is likely to affect loans granted and repayments received by banks, and their investment incomes Future interest income growth is said to have positive influence on the bank's cash conversion cycle (Kieschnich et al., 2008) Examining capital management of some banks in Ghana, Yeboah & Yeboah (2014) concluded that income (cash) flow from firm's growth is expected to improve the firm's working capital This is likely to have a positive effect on profitability. However firms with little or no growth opportunities are likely to have a negative profitability effect.

2.2.5 Cash Conversion Cycle

Lyroudi & Lazaridis (2000) cash conversion cycle approach over the years serve as a dynamic liquidity measure for firms Brigham & Houston (2003) defined the Cash Conversion Cycle (CCC) as the period of which firm's funds are invested in working capital Cash Conversion Cycle is the period of time between the investment of working capital and the time of pulling together cash from the sale of the working capital Alternatively, the cash conversion cycle measures the efficiency of working capital management in the firm It therefore measures the speed or rate of which current assets are transformed into cash (Brigham and Houston, 2007).

2.2.6 Cash Management

Brealey & Myers (2003) have noted that cash is the blood stream running through all mechanisms of firm to promote a firm's economic growth and continued existence. They further explain that cash (in the form cash in hand and cash at bank) is the basic standard or indicator of the firm health

status. “Transaction and speculation purposes are most predominant reasons for companies’ need of cash” (Baumol, 1952). Cash remains significant for the efficient and effective running of business activities in the company. Managing cash is an effective mechanism to ensure liquidity in a company. In most companies surplus cash are invested into a short term security to increase liquidity more than marketable securities (Baumol, 1952; Yeboah & Yeboah, 2014). It is noteworthy that, a company’s investment income can be used to pay back the company’s short-term liabilities. Businesses manages cash surplus to fulfill business capital expenses (Baumol, 1952).

A solvent firms should to be able to manage her resources (cash flow) adequately to ensure payment of the company’s current liabilities when fall due. However, firms do not have any reason not to invest funds since keeping funds ideal do not bring any returns to the company. Every organization its own minimum level of cash reserve depending on the ability of the company to raise cash when needed. Companies have future obligation like maintaining future unexpected events future and therefore need to save cash to meet this requirements. Companies in achieving their objective need to posses enough cash surplus to take advantage of other investment prospects in order to create more profit (Baumol, 1952). The firm attaining a greater share of cash surplus is highly dependent on “investment opportunities available in the future, return on these investments and transaction cost of making the investments” (Gallagher & Joseph, 2000).

Cash management is a part of effective working capital management that involves a trade-off between risk and return (Adelman & Marks, 2007) According to (Gitman & Hennessey, 2004), holding cash to meet short-term needs carries the opportunity cost of the return which could have been earned if the cash had been invested or put to productive use However, choosing to reduce

this opportunity cost by operating with very small cash balances will increase the risk of being unable to meet debts as they fall due

2.2.7 Accounts Receivable Management

Accounts receivables are accounts that are not paid in cash. The goal of account receivable management is to increase sales by offering credit to customers However, the cost incurred in having increased sales tied up in accounts receivables must be weighed against the possible loss of business due to factors beyond the utility of a product or service In order to maximize profit and reduce losses, firms must provide credit to their customers without having to establish a credit department The most common method is to use a credit factor

Factoring is the process of selling accounts receivable to another firm at a discount off of the original sales price It allows firms to have credit sales and still obtain immediate cash for all sales (Adelman & Marks, 2007).

2.2.8 Inventory Management

Proper management of inventory is critical to operating efficiency since most firms' current assets are located in inventory. According to (Adelman & Marks, 2007), the goal of inventory management appears to be contradictory. This is because firms must have enough inventories on hand to satisfy customer demand, but, they also must keep inventory at a minimum value to free up cash If a firm maintains an inventory that is too large, it may be stuck with obsolete items or items that have short shelf lives(items that spoil or lose their effectiveness) and must be disposed off Again, the firm may lock up its capital in stock On the other hand, if inventory is too small, the firm may lose sales and possibly customers to their relevant competitors Considering the above views, therefore, the overall goal of inventory management must be to minimize total

inventory costs while maximizing customer satisfaction To achieve this goal, firms must establish their reorder quantity and the reorder point

In order to minimize inventory costs, firms must have some idea of the value of their inventory and this can be obtained by determining the total cost of inventory The total cost of inventory includes ordering costs, carrying costs, the prices of goods to be ordered and the losses incurred by not selling (opportunity costs).

2.2.9 Short- Term Debt Management

Short- term debt consists of business obligations that will be paid within the accounting period These are normally current payments on long-term debt, payments on short- term loans, such as bank lines of credit, or loans that would be paid during the current accounting year that appear on the balance sheets as notes payable (Adelman & Marks, 2007).

2.2.10 Accrued Liabilities Management

Accrued liabilities arise from the recognition of expenses for which payment will be made in a future period (Williams et al, 2002) They are those obligations of the firm that are accumulated during the normal course of business and are primarily payroll taxes and benefits, property taxes and sales taxes It is with accrued liabilities that the small business owner can get into trouble because of the severe penalties that government agencies can impose on a business To avoid such problem, businesses must make sure they set aside money for these liabilities as they are accrued The earliest method is to establish a separate savings account (Adelman & Marks, 2007).

