WORKING CAPITAL MANAGEMENT STRATEGIES ON FINANCIAL PERFORMANCE OF MANUFACTURING COMPANIES LISTED IN NAIROBI SECURITIES EXCHANGE

BY

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DECLARATION

I declare that this dissertation is my original work and has not been previously published or submitted elsewhere for the award of the degree of Master of Science in Commerce (Finance and Investment). I also declare that this dissertation contains no material written or published by other people except where due reference is made and the author duly acknowledged.

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ABSTRACT

The working capital management has an important role for the firm success or failure because of its effect on firm's performance and liquidity. It plays a significant role in improved profitability of firms. Hence, firms can achieve optimal management of Working capital b making the trade - off between profitability and liquidity. The study was based on secondary data collected from a sample of 9 Manufacturing firms listed in the Nairobi securities exchange for a period of 10 years from 2007-2016 with an attempt to investigate the relationship between working capital Management strategies and Financial performance of Manufacturing Firms listed at the NSE. The independent variables were the Inventory Conversion Period, Average collection period and Average payment period. The study employed Analytical research design and panel data to analyze the data. The study established that it takes listed manufacturing companies an average of 96 days to convert inventories into sale. Inventory conversion period (p=0.000) had significant positive effect on performance of listed manufacturing companies. Average collection period (p=0.090) had no significant effect on performance of listed manufacturing companies. Average payable period (p=0.471) did not significantly influence performance of listed manufacturing companies. The study concludes that there was generally stability in inventory conversion period among listed manufacturing firms across the period 2007 to 2016. Inventory conversion period had significant positive effect on performance of listed manufacturing companies. Average collection period had positive but insignificant effect on performance of listed manufacturing companies. Average payable period had positive but insignificant influence on performance of listed manufacturing companies. The study recommends that the top management of all listed manufacturing companies in Kenya should balance the level of inventories with the cost of sales to achieve optimal working capital for performance of their organizations. All manufacturing companies should significantly reduce the number of days it takes to collect debts for optimal performance. All manufacturing companies in Kenya should consider increasing their average payable periods by negotiating with their creditors and forming relationships that will result into better performance of their organization.

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ABBREVIATIONS AND ACRONYMS

NSE-Nairobi Securities Exchange

ICP-Inventory Conversion Period

ACP-Average Collection Period

APP-Average Payment Period.

ROA-Return on Asset**.**

CMA-Capital Market Authority.

WCM-Working Capital Management.

FEM-Fixed Effect Model

REM-Random Effect Model

BAT-British American Tobacco Kenya Ltd

CIL-Carbacid Investment Ltd

EABL-East African Breweries Ltd

MS-Mumias Sugar

UG-Unga Group Ltd

EEAL-Eveready East Africa Ltd Ord

KOL-Kenya Orchards Ltd

FTGHL-Flame Tree Group Holdings Ltd

DEFINITION OF TERMS

Average collection period: refers to the **average** number of days between the dates that credit sales were made or the dates that the money was received/collected from the customers.

Average payable period: refers to the average period taken by the company in making payments to its creditors, computed by dividing the number of working days in a year by creditors turnover ratio.

Inventory conversion period: refers to the time required to obtain materials for a product, manufacture it, and sell it or simply the time period during which a company must invest cash while it converts materials into a sale.

Organizational performance: comprises the actual output or results of an organization as measured against its intended outputs (or goals and objectives).

Working capital: refers to the financial metric which represents operating liquidity available to a business, organisation or other entity, including governmental entities, calculated as the current assets minus the current liabilities.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The financial crisis of 2008-2009 is the biggest shock to the worldwide financial system since the 1930s (Cornett *et al*., 2011; Foster & Magdoff, 2009). The crisis began in late summer 2007 with the collapse of two hedge funds, property of the American firm Bear Stearns. The world financial system deteriorated over time, despite the efforts put by the various governments to stop this process. A couple of months later, many of the so called sub-prime loans were unraveled and it became clear that these loans had a very high risk. What was evident was that it was impossible for these loans to be paid back. This led to the collapse and bailing out of the British bank Northern Rock and the central bank intervention of AIG, Freddy Mac and Fenny Mea. A year later Lehmann Brothers in the US collapsed, which emitted a huge shockwave all over the world (Beveld, 2012).

In Kenya, the economy is yet to recover from the post-election violence ten years ago. Businesses have been on the downward trends with some even closing shop with some restructuring and re-strategizing to gain competitive advantage. Prior to the 2007 election, the Gross Domestic Product was growing at the rate above 7% declined in the post-election violence, 2007/2008. Today a decade later, the GDP growth rate is yet to pass a growth of 5.5%. Firms were experiencing turbulent times with diminishing returns some resorting to strategies like mergers while other put under statutory management. The unavailability of credit was the main problem for financially constrained firms, because they had to cut more investment, technology, marketing, and employment during the crisis (Mwangi, Makau & Kosimbei, 2014).

A firm is required to maintain a balance between liquidity and profitability while conducting its day to day operations. Liquidity is a precondition to ensure that firms are able to meet its short-term obligations and its continued flow can be guaranteed from a profitable venture. The short-term capital refers to the capital that companies use in their daily operations and it consist of company's current assets and current liabilities. A well-managed Working capital promotes a company's well-being on the market in terms of Liquidity and it also acts in favor for the growth of shareholders value (Jeng-Ron, Li & Han-Wen, 2006). Working capital Management efficiency is vital especially for manufacturing firms where a Major part of Asset is composed of Current asset. It directly affects the profitability and Liquidity of Firms (Rehaman & Nasr, 2007). Companies now must resort to other ways of accessing funds, as they need the funds for business operation and or expansion. One of the sources of funding of financing which is often neglected by most business enterprises is the working capital (Abbas zade et al, 2013).

Working capital is defined as all short-term assets used in the daily operations of the enterprise. According to Kesimli and Gunay (2011) working capital refers to investment in current assets and current liabilities crucial for the firm's day to day running as can be liquidated in the short run (within one year or less). It is the money a firm requires on a daily basis for its daily revenue generating activities. Vahid, Mohsen and Mohammadreza (2012) noted that working capital management is crucial for the determination of the success or failure of firm's performance due to its role on firm's profitability as well on liquidity.

A firm has two choices to make one being an aggressive working capital management policy with a low level of current assets as a percentage of total assets. Secondly, it may use the financial decisions in the form of high level of current liabilities as a percentage of total

liabilities (Afza & Nazir, 2007). the main objective of working capital management is to reach optimal balance between working capital management components (Gill, 2011).

The administration of working capital is an important and challenging task for the modern financial management due to high proportion of working capital in a business. Working capital management is defined as the management of current assets, current liabilities and the interrelationship that exists between them. Excessive levels of current assets have been found to have a negative effect on the firm's profitability. On the other hand, low level of current assets has been found to result into lower level of liquidity and stock outs which result in difficulties in maintaining smooth operations. Working capital is therefore the difference between assets and current liabilities and working capital management is balancing of current assets and the current liabilities in order to maximize profitability and proper level of liquidity in business. Both liquidity and profitability have been found to be 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 liquidity and profitability of firms.

Overall, the purpose of Working capital management is to manage the firm's current accounts so as to attain a desired balance between profitability and risk. Shin and Soenem (2012) found that efficient working capital management is an integral component of the overall corporate strategy towards creating shareholder value. The components of working capital are: Inventory conversion period: This is the time taken to convert Inventory held in the firm into sales. Average collection period: This is the time taken to collect cash from the customers. Average payment period: This is the time taken to pay the firms suppliers. However, delaying of such payables can be expensive in case the firm is offered a discount for the early payment as it

may forfeit the discount. By the same token, uncollected accounts receivables can lead to cash inflow problems for the firm.