2.2.11 Accounts Payable Management

The largest portion of accounts payable normally consists of the obligations of a firm that were obtained by purchasing inventory on credit as well as other items such as travel expenses and maintenance services The purpose of managing accounts payable is to minimize the cash paid for inventories and these other obligations Because inventories comprise the largest portion of accounts payable, the firm can normally minimize these cash payments by taking advantage of the discounts that are offered by vendors (Adelman & Marks, 2007).

2.3 Theoretical Review

In this section, the researcher sought to provide an understanding on the theoretical underpinning concepts to the study on working capital management. Here, the theories discussed include the transactional cost theory and the agency cost theory.,

2.3.1 Transactions cost theory

The transaction cost approach to the theory of the firm was created by Ronald Coase (1973) cited in (Bei & Wijewardana, 2012) Transaction cost refers to the cost of providing for some good or service through the market rather than having it provided from within the firm Coase describes in his article "The Problem of Social Cost" argues for the need for the provision of the need information on the firm's activities ranging from acquisition or merging to sales to stakeholders. Transaction cost theory explains how capital are been used in an organization. It therefor explains why firm exist, outsource some activities to the external environment reducing cost of operation and at the same time try to maximize profitability within the firm. According to the theory an

effective management of external transaction cost and the firm's internal routine cost will yield great profit. That is when the internal routine costs are lower than the external transaction costs (Filbeck & Lee, 2000). The transaction costs are determinant on factors like environmental uncertainty, opportunism, risks, bounded rationality, and core company assets. Organization managers being rational will always activate systems whose outcomes benefits exceed cost thus organizations is expected to invest assets where they achieve the greatest marginal return. Organizations may invest assets in particular area of working capital that is expected to be higher marginal returns (Bei & Wijewardana, 2012).

2.3.2 Agency theory

Agency theory is a facet of the field of financial economics that looks at conflicts of interest between font line managers and business owners who have different interests in the same assets The theory most importantly explains the conflicts between managers and shareholders of companies and bond holders and shareholders The theory further describes the relationship between principals (stakeholders) including shareholders and agents (company's managers) (Bei & Wijewardana, 2012) According to the theory the principal hires or delegates responsibilities to an agent to perform work The theory attempts to provide solution to two specific problems:

- *"How to align the goals of the principal so that they are not in conflict (agency problem)"*
- *"Difference in tolerances for risk among the principal and agent"*.

The principal-agent problem arises in organisations whose owners are different from manger and as a results leads to incomplete and asymmetric (inconsistent) information flow when an owner (principal) hires manager (agent). Specifically, proponents of this theory are of the view that the problem of principal-agent is ubiquitous and that one party will always delegate work to another

agent who is expected to perform or discharge this duty in the interest of the other party (owner). Agency Theory describes this manager and owner relationship as a metaphor of a contract That is the agency theory describes the firm as a nexus of contracts (loosely defined) between resource holders

Agency theorist suggests that, managers will pursue to maximize their own interest at the expense of corporate shareholders in imperfect labour and capital markets Due to asymmetric information agents are capable of operating in their own self-interest rather than in the greatest interests of the firm (Jensen & Meckling, 1976) cited in (Bei & Wijewardana, 2012) To the larger extent managers know better in managing the organisation than shareholders whose interest is to maximise profit However, in most cases the dilemma of whether these agents are capable of meeting the shareholders' objectives exists For instance countless factors may contribute to final outcomes, and it may be difficult to determine whether the agent directly caused a particular outcome (either positive or negative) (Afza & Nazir, 2007) Self-interested managerial behaviour may consist of the consumption of corporate resources in the form of "perquisites and the avoidance of optimal risk positions". With this risk-averse, managers are likely to bypass certain profitable opportunities which are more preferable and lucrative to the firm's shareholders. Outside stakeholders is mostly in conflict with managers since these shareholders are much aware that the firm's decisions will be contrary to their best interests (Bei & Wijewardana, 2012). As a result, investors are likely to reduce their prices or investments to pay for the firm's securities. The interest of shareholders includes "increasing earnings per share (EPS), and current share prices". Shareholders are more interested in "increasing investor ratios such as dividend per share (DPS), dividend cover, dividend yield, price-earning (P/E) ratio Also shareholders are more interested the company improving its corporate and social responsibilities However organisation's management are interest in managing

the firm to fully achieve its goals and maximising the company's economic value. This are mostly done by intensifying the company's activities since managers are perceived to be efficient and effective when the size of the company is bigger. Managers are also interested in increasing their remunerations and other benefits to increase their personal wealth.

Different systems (motives) have been identified to ensure the alignment of interest of agent owner of the organization. Among these systems are financial motives and non- financial motives. Research conducted on the different interest existing among these actors in the organization shows that the managers are "opportunistic agents" whose concentration are on reducing their welfare at the expense of shareholders (Bei & Wijewardana, 2012). In most case, owner of businesses make use of formal management control systems in minimizing information asymmetry problems arising between owner and manager. (Bei & Wijewardana, 2012) have suggested that in situations where organization experience agency "problem information flows and the requirements of stakeholders in firm may be linked with obtain of management systems".

2.4 Empirical Review

Working capital is one of the important measurements of the financial position The words of Guttmann (1950) clearly explain the importance of working capital "as the life-blood and nerve centre of the business". In the words of Walker (1964), "A firm's profitability is determined in part by the way its working capital is managed". The main objective of proper management of working capital is to control firm's current assets and liabilities to ensure satisfactory working capital is maintained The firm's inability to maintain a satisfactory level of working capital will lead to insolvency and may subsequently lead to bankruptcy of the firm It is therefore noteworthy

that working capital is the life wire to run day-to-day administration of firms' activities smoothly and cannot be overemphasized

In reality working capital should be able to provide the short-term financial requirements of a business venture (Gitman, 2005) Therefore, working capital is design to provide the needed investment requirement for the running of daily business activities Working capital serve as a cover for the time of expenditure for the purchase of raw materials and the time of cash collection or payment of the sales of finished products or services provided (Gitman, 2005) The working capital requirement of every organization decides the liquidity and profitability of a firm (Shin and Soenen, 1998) hence affecting financing and investing decisions of the firm in the long run

Whereas certain group of researchers (academia) and practitioners argue that efficient management of working capital is very essential for companies during the booming economic periods and when strategically managed well will lead to improved competitive position and profitability (Lo, 2005), others have argued that improving the management of working capital is rationally essential for companies to withstand the impacts of economic uproar than in the economic booming period (Reason, 2008) The literature on investment decisions evolved through many theoretical and empirical contributions A number of studies show a direct relation between investment and firm value (Baños-Caballero, Martinez-Solano & Garcia-Teruel, 2014)

Considerable literature has extensively provided much data or findings on credit policy and inventory management However only a few of these literatures considered the need of assimilating both credit policy and inventory management decisions Most of these studies were done between 70's and 90's In their studies Schiff & Lieber (1974), Sartoris & Hill (1983), and Kim & Chung (1990) uncovered the importance of considering a collaboration between the existing working

capital elements (i.e. receivable accounts, inventories and payable accounts) Under perfect financial markets, trade credit decisions do not normally serve to increase the value of a firm as stated by various researches across countries conducted on working capital and organizations' performance (Lewellen, McConnel & Scott, 1980)

Other studies have ague otherwise thus these researches disagree of the existence perfect capital markets Accordingly, these studies have consistently demonstrated how trade credit and inventories can influence firms' value (Bao & Bao, 2004; Emery, 1984) The assumption that working capital management could have a great impact on a firms' value is also enjoying widely recognition Empirical evidence on working capital management impacts on firms' value is scarce

Most empirical studies support the traditional believe about working capital and profitability which states that reducing working capital investment would positively affect the profitability of firm (aggressive policy) by reducing proportion of current assets in total assets Smith (1980) was the first to signal the importance of ensuring working capital management, particularly between liquidity and profitability He states that "decisions which tend to maximize profitability tend not to maximize the chances of adequate liquidity". On the other hand, a firm concentrating almost exclusively on liquidity is likely tend to reduce the potential profitability of the company.

Previously various literatures were concentrated on studying the integration of the various components of cash conversion cycle The division are categorised into three including integration between receivables and inventory (Beranek, 1963; Shapiro, 1973; Bierman et al., 1975; Sartoris et al., 1983), integration between inventory and payable (Hadley, 1964; Haley & Higgins, 1973), and the integration among all the working capital components (Damon & Schramm, 1972; Crum et al., 1983) Correlating these working capital components will ensure that decisions made in any

of the component is likely to impact on other units within the organization (Sartoris et al., 1983) For instance, is the decisions made by the inventory manager on the level of raw materials that is if the inventory manager decide to increase the amount of inventory, other working capital components including receivables and payables is likely share the risk and would react in a manner that will decrease the amount of finish goods to stretch the profit margin Consequentially, unproductive inventory management will have a great impact on a firm's economic value through cost and risk holdings of unemployed products Unfortunately, previous researches are unable produce an attractive conclusion on the connection between working capital management For example, McInnes (2000) showed that about 94 percent of companies were unable to integrate their working capital components as anticipated by the theory

Deloof (2003) on the other hand in his studies analyzed a sample of Belgian firms, and Wang (2002) analyzing a sample of Japanese and Taiwanese firms, emphasized that working capital management has a significant impact on firm's profitability and this increase in profitability can be done by reducing the number of day's accounts receivables and inventories Firms' profitability and liquidity are reported to be affected by working capital management Research on pooled data between 2006 and 2008 to assess enlisted companies on Vietnam's stock market is an evidence of working capital impact on firms' profitability (Dong, 2010) In his (Dong, 2010) studies, Dong focused on variables including "profitability, conversion cycle and its related elements and the relationship that exists between them". His research depicted a strong negative relationship among these variables denoting that an increase in cash conversion cycle causes a decrease in the profitability In agreement to Deloof (2003) the research stated that a reduction in profitability is likely to increase numbers of days of accounts receivable and inventories

Padachi (2006) examining the trends of working capital and profitability management and their impact on the performance on a firm among 58 Mauritian small manufacturing firms 1998 and 2003 According to his findings a well designed and implemented working capital management is expected to contribute positively to the creation of firms' value The results indicated that high investment in inventories and receivables is associated with low profitability and also showed an increasing trend in the short-term component of working capital financing Raheman & Nasr (2007) also studied the relationship between working capital management and a company's profitability in 94 firms listed on Karachi Stock Exchange using static measure of liquidity and ongoing operating measure of working capital management during 1999- 2004 The findings of the study suggest that there exists negative relation between working capital management measures and profitability among this firms