1.1.1 Financial Performance

The term is used as a general measure of the firm's overall financial health over a given period of time. It is used to compare the performance of similar firms across the same industry or to compare industries or sectors in aggregation.

There are as many ways of measuring financial performance of a company. It can be measured by either use of accounting information or stock market values in a financial management practices context (Deloof, 2003). The stock market value is used to measure financial performance of the firm when one is interested in analyzing the change in market value. Firm's financial performance is measured over time using average stock market change per year which is obtained by simply calculating the yearly change in stock price.

When accounting information is used, accounting ratios are employed. These include: return on assets, return on investment, and return on capital employed. Return on Assets is the preferred measure of financial performance of the firms in the Nairobi Securities Exchange which will be adopted by this study (Brealey & Myers, 2007).

1.1.2 Nairobi Securities Exchange

The Nairobi Securities Exchange (NSE) is the principal securities exchange entity for Kenya. It began in 1954 as an overseas stock exchange under the British colony with permission of the London Stock Exchange. The NSE is a member of the African Securities Exchanges Association

(ASEA) and is the fourth largest stock exchange in Africa in terms of trading volumes, and fifth in terms of market capitalization as a percentage of GDP.

The NSE aims at supporting trading clearing settlement of equities, debts, derivatives and other associated instruments. NSE's core mandate is to list companies on the securities exchange and to create an enabling environment for investors to trade in securities of the listed companies. It is regulated by Capital Market Authority. Companies listed at the NSE are grouped into eleven sectors namely; agricultural, automobile and accessories, banking, commercial and services, construction and allied, energy and petroleum, insurance, investment, manufacturing and allied, telecommunication and technology and growth enterprise market segment respectively (www.nse.co.ke, 2018).

1.2 Statement of the Problem

The success of firms whether small or large is dependent on how well it manages its working capital. Working capital starvation has been credited as a major cause of business failure in many countries. In Kenya, a number of public and private companies have been under statutory management in the last decade. They include the Kenya Planters Co-operative Union KPCU (2010), Ngenye Kariuki Stockbrokers (2010), Standard Assurance (2009), Invesco Assurance (2008), Hutchings Beimer (2010), Discount Securities (2008), Uchumi Supermarkets (2006), and Pan Paper Mills (2009) and more recently, the Kenya Airways (2015). The problem of working capital management is evidenced in the Uchumi supermarket Ltd annual report (2005) where the company was reported to be operating under a tight cash flow position that made it difficult for the company to maintain supplier relations and consistent supplies. This condition led to loss of

customers to competition and worsened the cash flow position which resulted into receivership of the biggest retail outlet in Kenya.

Previous studies have shown that there exists a relationship between working capital management strategies and firm's financial performance. For instance, according to Baveld (2012) Canadian manufacturing firms whose current assets comprise about 40 percent of the total assets require skilful management of short-term assets to meet their short-term maturing obligations and provide attractive return to its shareholders. Eg bide (2009) blamed large number of business failures in the past on inability of the financial managers to plan and control the working capital of their respective firms. He noted that these led high bad debts and high inventory costs among others which adversely affect their operating performance.

Locally various studies have been done on the working capital management. Waema and Nasieku (2016) did a study on the effect of working capital management on the financial performance of listed manufacturing firms in Kenya where they found that there existed a positive relationship between creditor management and financial performance. They however found a negative relationship between debt management, inventory management, cash management and financial performance.

Nzioki *et al*. (2014) conducted a study on management of working capital and its effects on profitability of manufacturing companies listed at the Nairobi Securities Exchange between 2006 and 2010. Mwangi, Muathe and Kosimbei (2014) analyzed the effects of working capital management on performance of non-financial firms listed at the Nairobi Securities Exchange for the period 2006-2012. Omesa *et al.* (2013) examined the relationship between working capital management and corporate performance of 20 manufacturing firms listed at the Nairobi

Securities Exchange for the period ranging between 2007 and 2011. However, these studies put great emphasis largely on the listed manufacturing firms.

Wanguu and Kipkirui (2015) did a study on the effect of working capital management on profitability of cement manufacturing companies in Kenya where they found that inventory days, receivable period, liquidity, leverage and firm size positively influenced profitability while payable period negatively influenced the profitability of cement manufacturing firms in Kenya. Due to the conflicting results, there was need for an investigation to determine the effect of working capital management strategies on the financial performance of Manufacturing firms in the NSE.

1.3 General Objective of the Study

The general objective of the study was to investigate the effect of working capital management strategies on the financial performance of listed Manufacturing firms in the NSE.

1.3.1 Specific Objectives of the Study

The following were the specific objectives of the study:

1. To determine the effect of inventory conversion period on the financial performance of manufacturing firms listed at the NSE.
2. To establish the effect of average collection period on the financial performance of manufacturing firms listed at the NSE.
3. To assess the effect of average payable period on the financial performance of manufacturing firms listed at the NSE.

1.4 Research Questions

The study sought to answer the following research questions:

1. What is the effect of inventory conversion period on the financial performance of manufacturing firms listed at the NSE?
2. What effect does the average collection period have on the financial performance of manufacturing firms listed at the NSE?
3. How has average payable periods affect financial performance of manufacturing firms listed at the NSE?

1.5 Significance of the Study

The findings of this study would be resourceful to the management of the listed companies at the NSE as they would gain understanding of working capital management and its effect on firms' financial performance. From these findings, listed firms at the NSE might determine the effective working capital management strategies would deliver positive financial performance. This study would be beneficial to the academicians and it would add to the existing body of literature in the area of the effect of working capital management on the financial performance of firms. The study would also be used as an initiation for those who are interested to conduct a detailed and comprehensive study in relation to working capital management strategies and firms' financial performance or other related topics. The study would also be of importance to the investors as they would gain understanding of the importance of working capital management strategies in determining the firm's financial performance.

1.6 Scope of the Study

This study focused on the effect of working capital management strategies on firm's financial performance. The study was limited to inventory conversion period, average collection period and average payable periods to determine the effect of return on assets. The study looked at a ten years period of between 2007 -2016.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

In this chapter reviews related literature with regard to working capital management and financial performance are assessed. The chapter also presents the theoretical framework, empirical review, conceptual framework and operationalization of variables.

2.2 Theoretical Framework

This study was anchored on three theories namely, Operating Cycle Theory, Trade-off Theory and the Contingency Theory. They are discussed in the section that follows.

2.2.1 Operating Cycle Theory

To estimate the gross working capital requirements, the understanding of the operating cycle is very important. The function of any trading unit is to procure material, process the same, sell the finished goods and realize money and utilize the money so received, to procure material again and to continue the cycle all over again. Thus, the process starts with purchase of materials required for the trading. The process purchase of material may take some time due to the number and nature of material transportation, the material once procured are made to undergo the several processes, the duration of which may range from a day to months.

During this era, numerous material are going to be in several stages of production in several forms. Besides, the price of fabric, labor charges, electricity, water, rent etc also are incurred throughout the amount of process. of these needed funds/capitals once the products area unit created it's going to not be sold-out straightaway and it's going to ought to be keep in a very

go down for a few days before they're sold-out. Storing of such finished product involves price of materials employed in such finished merchandise, labor and alternative producing expresses incurred in manufacturing them. It’s not necessary that every one the products are going to be in money.

Some product are going to be sold-out on credit until such time sale issue aren't realised, realize area unit blocked in such due . Finally, once the sales issue area unit realised the funds area unit once more accustomed procure materials as higher than and therefore the whole method cycle starts everywhere once more. The full time taken from the acquisition of materials, until realization of sale issue is named the operative cycle and quantity of capital needed to sustain this cycle is named gross capital (Ghosh & Maji, 2004).