Sen (2009) examining listed firms on the Istanbul Stock Exchange (ISE) to find out the relationship between companies' performance and their working capital identified negative relationship among variables. Findings of this research helped to uncover the important role of finance directors acting as moderators or catalysts in increasing a firm's productivity and in the long run positively affecting the firm's performance.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter examines the methodology used for the study Basically, the study is conducted towards examining the impact of working capital management on the performance of manufacturing companies listed on the Ghana stock exchange Specifically, the methodology develops on the data collection and the estimation techniques employed in the study It covers the research design, method of data collection, population and sample size, sampling procedure and data analysis

3.2 Research Design

The research employs panel survey which is usually used to measure change in the population studied overtime since it is a combination of both time series and cross-sectional data This study consisted of longitudinal dimension coupled with cross sectional observations for a period of seven years since panel data was used for the study More data points are obtained using the panel data method The method of estimating panel data for the study was the pooled OLS regression which deals with the pooling regression was used to investigate the impact of working capital on the financial performance of listed manufacturing companies

The pooled OLS regression deals with the pooling of all the entities together and running the regression model by not taken into consideration the cross-section and time series in nature The

fixed effect model on the other hand allows for heterogeneity among the entities by allowing them to have their intercept value For random effect model the discrepancy across entities is assumed to be random and uncorrelated with the explanatory variables The random effect model also allows for heterogeneity among the entities, but the entities have a common mean value of the intercept The regression was used to investigate the impact of working capital on firm financial performance

3.3 Population

A population sought to provide a complete set of elements (persons or objects) that possess some common characteristic defined by the sampling criteria established by the researcher (Malhotra, Birks & Wills, 2013) In this study, the population consisted of all manufacturing companies in Ghana listed on the Ghana Stock Exchange This population is not a respecter of size As such it includes all the manufacturing firms within all sectors on the Stock market

3.4 Sample Size and Sampling Technique

When conducting research, one cannot study everybody everywhere and do everything (Miles & Huberman, 2002, Malhotra, Birks & Wills, 2013). Denscombe (2014) also stated that, it is not possible for researchers to collect data from all categories being investigated. Therefore, a researcher must attempt to get evidence from a section of the category through a sampling technique. In this study, the sampled manufacturing companies within the industry located within the southern part of the country.

Two criteria were used in selecting the sample for this study.

- The company should be a manufacturing company listed on the stock exchange market of Ghana.
- The manufacturing company with annual reports for the period of 2009 to 2017 and were available on annual reports Ghana an accredited site for reporting all listed firm's annual statements.

Of the all the numerous manufacturing companies listed on the stock exchange market currently in Ghana, 10 institutions were readily available to furnish as information for the period under study. Hence, out of the total population, the researcher employs a sample size of 10 manufacturing companies each with 9 years span of data from 2009 to 2017. This enables the researcher to identify whether the level of working capital significantly impacting on performance over time. Among these institutions was Produce Buy Company, PZ Cussons, Ghana Oil Company, African Champion Company, Aluworks, Ayton Drug, Benso Oil Palm, Cocoa Processing Company, Fan Milk Company Limited and Guinness Ghana Limited.

3.5 Data Sources and Collection Method

Data on firm working capital and financial performance were collected from secondary sources. Secondary data is data that has been extracted from the manufacturing companies' financial data in their annual reports, websites etc. Data was gathered heavily from Annual report Ghana, a data base website that harbors all annual reports of listed companies up to date. Data for the study gathered was from all available source and the ex-post factor variables of standard performance indicators including Return on Assets (ROA) and Return on Equity (ROE). As stated earlier, these

annual reports of firms will be obtained from published annual reports, financial reports as well as other relevant official documents of the detailed information. They are designed in a manner so as to give investors and other stakeholders' information about the firm's activities and financial performance over the period in question

3.6 Definition of Variables

Firm Performance

Return on Assets (ROA) is one of the traditional performance measures to use to represent the financial performance of firms. ROA is the key measure of firm profitability (Dietrich & Wanzenried, 2011; Pasiouras & Kosmidou, 2007). Therefore, return on Assets (ROA) is given as:

ROA = Earnings Before Interest and Tax /Total Assets

Return on Equity (ROE) is profit available to ordinary shareholders divided by equity and reserves This is an accounting measure of firm performance and it widely used by investors

ROE = Earnings After Interest and Tax/Total Equity

Independent variables

In this research 5 features for measuring the management of working capital These independent variables include Average Collection Period, Average Payment Period, Cash Conversion Cycle, and Net Trading Cycle have been investigated as the independent variables of working capital management

The calculation of each of variables is shown as follows:

Variable	Description	Measurement
ACP	*An average collection period shows the average number of days necessary to convert firm receivables into cash*	$\frac{Account\ receivables}{Revenue} \times 360$
APP	*The average payment period is defined as the number of days a firm takes to pay off credit purchases*	$\frac{Account\ payable}{Cost\ of\ Sales} \times 360$
CCC	*It is a metric that expresses the length of time, in days, that it takes for a firm to convert resource inputs into cash flows*	*ACP – APP*
NTC	*It is measure by dividing the net revenue of a firms by the firm's current asset. This represents the value of firm current assent used in the operation of the business to generate revenue.*	$\frac{Net\ Revenue}{Current\ Asset}$
BSize	*is computed as decimal logarithm of total assets of the listed manufacturing companies*	*In(Total Asset)*
LIQ	*It is a measure of a firm's ability to meet its short-term debt obligations as and when they fall due*	$\frac{Current\ Asset}{Current\ Liability}$