Operating Cycle is vital as a result of it determines the quantity of capital a business would like. If you'll have the operative cycle, you may have the capital demand of the business. If the turnover amount for inventories and account due lengthen, or the payment amount to liability shortens, then the operative cycle can lengthen and therefore the investment in capital can increase (Ghosh & Maji, 2004). This theory is applicable to the study because the study seeks to work out however knowing the best level of capital can have an effect on the performance of the corporations. By knowing the operative cycle, the firm are going to be in a very position to understand the best level of capital needed for its production.

2.2.2 Trade-off Theory

The trade – off theory refers to the idea that a company chooses how much debt finance and how much equity finance to use by balancing the cost and benefits. Cost of bankruptcy and the serving benefit of debt. Often agency costs are also included in the balance. This theory is often

set up as a competitor theory to the pecking order theory of capital structure. An important purposed of the theory is to explain the fact that corporation usually are financed partly with debt and partly with equity. It states that there is an advantage to financing with debt the tax benefits of debt and there is a cost of financing with debt the costs of financing distress including bankruptcy cost e.g. staff leaving, suppliers demanding disadvantage payment terms, bondholder/stockholder infighting, etc. the marginal benefits of further increase in debt declines as debt increases while the marginal cost increases, so that the firm that is optimizing its overall value will focus on this trade – off when choosing how much debt and equity to use for financing. Welch (2012) has argued that firms do not undo the impact of stock price as they showed under the basic trade – off. This theory is applicable to this study as it is about making decision as to whether to finance through debt of equity each of which has its advantages and disadvantages, hence the trade-off.

2.2.3 Contingency Theory

Contingency theory of capital management states that the effectiveness of capital is highest wherever the structure fits the contingencies, thus solely those organizations that align their capital with the present surroundings deliver the goods most output. The speculation thus advocates that in crucial the level/approach of capital management to approach, companies should place into thought the strategically vital external variables like economic conditions, demographic trends, social group trends political/legal factors and trade structure. The speculation more notes that there's no level of capital that's aforementioned to be perpetually optimum in any explicit trade. Rather, as long as external factors might amendment speedily, managers should perpetually adopt their organizations levels and approaches of capital

management to the new scenario to confirm effectiveness. The Contingency Theory thus implicitly treats organizations as loosely coupled aggregates whose separate capital parts could also be adjusted or fine-tuned. The speculation is applicable to the study therein it highlights that the capital is influenced by several factors thus isn't constant and so the management should ask for the optimum level of capital.

2.3 Overview of Working Capital Management

Generally, the money management call divides into management of assets (investment) and liabilities (source of financing) within the short term and long run. Assets management largely focuses on the management of current assets and current liabilities of firms. As you investigate that firms' performance can not be magnified within the long-term unless it utilizes the short run. The most reason of firm's failure is that they're unable to attain their assets desires. Therefore, spare assets management is needed for firm's survival. In good markets, investment policy depends on the investment chance whereas investment selections are freelance of finance call with positive web gift price (NPV) as a result of companies have massive access to sources of finance while not constraints and at an affordable value. Thanks to the market state internal finance are costlier than external finance. If we tend to discuss concerning the investment and call criteria it play vital role within the performance of the companies.

In the recent analysis, the most important a part of money conversion cycle will increase the firms' sales and performance for a few reason. However, the importance of inventory creates sense for the capital management as a result of it's the most element of money conversion cycle. So, that's why capital management is a chance value by equalization a high investment if the companies antedate different additional profitable investment to equal that level. If we have a

tendency to see the sooner researches on capital management we have a tendency to examine companies make a case for that money conversion cycle and the way they will have an effect on its size. Previous studies, Deloof (2003), Padachi (2006) and Garcia-Teruel and Martinez-Solano (2007), has measured the standard of capital management that's passionate about money conversion cycle. Capital may be a quite common construct in company money theory, as a vital component of a firm. The inventory is taken into account a current plus as a result of it's expected to be born-again into money among the year. The corporate might have an affordable stock management as a result of the investments in inventory are sometimes translated into a considerable capital investment

When talking concerning account assets, trade credit should be mentioned. Most transactions aren't paid at the time of invoice, and also the credit that a firm offers to their customers to increase the payment amount is termed trade credit. Meltzer (2004) is one in every of the pioneers in learning trade credit to grasp the relation between financial conditions and trade credit. Trade credit are often useful in permitting customers to use the product before paying. in a very firm's prospect, the operation cycle starts at shopping for raw materials from suppliers and ends once receiving payments when customers get its product. The money cycle is that the method of paying suppliers till assembling cash from customers. If there's no trade credit, the operation cycle equals precisely to the money cycle. With trade credit, firms will attract additional customers particularly once the purchasers have several decisions of the product. Love et al. (2007) detected that worldwide corporations increase their trade credits once a money crisis happens.

Regarding accounts due, Deloof (2003) declared that delaying payments may be a reasonable and versatile supply of finance. This implies that the existence of this part is related to

the finance policy of the present assets during a sense that it's doable to delay the payment to the firm's suppliers so as to put off the money outflow. Thus, it helps the firm to scale back its money operative cycle. however, late payment of invoices may be terribly pricey if the firm is obtainable a reduction for early payment, which means that the money managers ought to think about the chance value of capital, like deciding whether to pay earlier and get discount at a specific rate or postpone payment and use the cash on an investment with an equal or higher rate of return..

2.4 Empirical Review

2.4.1 Inventory Conversion Period and Financial Performance

Inventory is outlined as list the of stock staple, add progress or finished smart that is waiting to utilize in production or to be sold. Inventory have an effect on the common variety of days of stock control by an organization. Moreover, save the worth, the a lot of companies maintain their payment commitment to their provider. Inventory management is incredibly vital in a very international setting is a lot of advanced than in a very strictly domestic setting thanks to the issues that are arises with handling inventory. Inventory turnover in days refers to the common time needed to convert materials into finished merchandise. The amount of days inventory is measured as (inventory/cost of products sold) *360) (Pedro Jaun Garcia, 2006). This variable reflects the common no of days of stock control by the businesses. Longer storage times show a bigger investment in inventory for a crucial level of operation.

Large inventory and generous trade credit policy might cause higher sales and larger inventory decrease the chance of stock out. Trade credit might increase sales as a result of it permits customers to achieve product quality before paying (Long, Mertiz and Ravid, 2005; and

Deloof and Jergers, 2004), as a result of provider might have vital value blessings over institution in achieving credit to their customers. It may be cheaper supply of credit for patrons (Petersen and Rajan, 2007). The supply of granting trade credit and keeping inventories is that cash is saved in assets. Reducing stock produces giant money edges by endlessly increasing income, decreasing disbursement level, lowering the quality base and decreasing capital disbursement.

The number of day's inventory or inventory holding amount is that the interruption between getting materials, producing and marketing the finished product (Hillier et al., 2010). The inventory holding amount is given by material conversion amount and work-in-progress conversion amount and finished product conversion amount. Therefore, the inventory conversion amount is greatly influenced by the potency and effectiveness of the producing method and also the marketing method. The time taken to provide a given amount of products depends on the character of the merchandise and also the kind of technology utilized in the assembly method.