3.7 Model specification

Following the empirical studies by Bohren and Strom (2010); by Deloof (2003), Lazaridis and Tryfonidis (2006), Raheman and Nasr (2007) the researcher will posits the modified version of the econometric models below

Regression equations:

$$ROA_{it} = \alpha_i + \beta_1 ACP_{it} + \beta_2 APP_{it} + \beta_3 CCC_{it} + \beta_4 NTC_{it} + \beta_5 BSize_{it} + \beta_6 LQ_{it} + w_t + \varepsilon_{it}$$

$$ROE_{it} = \alpha_i + \beta_1 ACP_{it} + \beta_2 APP_{it} + \beta_3 CCC_{it} + \beta_4 NTC_{it} + \beta_5 BSize_{it} + \beta_6 LQ_{it} + w_t + \varepsilon_{it}$$

where;

$\beta i,\ i = 1, \ldots 6$ = beta is the coefficient of the variables, α = the state specific effect, ε = the error term, w = time specific effect

For performance measurement (ROA= Return on Asset and ROE= Return on Equity),

ACP = Average Collection Period, CCC = Cash Conversion Cycle, APP = Average Payment Period, NTC = Net Trading Cycle, BSIZE = the size of firms. LQ = Liquidity

3.8 Data Analysis

Data was entered, coded, screened and analyzed with the aid of the computer software, Statistical Package for the Social Sciences (SPSS). This is necessitated following the quest to determining the empirical, linear but monotonic relationship between how the two variables: working capital

and performance are interrelated. A descriptive statistic was used to present the findings of the various variables under study. The regression model was employed in testing the effect of working capital composition variables and firm performance.

3.9 Limitation to the Methodology

Not all firms listed had the time frame for our scope, hence to obtain a balances data the researcher was limited to a period of 9 years with 10 organisations. Further, the study also realised some limitation to the OLS econometric model. A major limitation was poor prediction in the case of high significant correlation of independent variables among themselves. This is a problem as the model considers the variety of the various variables as almost equal. The researcher sought to employ variable that are verifiable in literature which sought to reduce these limitation.

Another limiting factor to the model was too much variable for the prediction of fitness of the model as well as outlier that could provide misleading results. With this, the research sough to control for outliers by provide an acceptable measure of variables in literature. Again, not many variables were employed in this study to put pressure on the model. The research sought to use relevant variables for the study.

CHAPTER FOUR

PRESENTATION AND ANALYSIS OF RESULTS

4.1 Introduction

This chapter of the study presents the analysis and results of the study. In this section, the researcher presents the descriptive statistics to describe all the variables understudy The correlation matrix that defines the association of the variables as well as the results of the regression analysis are presented

4.2 Descriptive Statistics

In this section, the descriptive statistics of all the variables, both dependent and independent variable under study is presented in Table 4.1 In the description the mean, standard deviation, the minimum and maximum values are presented A total number of 10 manufacturing companies listed on the Ghana Stock Exchange were studied over a nine-year time frame (2009 to 2017) This was data made available by majority of manufacturing firm on annual report Ghana the official website for reporting all annual reports of listed firms on the stock exchange market

Data was collected within this time frame due to its availability. The research sought for a balanced data hence the appropriate time frame that had most of the manufacturing firm was 2009- 2017. For the “return on assets (ROA)” variable is observed that on the average the manufacturing corporations and enterprises used in this study have returns on asset of approximately 0.1198. This means that on average for every cedi invested in the assets of the firm, the asset can generate an

average return of approximately twelve pesewas (0.12). This value of the return on asset is low and suggests that the sampled firms under consideration in the study are not making enough income on average from the use of their assets. This could be as a result of the inefficient utilization of the assets or the poor management of assets.

Again, for the return on equity (ROE) variable, it can also be seen from the table that the manufacturing corporations and enterprises employed in the current study have on an average a return on equity of approximately negative eighty pesewas (-0.80). This means that on average for every cedi invested in the equity of the firm, the equity is able to generate an average return of 0.80 in arrears.

The average collection period (ACP) variable also suggests that on the average, the manufacturing companies used in the current study have an average collection period of approximately 64 days. This implies that the manufacturing companies are able to recover their monies from their trade debtors or convert trade receivables to cash within approximately 64 days.

The average payment period (APP) variable on the other hand depicts that manufacturing companies have an average payment period of approximately 175 days. This suggests that it makes on average approximately 175 days for the manufacturing companies employed in this study to pay off their debts owed to their trade creditors.

Generally, a best practice among companies is for their average payment period to exceed their average collection period This means, a shorter average collection period and a longer average

payment period is desired In this case, it takes a shorter time for firms to convert resource inputs into cash flows For the manufacturing companies used in the current research, on the average, the average payment period exceeds the average collection period thereby translating in a cash conversion cycle (CCC) of approximately negative 111 This indicates that on the whole, the manufacturing companies are efficient in converting their resources into cash because they have cash in circulation at each point in time thereby reflecting in the negative mean obtained for the cash conversion cycle variable

For the net trading cycle (NTC), we can observe from the table a mean of approximately 3 for the manufacturing companies employed in this study. This implies that on the average, for every 1 ghana cedi invested in the current asset of the manufacturing companies, approximately 3 ghana cedis worth of revenue is generated.