The activity of creating a purchase depends on the completeness and readiness of the merchandise to satisfy customers' desires and desires. A firm could minimize prices related to holding giant amounts of inventory by adopting economical stock management systems like Just-Time System. Reducing inventory to only the optimum level reduces the value of degeneration, value/cost} of excess assets involved on excess inventory and stock holding cost. On the opposite hand, excessive inventory could cut back stock-out price and lost goodwill of the firm. the quantity of days inventory or inventory conversion amount is calculated by diving average inventories by the value of products sold per day (Huynh, 2011). Inventory turnover magnitude relation, that represents the potency of inventory management, is anticipated to be high for corporations with bigger gain. a coffee inventory turnover magnitude relation might indicate

either poor sales or associate excess quantity of inventory, Ruichao (2013). Mansoor and Muhammad (2012) on their study show that managers will improve firms' gain by shortening inventory assortment amount.

Dong (2010) focuses on the variables that embody gain, conversion cycle and its connected components and therefore the relationship that exists between them. The analysis finds that the relationships among these variables square measure powerfully negative. This denote that decrease within the gain occur thanks to increase in money conversion cycle. it's additionally finds that if the quantity of days of account assets and inventories square measure diminished then the gain will increase.

Although most research recommend a negative relation between inventory turnover in days and gain (Ruichao, 2013; Falope & Ajilore, 2009; Mansoor and Muhammad, 2012; Dong, 2010), notice contradictory findings on the connection between inventory turnover in days and gain. Gill, Biger and Mathur (2012) and Mathuva (2010) recommend a positive relationship between inventory turnover in days and gain. Maintaining sufficiently high inventory levels reduces prices of potential interruptions within the production method and loss of doing business thanks to insufficiency of merchandise (Mathuva 2010), whereas investment an excessive amount of in inventories unnecessarily blocks the funds in assets that might be invested with in revenue generating activities. Since inventory determines the extent of activities during a company, managing it strategically contributes to gain (Brigham and Houston, 2003).

The activity of making an acquisition depends on the completeness and readiness of the merchandise to satisfy customers' needs and needs. A firm might minimize costs associated with holding big amounts of inventory by adopting economical stock management systems like Just-Time System. Reducing inventory to solely the optimum level reduces the worth of

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revenue generating activities. Since inventory determines the extent of activities throughout a corporation, managing it strategically contributes to achieve (Brigham and Houston, 2003).

Raheman and Nasr (2007) investigated the results of capital management on gain of West Pakistan companies. The study was supported ninety four West Pakistan companies listed on urban center exchange for a amount of six years from 1999-2004. Contrary to Rehn (2012) and Thuvaraka (2013), the study found a considerably negative relationship between the inventory conversion amount and therefore the company's gain. Additionally, these researchers had studied companies in several sectors within the economy. The results of such studies is also compromised by some factors inherent to specific industries which could have an effect on the parts of the capital in unknown ways that. For instance, it not statistically viable to roll producing companies with banks and insurance firms in to 1 sample and proceed to treat every member thence equally. The members take issue in terms of stock volume and levels of assets. Additionally, the studies still provide conflicting results as regards the link between the capital management and gain of firms.

2.4.2 Average Collection Period and Financial Performance

Average assortment amount refers to the common length of your time needed to convert the firm's assets into money following a procurement. it's calculated by dividing assets by the common credit sales per day. This magnitude relation measures the length of your time it takes to convert the common sales into money. This mensuration defines the link between assets and income. a extended average assortment amount needs a better investment in assets. a better investment in assets means that less money is offered to hide money outflows, like paying bills.

Marsh (2012) postulates that debtors' days square measure a sign of however smart a corporation is at aggregation debts from its customers and the way a lot of trade credit it permits. the less days the higher it's to the organization as a result of it means that improved money flows position. Poor liquidity magnitude relation of an organization is especially caused by poor debt assortment. Laughlin et al (2012) emphasizes that a rise in account assets is indicative of a rise in structure sales. On contrary, holding assets for an extended time is indicative {of money|of money} engaged since cash is received only assets are literally paid by debtors. metric weight unit et al (1999) viewed that a extended debtors' assortment amount are often seen as positive as a result of it will improve the link between the organization and customers to such some extent that customers become loyal, therefore result in increase in revenue and money flows.

Mekonnen (2011) shows that there's statistically vital negative relationship between profit and average assortment amount. This result suggests that corporations will improve their profit by reducing the amount of day's assets outstanding. this may even be understood because the less the time it takes for purchasers to pay their bills, the extra cash is offered to make full inventory therefore the upper the sales accomplished resulting in high profit of the firm.

The negative relationship between average assortment amount and profit suggests that a rise within the range of day's assets by one day is related to a decline in profit. Through this, managers will improve profit by reducing the credit granted to their customers (Lazaridis & Tryfonidis, 2006). The study by Deloof (2003), states that managers will increase company profit by reducing the typical assortment amount. The longer the amount of day's assets outstanding, the larger the possibility that the firm might lose its profit. If corporations do not manage debtors, they step by step lose management thanks to reduced income and will expertise associate increased rate of unhealthy debts.

The longer somebody owes firm's cash, the bigger the possibility the firm ne'er get paid. As a result, profit might solely be referred to as real profit when the assets area unit become money. Therefore, the management of account assets is inevitable and for the most part influenced by the credit policy and assortment procedure. A credit policy specifies necessities to price the goodness of shoppers and a group procedure provides tips to gather unpaid invoices which will scale back delays in outstanding assets (Brigham & Houston, 2003). So, there exists a extremely important negative relationship between the time it takes for corporations to gather money from their customers (receivables assortment period) and profitableness.

Long et al. (1993) corresponds with metric weight unit et al. (1999) on the connection between the organization and its customers in this if a corporation offers a liberal credit terms to its customers, this incorporates a tendency of skyrocketing the sales level of the organization, but he emphasizes that granting relaxed credit terms to customers reduces liquidity. Money remains fastened up in debtors whereas the organization would need a lot of assets support Sheeba (2012) highlighted that shorter assortment amount reflects that collections from debtors occur quickly therefore denotes the standard of debtors is nice. Shorter assortment amount shows that the credit policy of the firm is nice and indicates economical assortment and management of book debts. However, a awfully short assortment amount might negatively have an effect on sales since sales will increase with increase in credit amount. Hence, shorter credit amount might decrease sales, which suggests that the corporate ought to increase its assortment amount.

On the opposite hand, Sheeba (2012) agrees that longer assortment amount could be a reflection of poor management of collections and ineffective credit policy of the organization. Long average assortment amount is indicative of a awfully decontrolled and inefficient credit and assortment policy parameters of the organization. This is often in line with Sheeba (2012)

assertion that longer assortment amount signifies poor credit policy, assortment and management by the organization. Shorter assortment amount helps to take care of liquidity and scale back engaged profit debtors. It represents money received prior to later and this shows that the earlier the higher in terms important of the money. Money received nowadays is place in productive investments that earn returns for the organization and scale back organization's want for capital demand. Longer assortment amount would create the corporate have a larger want for capital since it takes longer time to induce paid nonetheless the activities would wish to be supported.

2.4.3 Average Payment Period and Financial Performance

Average payment amount are often outlined because the average length of your time between the acquisition of materials and labor and therefore the payment of money for them. it's calculated as; (Payables)/(Purchase) × 365). Account liabilities plays a essential role in managing capital as a result of delaying bill payments is one in every of the tools for management to possess access to an affordable supply of funding. However, the chance price of keeping high account liabilities could hurt the business if associate early payment discount is obtainable, Ruichao (2013). Payment amount tend to be longer for countries in lean and smaller capital markets like Tanzania whereby there area unit solely twenty listed firms which incorporates thirteen domestic firms and seven foreign firms, opening et al study as cited in Ruichao (2013).

Jones et al. (2008) concurs with Falope et al. (2009) that creditors' average payment amount could be a live, however long it takes the corporate to hide its accounts owed. In keeping with Jones (2008), the longer the length a corporation is in a position to delay payment while not harming someone relations, the higher would be the company's working-capital position.

An organization has AN incentive to elongate the number of your time it takes to settle its liabilities, since that frees up and provides money currently. The principle of subsidence liabilities is that it involves the usage of money, whereas a rise in liabilities from one amount to succeeding will increase money.

Working capital management rule states that corporations ought to try to lag their payments to creditors the maximum amount as attainable, taking care to not spoil their relationship. Through this, Mathuva (2010) within the study "the influence of capital management elements on company gain: a survey on Kenyan listed firms" shows that average payment amount incorporates a positive relationship with profitability. The positive relationship suggests that a rise within the variety of day's accounts collectable by one day is related to a rise in gain.

Delaying payment of accounts collectable to suppliers permits corporations to access the standard of branch product and will be cheap and versatile supply of finance. On the opposite hand, delaying of such liabilities are often pricy if a firm is obtainable a reduction for the first payment. So, there exists a extremely vital positive relationship between the time it takes the firm to pay its creditors (average payment period) and gain, Naimulbari (2012).

Raheman and Nasr (2007) on their study regarding the result of various variables of capital management as well as average assortment amount, inventory turnover in days, average payment amount, money conversion cycle, and current magnitude relation on net in operation gain of Pakistani corporations, chosen a sample of ninety four Pakistani corporations listed on Karachi securities market for a amount of six years from 1999-2004 and located a powerful negative relationship between liquidity (as measured by current ratio) and gain of the firm.

Sheeba (2012) explains longer payment amount implies that the firm gets the advantage of utilizing the cash for a specific amount of your time. However, identical scholar points the rise within the payment amount ought to ne'er cross the limit wherever the firm's goodwill may be compromised. Prodigious the credit amount would end in loss of future business with specific suppliers. On the opposite facet shorter payment amount indicates the organization doesn't fancy the advantages of mistreatment cash since it holds cash for a brief amount of your time. Delaying payments to suppliers provides chance for a firm to check the product in terms of quality before payment. The organization gets an affordable and versatile supply of funding. However, longer someone payment amount may be terribly pricey once the firm may be offered a reduction for early payment.

Laughlin et al. (2012) concurs with the on top of and elaborates that stress is given to the length within which a corporation is in a position to access cheap funding within the style of credit relationships with suppliers. The longer a corporation is in a position to delay its payment (while maintaining provider relations), the higher would be the organization income position. Longer creditor's payment amount helps to preserve liquidity. It represents money that ought to are given to suppliers however paid later whereas getting used by the organization profitably. Shorter payment amount means that the organization pays quicker that it presupposed to thus place itself in associate unfavorable capital position. Quite traditional credit amount would mean the organization will get into conflicts over payment that risks its name and additional therefore credit purchases may be denied within the future. It's safe for a company to keep up its relationships through correct management of its creditors.

Sheeba (2012) explains longer payment amount implies that the firm gets the advantage of utilizing the cash for a specific amount of your time. Samiloglu and Demirqunes (2008) analyze the result of assets management on firm profitableness. In accordance with the aim, they thought of between firm profitableness and also the elements of statistically vital relationship between firm profitableness and also the elements of money conversion cycle at length, a sample consisting of urban center stock market (ISE) listed producing firm for the amount of 1998 – 2007 has been analyzed underneath a multivariate analysis model. Empirical finding of the study showed that assets amount inventory amount and leverage have an effect on firm profitableness negatively whereas growth (in sales) affects profitableness absolutely.

Sharma and Kumar (2011) examine the result of assets on profitableness of India firm. They collected information a few sample of 263 non-financial mad cow disease five hundred corporations listed at the Bombay stock market (BSE) from 2000 to 2008 and evaluated the info victimization normal least sq. (OLS) multivariate analysis. The finding of their study considerably departs from the varied international, studies conducted in several markets. The result discovered that assets management and profitableness was absolutely related in Indian firms. The study additional discovered that inventory range of days and range of days assets and money conversion – amount exhibit a positive relationship with company profitableness.

Adina (2010) states in his paper assets management and profitability: A case of Alba county firms that the aim of his study was to investigate the potency of assets management from Alba County. He examined the connection between the potency of the assets management and profitableness victimization person correlation analyses and employing a sample of twenty annual budget of firms covering amount 2004 – 2008. He complete that there was a weak negative linear correlation between assets management indicator and profitableness rates.

2.5 Summary and Research Gaps

The reviewed literature has shown mixed results for the variables. For instance, although studies by Ruichao (2013), Muthuva (2010), Naimulbari (2012) and Gill, Biger and Mathur (2012) show positive relationship between accounts payment period and profitability other more research by Ray (2012), Mekonnen (2011), Vural, Sökmen and Çetenak (2012), Saghir, Hashmi and Hussain (2011) and Reheman et al, (2010) suggest a negative relationship between average payment period and the firm profitability. Garcia-Teruel and Martinez-Solano (2007) failed to provide the relationship that exists between average payment period and profitability.

While studies by Laughline et al (2012); Ng et al (1999); Deloof (2003) and Sheeba (2012) recorded positive relationship between the average collection period and financial performance, Mekonnen (2011), Lazairidi and Tryforidis 2006 recorded a negative relationship between average collection period and organizations financial performance. These mixed results therefore call for a study to ascertain the relationship between the capital management and organizations financial performance.

2.6 Conceptual Framework

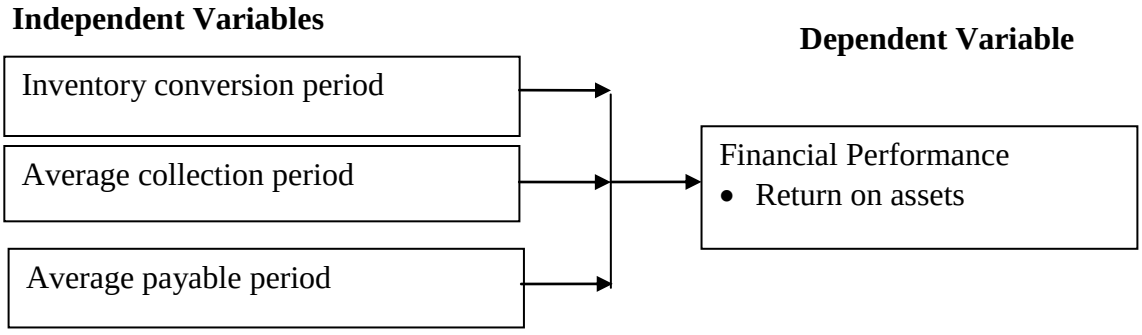


Figure 2.1: Conceptual Framework

2.7 Hypothesis

H_o: There is no significant relationship between working capital management strategies and financial performance of manufacturing companies in Kenya

2.8 Operationalization of the Variables

The study has four variables of interest. The independent variables are the inventory conversion period, average collection period and average payable period. The dependent variable is the financial performance measured by the return on assets (ROA) (See table 2.1 below

TABLE 2.1

Operationalization of Variables

Variables	**Definition**	**Calculation**	**Type of variable**
Inventory conversion period (ICP)	ICP is the time required to convert inventory into cash.	$\frac{Average\ stock\ value}{Cost\ of\ Sales}\ x\ 365$	Independent
Average collection period (ACP)	ACP is the time required to collect the cash from debtors.	$\frac{Average\ debtors}{Net\ credit\ sales}\ x\ 365$	Independent
Average payable period (APP)	APP is the length of time the firm is able to defer payments on various resource purchases	$\frac{Payables}{Purchases}\ x\ 365$	Independent
Return on assets (ROA)	It is based on the relationship between the sales and total assets of a firm.	$\frac{Net\ sales}{Total\ assets}\ x\ 100$	Dependent

Inventory Conversion Period

This refers to the list of stock raw material, work in progress or finished good which is waiting to utilize in production or to be sold. Inventory affect the average number of days of stock held by a company (Pedro Jaun Garcia, 2006).