The size of the companies employed in this study on the average can be observed from the table as approximately 15. This implies that the manufacturing companies employed in the current research are on the average moderately bigger in terms of their total assets.

For the liquidity variable it can be observed from the table that on the average the manufacturing companies employed in this research have a liquidity of approximately 2. This indicates that for every 1 ghana cedi short-term debt the manufacturing companies have approximately 2 ghana cedis to cover these debts on the average.

Table 4.1: Descriptive Statistics of Variables

Variable	N	Minimum	Maximum	Mean	Std. Deviation
ROA	103	-.0998	.4206	.1198	.1213
ROE	103	-6.2016	1.9285	-.8144	7.4765
ACP	84	.0203	451.3500	63.8112	66.2124
APP	92	1.92	3300.88	174.6780	442.4900
CCC	88	-49.5300	81.9200	-11.8668	73.3264
NTC	69	.5929	7.2802	3.0054	1.7206
Bsize	101	9.7866	19.6049	14.9245	3.4219
LIQ	99	.1101	9.8065	2.1106	2.1579

Source: Researcher's computation

4.3 Correlation Matrix

In this section we show the association of the various variable employed for the study. The correlation matrix of the variable is expressed in three tables in other to aid the understanding between the association of performance variables and firm working capital characteristics. The correlation matrix of the variables shows the association between the variables as shown below.

Table 4.2: Correlation Matrix with ROA as the dependent variable

		ROA	ACP	APP	CCC	NTC	Bsize	LIQ
ROA	Pearson Correlation	1	-.					
	Sig. (2-tailed)							
ACP	Pearson Correlation	.352**	1					
	Sig. (2-tailed)	0.003						
APP	Pearson Correlation	-0.188	.722**	1				
	Sig. (2-tailed)	0.122	0					
CCC	Pearson Correlation	0.151	.638**	.993**	1			
	Sig. (2-tailed)	0.216	0	0				
NTC	Pearson Correlation	0.205	.512**	-.244*	0.186	1		
	Sig. (2-tailed)	0.092	0	0.043	0.125			
Bsize	Pearson Correlation	-0.141	.251*	0.082	-0.05	0.189	1	
	Sig. (2-tailed)	0.246	0.038	0.503	0.686	0.12		
LIQ	Pearson Correlation	.391**	0.016	-0.217	.244*	.344**	0.118	1
	Sig. (2-tailed)	0.001	0.896	0.073	0.043	0.004	0.335	

Source: researcher's computations (2019)

Table 4.3 shows the correlation matrix with ROA as the dependent variable From the table, all the independent variables were positively correlated with the return on asset with the exception of Average Payment Period and size of the business which was negatively correlated with a value of -0.188 and -0.141 respectively This means that average payment period and business size have an inverse relationship with return on asset and hence they move in different directions This suggest that as the independent variables (average payment period and business size) increases by 0.001 the dependent variable represented by return on asset decreases by 0.188 and 0.141

Also, average collection period, cash conversion cycle, net trading period and liquidity were positively correlated with the dependent variable (return on asset) with a value of 0.352, 0.151,

0.205 and 0.391 respectively. Therefore, as the independent variables (average collection period, cash conversion cycle, net trading period and liquidity) increase by 1percent the dependent variable also increases by 0.352, 0.151, 0.205 and 0.391 respectively.

Table 4.3: Correlation Matrix with ROE as the dependent variable

		ROE	ACP	APP	CCC	NTC	Bsize	LIQ
ROE	Pearson Correlation	1						
	Sig. (2-tailed)							
ACP	Pearson Correlation	0.016	1					
	Sig. (2-tailed)	0.894						
APP	Pearson Correlation	-0.049	.722**	1				
	Sig. (2-tailed)	0.689	0					
CCC	Pearson Correlation	0.057	-.638**	-.993**	1			
	Sig. (2-tailed)	0.639	0	0				
NTC	Pearson Correlation	0.159	-.512**	-.244*	0.186	1		
	Sig. (2-tailed)	0.192	0	0.043	0.125			
Bsize	Pearson Correlation	-0.16	.251*	0.082	-0.05	0.189	1	
	Sig. (2-tailed)	0.188	0.038	0.503	0.686	0.12		
LIQ	Pearson Correlation	0.094	0.016	-0.217	.244*	-.344**	-0.118	1
	Sig. (2-tailed)	0.444	0.896	0.073	0.043	0.004	0.335	

Source: researcher's computation (2019)

The table 4.4 shows the correlation matrix of the various variables with return on equity (a measure for performance) as the dependent variable Similar to the earlier table 4.3, all the independent variables in table 4.4 were positively correlated with the return on asset with the exception of Average Payment Period and size of the business which was negatively correlated with a value of -0.049 and -0.16 respectively This means that average payment period and business size have an inverse relationship with return on asset and hence they move in different directions This suggest that as the independent variables (average payment period and business size)

increases by 0.001 the dependent variable represented by return on asset decreases by 0.049 and 0.16 respectively.

Also, average collection period, cash conversion cycle, net trading period and liquidity were positively correlated with the dependent variable (return on asset) with a value of 0.016, 0.057, 0.159 and 0.094 respectively Therefore, as the independent variables (average collection period, cash conversion cycle, net trading period and liquidity) increase by 1percent the dependent variable also increases by 0.016, 0.057, 0.159 and 0.094 respectively.