Average Collection Period

This refers to the average length of time required to convert the firm's receivables into cash following a sale. This ratio measures the length of time it takes to convert the average sales into cash (Marsh, 2012).

Average Payable Period

This is defined as the average length of time between the purchase of materials and labor and the payment of cash for them (Ruichao, 2013).

Return on Asset

This measures how efficiently a company can manage its assets to produce profits during a period. (Brealey & Myers, 2007).

CHAPTER THREE

METHODOLOGY

3.1 Introduction

In this chapter the researcher presents the research design, the target population, the data collection method and the data analysis techniques.

3.2 Research Design

The study used Analytical research design. This was because, the researcher had to use facts or information already available and analyze them to make a critical evaluation of the material. The study intended to use secondary data for the firms in the NSE. The records that were observed were from 2007-2016 a period of ten years. The variables that were tested in the studied firms were accounts receivable, accounts payable, inventories and Return on total assets.

3.3 Target Population

The target population of this study was the 9 manufacturing firms listed at the Nairobi Securities Exchange for a period of 10 years from 2007-2016. The choice for manufacturing firms was due to the fact that they have a high rate of inventory conversion of raw materials (see appendix 1).

3.4 Data Collection

Secondary data was used for the study. The data regarding financial performance which was measured in terms of Return on Asset, current assets, current Liabilities, Fixed assets, Long-term debt and Equity were collected from the published financial Reports of the firms. Financial

reports from the selected firms were obtained from Nairobi Securities Exchange library, Capital Markets Authority library and from the website of the firms under study.

3.5 Data Analysis Procedures

The study used Panel Data Analysis in establishing the relationship between the variables since it is a data set in which behavior of entities are observed across time.

The benefit of panel data is that it assumes that different companies are heterogeneous in nature, it equally considers the variability in the data, and it provides more instructive data, hence panel data provides more efficiency than cross-sectional data methodology (Baltagi, 2001).

Some draw backs are data collection issues (sampling design, coverage), non-response in the case of micro panels or cross-country dependency in the case of macro panels (i.e. correlation between countries)

This was done using STATA as the statistical software using the following equation

$ROA_{it} = \beta_0 + \beta_1 ICP_{1it} + \beta_2 ACP_{2it} + \beta_3 APP_{3it+} u_{it}$

Where,

ROA = Return on Assets

ICP= Inventory Conversion Period

ACP= Average Collection Period

APP= Average Payable Period

βi= slope coefficient

u = The error term.

i=1, 2…., N; t=1, 2…., T...

where i indexes the cross-section dimension and the time series dimension

B_0 =Is the individual intercept

3.6 Panel Data Techniques

The study focused on two models used to analyze panel data to determine which best fits this kind of study through carrying out a correlation matrix and diagnostic test.

3.6.1. Fixed Effect Models

In this model, the intercept parameter varies across firms or entities but not over time. This means that the intercept is different for each entity but each intercept stays constant over time.

Fixed Effect Model allows all the data to be used in one regression, so the sample size is much bigger. The slope coefficients otherwise known as response parameters do not vary. When using FE, we assume that something within the individual may impact or bias the

Predictor or outcome variables and we need to control for this. This is the rationale behind the assumption of the correlation between entity's error term and predictor variables.

FE removes the effect of those time-invariant characteristics so we assess the net effect of the predictors on the outcome variable.

FE is also used when the panels that are specific correlates with the predictors.

The benefit of FE is that it helps eliminate omitted variable bias.

The throwback is that it reduces degree of freedom because time invariant variables are dropped from the model, many dummy variables can cause multi-collinearity and finally it is not possible to identify time invariant variable impact.

3.6.2 Random Effect Model

The rationale behind random effect is that, unlike the Fixed effects model, the variation across entities is assumed to be random and uncorrelated with the predictor or independent variables included in the model.

The crucial distinction between fixed and random effects is whether the unobserved individual effect embodies elements that are correlated with the regressors in the model, not whether their effects are stochastic or not. (Green, 2008, p.183)

If you have reasons to believe that differences across entities have some influence on your dependent variable then you should use Random effect

Advantage of Random effect is that you can include time invariant variable. In the fixed effect model these variables are absorbed by the intercept.

Random effect assumes that the entity's error term is not correlated with the predictors which allows time for invariant variables to play a role as explanatory variables.

In random effect you need to specify those individual characteristics that may or may not influence the predictor variables. The problem with this is that some variables may not be available therefore leading to omitted variable bias in the model.

Random Effect allows to generalize the inferences beyond the sample used in the model.

(a) Testing for Multicollinearity.

(b) Diagnostic test

(i) Testing for Time-fixed effect

To see if time fixed effects are needed when running a FE model, the researcher used the command test perm. It is a joint to see if the dummies for all years are equal to 0, if they are then no time fixed effect are needed

(ii) Breusch –Pagan Lagrange Multiplier (B-P LM) Test

The LM test helped to decide between a random effects regression and a simple OLS regression.

(iii)Testing for heteroskedasticity

The study used the modified Wald test if the FE model was chosen. For the RE the study was to use the LR test. In case there existed heteroskedasticity the study used robust standard error for the model used to report the results.

The study checked if the residuals were normally distributed by use of PP plot.

3.7 Data Measurement

The study used efficiency ratios to measure the performance**.**

3.7.1 ICP-Stock turnover ratio

This is the average cost of sales divided by the average value of stock. This ratio indicates how long you hold stock before selling.

3.7.2 ACP-Debtors Turnover ratio

This is the average of credit sales divided by the average level of debtors. This shows how long it takes to collect payments.

3.7.3 APP-Creditors Turnover ratio

This is the average cost of sales divided by the average amount of credit that is taken from

CHAPTER FOUR

DATA ANALYSIS AND INTERPRETATION

4.1 Introduction

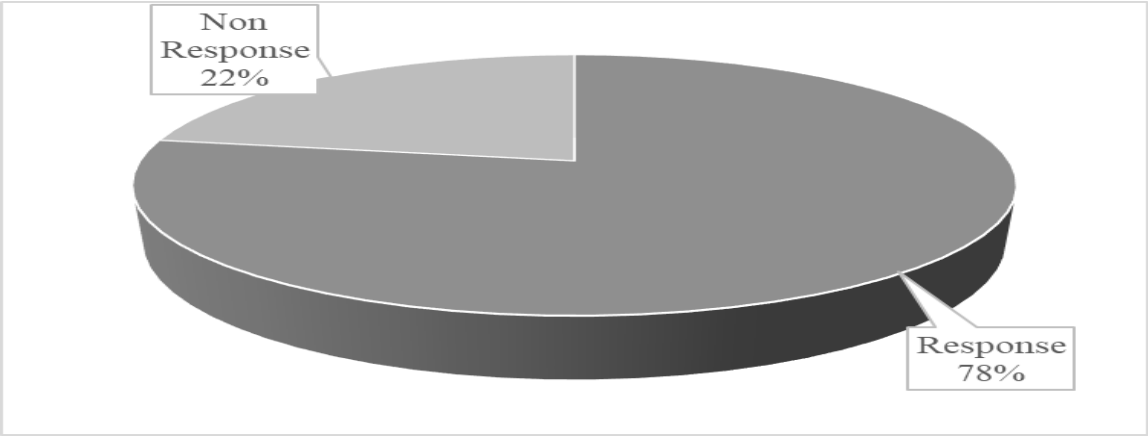
The findings of the analysis on the collected data are indicated in this chapter. The study relied on secondary data collected from Nairobi Security Exchange NSE publications and financial reports of respective companies. The collected data was coded into STATA software in readiness for analysis.

4.2 Response Rate

The study targeted 9 manufacturing companies listed on Nairobi Security Exchange NSE. However, full data for the period 2007 to 2016 was readily available from 7 companies. This gave a response rate of 78%. This information on response rate is illustrated in Figure 4.1 below.

FIGURE 4.1

Response Rate



Source: Author (2018)

The response rate was in line with Mugenda and Mugenda (2003) stipulation that a response rate of 70% and above is sufficient for analysis and interpretation of the findings.

4.3 Descriptive Statistics

Means and Standard deviations were used to describe the effect of working capital management strategies on performance of manufacturing companies listed on NSE. The findings are shown in Table 4.1.

TABLE4.1

Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Inventory Conversion Period	70	96.44143	47.7822	22.24	204.01
Average Collection Period	70	60.68214	26.17879	5.87	114.95
Average Payable Period	70	181.1946	68.75004	18.81	375.54
Return on Asset	70	14.91429	13.20051	1	79

Source: Author (2018)

From the findings in Table 4.1 above, it takes manufacturing listed firms a minimum of 22 days to convert inventory into sales with a maximum of 204 days. On average, it takes 96 days with standard deviation of 47 days. It also takes a minimum of 5 days to collect debts among listed manufacturing firms with a maximum of 114 days. On average, collection of debts takes 60 days with standard deviation of 26 days. On the other hand, it takes a minimum of 18 days for manufacturing listed firms to pay their creditors with a maximum of 375 days. On average, it takes 181 days to clear creditors with standard deviation of 68 days. On average, 14.9% of profitability of manufacturing firms listed on NSE is attributed to effective use of assets.

From the findings above, less days are used to convert inventories into sales and collect debts as compared to payment of creditors. This significantly improves the working capital of the manufacturing listed companies which enhances performance as seen by return on asset value. Marsh (2012) postulates that debtors' days are an indication of how good an organization is at collecting debts from its customers and how much trade credit it allows. The fewer days the better it is to the organization because it means improved cash flows position.

4.4 Diagnostic Tests

Before proceeding with data analysis, the researcher carried out diagnostic tests to assess the suitability of the dataset for analysis. The specific diagnostic tests conducted include Multicollinearity test, Heteroskedasticity test and Normality Test as shown below.

4.4.1 Multicollinearity Test

Multicollinearity was detected using VIF as shown in Table 4.2 below.

TABLE 4.2

Multicollinearity Test

VARIABLE	VIF	1/VIF
Inventory Conversion Period	1.18	0.850056
Average collection Period	1.14	0.874854
Average Payable Period	1.05	0.954089

a. Dependent Variable: Return on Assets

Source: Author (2018)

Table 4.2 above indicates that VIF values for the study variables. Inventory conversion period had VIF of 1.18, average collection period had 1.14 and average payable period had 1.05. It can

be inferred from this finding that the data set had no multicollinearity as VIF values are less than 5, hence it was suitable for analysis.

4.4.2 Hausman Test

The researcher conducted Hausman Test to establish between random and fixed effects. The null hypothesis is that preferred mode is random effect verses the alternative fixed effects. The findings are indicated in the Table 4.3.

TABLE 4.3

Hausman Test

Variable	Fixed	Random	Variable (Diff)	Prob.
Average Payable Period	.0071947	.0071947	0	0
Average Collection Period	.0468853	.0468853	0	0
Inventory Conversion Period	.2437656	.2437656	0	0
Chi square=0.00, P-value=0.00				

Source: Author (2018)

The findings indicate that the p-value was .0<0.05 an indication that the test was significant. This results to a rejection of the null hypothesis and adoption of the alternative hypothesis of fixed effects. This therefore show that the most appropriate model to explain the relationship between the intermediary's efficiencies and firm's efficiency was fixed effect regression model.

4.4.3 Breusch –Pagan Lagrange Multiplier (B-P LM) Test

The researcher conducted LM test to establish a random effects regression and a simple OLS regression. The null hypothesis in the LM test is that the variance across is zero, therefore no significant difference across units. The findings are as indicated in Table 4.4.

Ho: Constant variance

TABLE 4.4

Breusch –Pagan Lagrange Multiplier (B-P LM) Test

Model	Dependent Variable	X^2 -Value	P-Value
1	Return on Asset	0.000	1.00

Source: Author (2018)

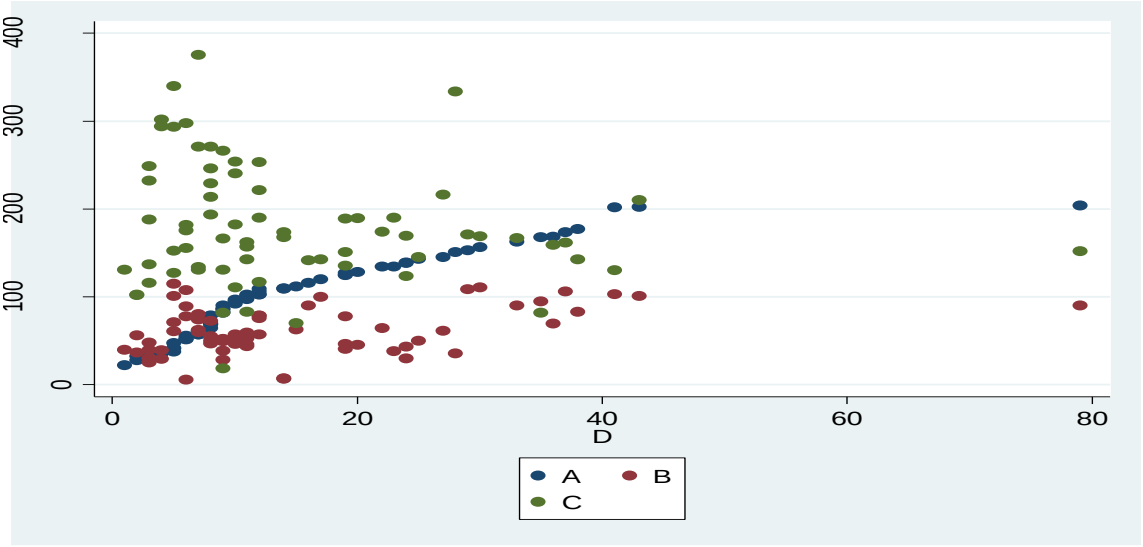
From the findings, we fail to reject the null hypothesis and conclude that random effects were not appropriate for the study. Therefore, this is of evidence of significant differences across years, therefore OLS regression model was not appropriate for the study.

4.4.4 Heteroskedasticity Test

PP Plots was used to detect Heteroskedasticity in the data set as illustrated in Figure 4.2 below.

FIGURE 4.2

Scatter Plot



Source: Author (2018)

As indicated in Figure 4.2, the data point where A is Inventory conversion period, B is average collection period and C is average payable period are scattered with no clearly established pattern. This shows that variables were not correlated. This further shows that the data set had no heteroscedasticity but had homoscedasticity, which is desirable for modelling of regression equation.

4.4.5 Normality Test

Skewness and Kurtosis was used to test for normality as indicated in Table 4.5 below.