4.4 Regression Results

To ascertain the overall effect of board characteristics on performance of manufacturing firms listed on the stock market the study sought to use an OLS methodological technic to examine this relationship Prior to this, the researcher performed a Hausman specification test to ascertain which estimation technique (fixed effect and random effect) is the most appropriate for the data The specification suggested that since the p-value<0.05 we are to reject the null hypothesis (Ho: $\mathrm{Cov}\{x_i, \varepsilon_i) = 0$) This is evident as in the presence of unobserved firm fixed-effect, panel fixed-effect estimation is commonly suggested (Wooldridge, 2002, pp. 265–291)

Table 4.4: Regression results with ROA as the dependent variable

	Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
Model	B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
(Constant)	.058	.0591		.971	.437	-.063	.182
ACP	-.001	.000	-.419	-2.441	.003	-.001	.000
CCC	-0.0009	.000	-.297	-2.079	.024	.000	.000
NTC	.024	.020	.240	1.737	.077	-.003	.036
Bsize	-.101	.004	-.032	-.275	.674	-.009	.007
LIQ	.031	.006	.549	3.996	.000	.018	.044

Source: researcher's computations (2019), a. Dependent Variable: ROA, R-square 61.4% and adjusted R-square 58.8%

The variables were subjected to regression analysis and table presents the regression results derived with return on asset as the dependent variable. In analyzing the regression model, the average payment period variable was excluded because it was found to be perfectly predicted from the other independent variables. Also, the variable's tolerance value was 0, which suggests that the variance in the average payment period variable is already contained in or is redundant with the other variables, hence justifying its exclusion.

Further, the R-square in the econometric model provides that the predictor variables together accounts for more than 50% (that is, 61.4%) of the variation in the dependent variable The researcher is of strong believe that the variables drawn as independent variables are significant

enough in explaining the variation in the return on asset thus the performance level of the firm within a given period of time This also provides a strong indication that the model is fit for the regression and successfully explain the dependent variable as represented by return on asset

The results presented in the table indicate that the average collection period, cash conversion cycle, net trading cycle and liquidity variables have significant implications on the return on asset variable of the manufacturing companies employed in this study Specifically, there was a negative and significant relationship between average collection period and return on asset (5% significance level) This finding indicates that the average collection period of the manufacturing companies have an important influence on their return on asset in the sense that the more the average collection period increases the more the return on asset decreases This finding follows the logical explanation that the less time it takes companies to recover their monies from their trade debtors, the more their earnings and consequently the more their returns Also, the cash conversion cycle was found to have a negative and significant relationship with return on asset (5% significance level)

This means the variables are inversely related such that the longer the cash conversion cycles the lesser the return on asset Likewise, a negative but insignificant relationship was established between size and return on asset variables This implies that the size variable has no association with the return on asset of the manufacturing companies employed in the current study since any increase or decrease in the company's size has no significant effect on their return on asset

Lastly, a positive and significant relationship was found to exist between liquidity and return on asset (5% significance level) This suggests that the more the liquidity of manufacturing companies used in the study increases the more their return on asset increases

Table 4.5: Regression results with ROE as the dependent variable

	Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
Model	B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
(Constant)	-.160	4.343		-.059	.849	-8.838	8.518
ACP	.056	.022	.498	2.652	.011	.012	.101
CCC	.004	.003	.228	1.738	.097	-.002	.010
NTC	2.139	.689	.492	1.302	.001	.761	3.517
Bsize	-.761	.290	-.348	-2.624	.011	-1.340	-.181
LIQ	.548	.450	.158	1.219	.248	-.351	1.447

Source: researcher's computations (2019), a. Dependent Variable: ROE, R-square 43.8% and adjusted R-square 40.2%

The variables were subjected to regression analysis and table presents the regression results derived with return on equity as the dependent variable. In analysing the regression model, the average payment period variable was excluded because it was found to be perfectly predicted from the other independent variables. Also, the variable's tolerance value was 0, which suggests that the variance in the average payment period variable is already contained in or is redundant with the other variables, hence justifying its exclusion.

Further, the R-square in the econometric model provides that the predictor variables together accounts for less than 50% (that is, 43.8%) of the variation in the dependent variable. Although the case, the researcher is of strong believe that the variables drawn as independent variables are significant enough in explaining the variation in the return on asset thus the performance level of the firm within a given period of time as they were suggested by literature.

The results presented in the table indicate that the average collection period, net trading cycle and size variables have significant implications on the return on equity variable of the manufacturing companies employed in this study Specifically, there was a positive and significant relationship between average collection period and return on equity (5% significance level) This finding indicates that the average collection period of the manufacturing companies have an important influence on their return on equity in the sense that the more the average collection period increases the more the return on equity increases Also, the net trading cycle was found to have a positive and significant relationship with return on equity (5% significance level) This means the variables are directly related such that the longer the net trading cycle the more the return on asset

Likewise, a significant but negative relationship was established between size and return on equity variables (5% significance level). This suggests that the more the manufacturing companies increase in size the less return on equity for these companies. This could be as a result of the expansionary policies the companies will adopt to expand such as increased investment in assets thereby leading to a reduction in the amount of monies the companies can offer to shareholders.

Finally, the results revealed a positive but insignificant relationship between cash conversion cycle and return on equity and liquidity and return on equity. This implies that the cash conversion cycle and liquidity variables have no association with the return on equity of the manufacturing companies employed in the current study since any increase or decrease in the company's liquidity and cash conversion cycle has no significant effect on their return on equity.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION

5.1 Introduction

This presents the final chapter to the study of working capital and firm performance of manufacturing firms listed on the Ghana stock exchange market. In this chapter the researcher provides a comprehensive summary of all the major findings from the study and provides a conclusive argument to academic research. The research further provides some recommendations to the body of knowledge, industry players as well as policy makers to make sound decision based on the outcome of results from the study.

5.2 Summary of Major Findings

The study sought to examines the impact of working capital management on the performance of some selected listed manufacturing companies in Ghana, In other to achieve this the study narrowed the broader objective to examine the impact of cash management on firm performance of listed manufacturing firms in Ghana, to evaluate the effect of inventory management on firm performance of listed manufacturing firms in Ghana and to determine the effect of liquidity on firm's performance of listed manufacturing firms in Ghana, Further the performance measure was represented in two face with return on asset and return on equity, The summary is discussed below

Return on Asset (ROA)

In sum, with return on asset it was found that the average collection period, cash conversion cycle, net trading cycle and liquidity variables have significant implications on the return on asset variable of the manufacturing companies employed in this study, Specifically, there was a negative and significant relationship between average collection period and return on asset (5% significance level), This finding indicates that the average collection period of the manufacturing companies has an important influence on their return on asset in the sense that the more the average collection period increases the more the return on asset decreases, This finding follows the logical explanation that the less time it takes companies to recover their monies from their trade debtors, the more their earnings and consequently the more their returns Also, the cash conversion cycle was found to have a negative and significant relationship with return on asset (5% significance level), Thus, are inversely related such that the longer the cash conversion cycles the lesser the return on asset A positive and significant relationship was obtained between liquidity and return on asset (1% significance level) This suggests that the more the liquidity of manufacturing companies used in the study increases the more their return on asset increases

Return on Equity (ROE)

With respect to return on equity as the measure for performance, it was found that the average collection period, net trading cycle and size variables have significant implications on the return on equity variable of the manufacturing companies employed in this study Specifically, there was a positive and significant relationship between average collection period and return on equity (5% significance level) This finding indicates that the average collection period of the manufacturing

companies have an important influence on their return on equity in the sense that the more the average collection period increases the more the return on equity increases Also, the net trading cycle was found to have a positive and significant relationship with return on equity (1% significance level) This means the variables are directly related such that the longer the net trading cycle the more the return on asset The significant but negative relationship was established between size and return on equity variables (5% significance level) This suggests that the more the manufacturing companies increase in size the less return on equity for these companies This could be as a result of the expansionary policies the companies will adopt to expand such as increased investment in assets thereby leading to a reduction in the amount of monies the companies can offer to shareholders .

5.3 Conclusion

Consequently, working capital of every manufacturing company has been proven in the literature to be the blood current in the vessels of a business entity, In order to save the survival of the business entity, management of this part is claimed to be key to the business entity and the engine to the survival of the organization, Therefore, manufacturing firms especially those listed on the stock market must consistently measure the value of working capital that help them to increase performance and thus profitability It was for this purpose that the study sought to examines the impact of working capital management on the performance of some selected listed manufacturing companies in Ghana In other to achieve this the study narrowed the broader objective to examine the impact of cash management on firm performance of listed manufacturing firms in Ghana, to evaluate the effect of inventory management on firm performance of listed manufacturing firms in

Ghana and to determine the relationship between working capital management and firm performance of listed manufacturing firms in Ghana

To achieve this the study employed an econometric approach using 10 manufacturing firms listed on the Ghana Stock Exchange with data from firm annual financial accounting report for a period of 9years from 2009-2017, With two performance indicators, return on asset and return on equity the study found the average collection period, cash conversion cycle and liquidity variables to have significant implications on the return on asset variable of the manufacturing companies employed in this study and the cash conversion cycle to have a negative and significant relationship with return on asset (5% significance level) Also, the study the average collection period, net trading cycle and size variables have significant implications on the return on equity variable of the manufacturing companies employed in this study and the net trading cycle was to have a positive and significant relationship with return on equity (5% significance level)

Therefore, this research concludes that efficient working capital management is critical for the profitability/performance of firms and financial managers can create value for their shareholders by implementation of effective working capital management systems.

5.4 Recommendations

The findings indicated that working capital management, particularly managing cash and account receivables was important for the purpose of increasing sales and decreasing operating costs Working capital has an important role for value creation It is particularly important for the purpose of increasing sales by managing trade receivables

Thus, based on the findings, firms should focus on reducing the accounts receivable period Firms should strive to have a shorter cash conversion cycle because this means that the organization will be more efficient in managing the cash flow This can be achieved by reducing the amount of time that the goods are held in inventory by improving the inventory control process or by having the suppliers deliver raw materials exactly when they are needed in the production process Secondly, the firm needs to collect accounts receivables more quickly, this can be enhanced by improving the efficiency of the collection processes, offering discounts and charging interest on overdue accounts

Finally, the firm should pay its own bills slowly by utilizing the credit periods offered by the suppliers and at the same time observe the credit terms.

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