TABLE 4.5

Normality Test

Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	adj chi2(2)	Prob>chi2
Return on Asset	70	0.0000	0.0000	34.50	0.0000
Average Payable Period	70	0.0382	0.4010	4.95	0.0843
Average Collection Period	70	0.4167	0.3885	1.45	0.4842
Inventory Conversion Period	70	0.1634	0.1580	4.10	0.1287

Source: Author (2018)

From Table 4.5 above, inventory conversion period had Skewness of 0.1634 with Kurtosis of 0.1580, average collection period had 0.4167 and -0.3885, average payable period had 0.0382 and 0.4010 while return on assets had 0.000 and 0.000 as Skewness and Kurtosis respectively. According to Kothari (2004), data analysis proceeds whenever values of Skewness and Kurtosis are within a range of ± 2. Therefore, since the values of Skewness and Kurtosis of the variables were within this range, it can be concluded that the data set was a normal distribution.

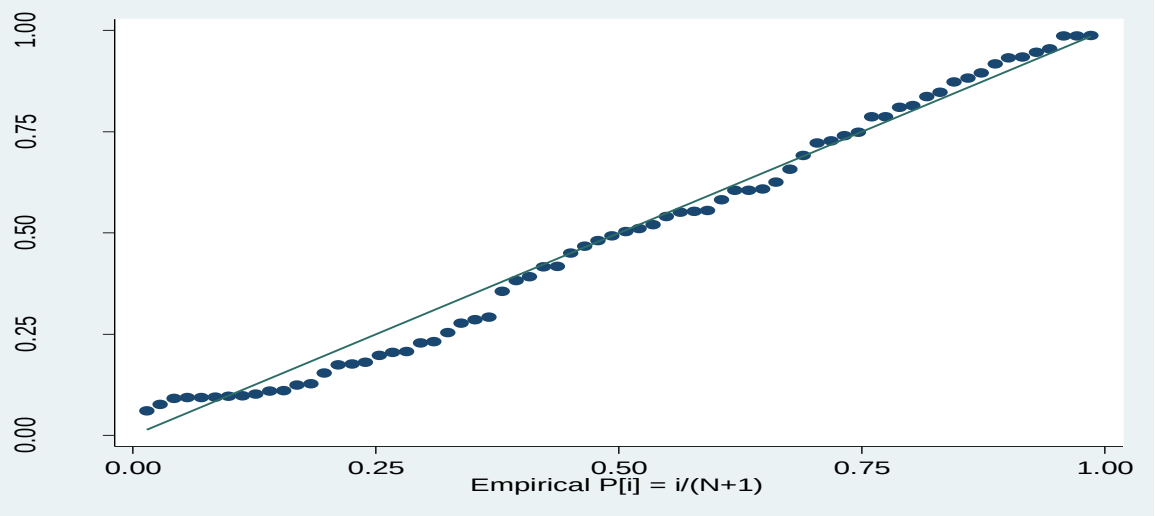
The findings of whether the data was normally distributed was also presented by use of graphs. The findings are indicated in the subsequent sections.

Inventory Conversion Period

The findings of inventory conversion period are shown in Figure 4.3.

FIGURE 4.3

Inventory Conversion Period



Source: Author (2018)

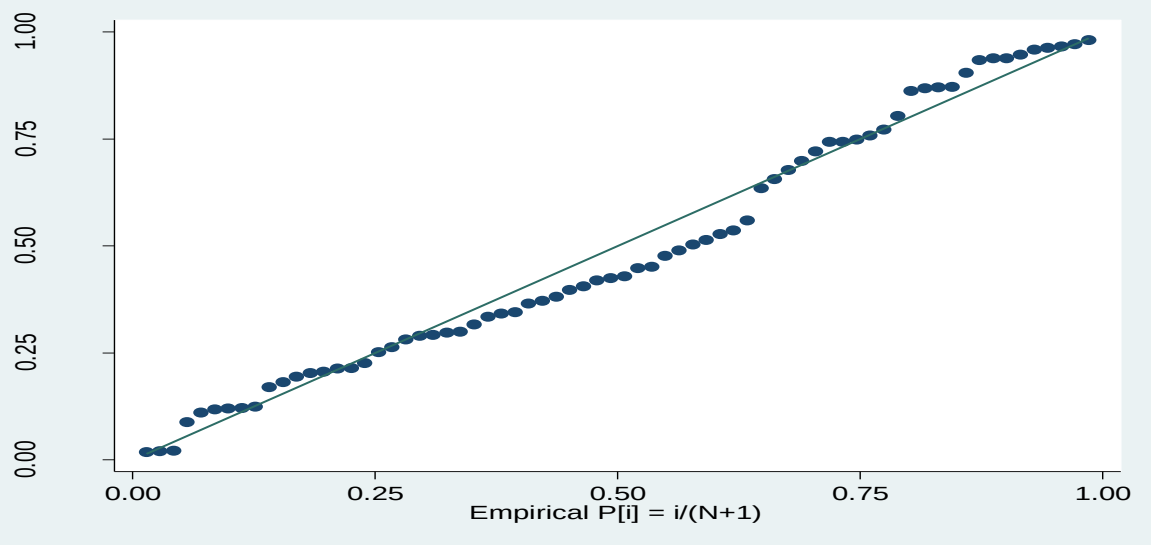
The findings indicate that inventory conversion period was normally distributed since the data set were located across the line of goodness of fit.

Average Collection Period

The researcher conducted the normality test of average conversion period. The findings are indicated in Figure 4.4.

FIGURE 4.4

Average Collection Period



Source: Author (2018)

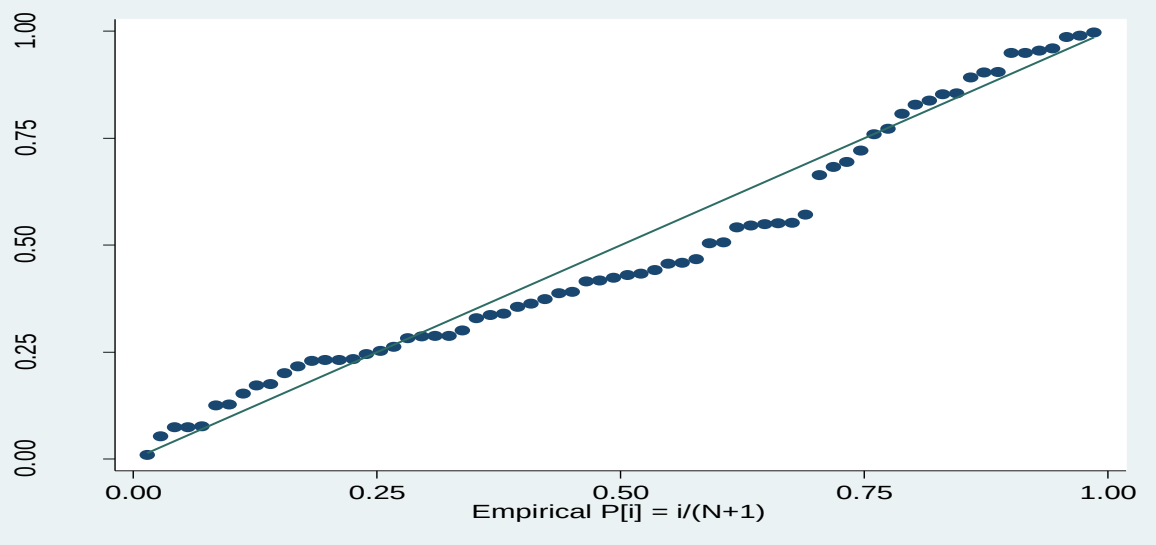
The findings show that average collection period was normally distributed. The plots were distributed next the line of best fit an indication that the variable was normally distributed.

Average Payable Period

The findings of the normal test of average collection period was conducted and the findings were as shown in Figure 4.5.

FIGURE 4.5

Average Payable Period



Source: Author (2018)

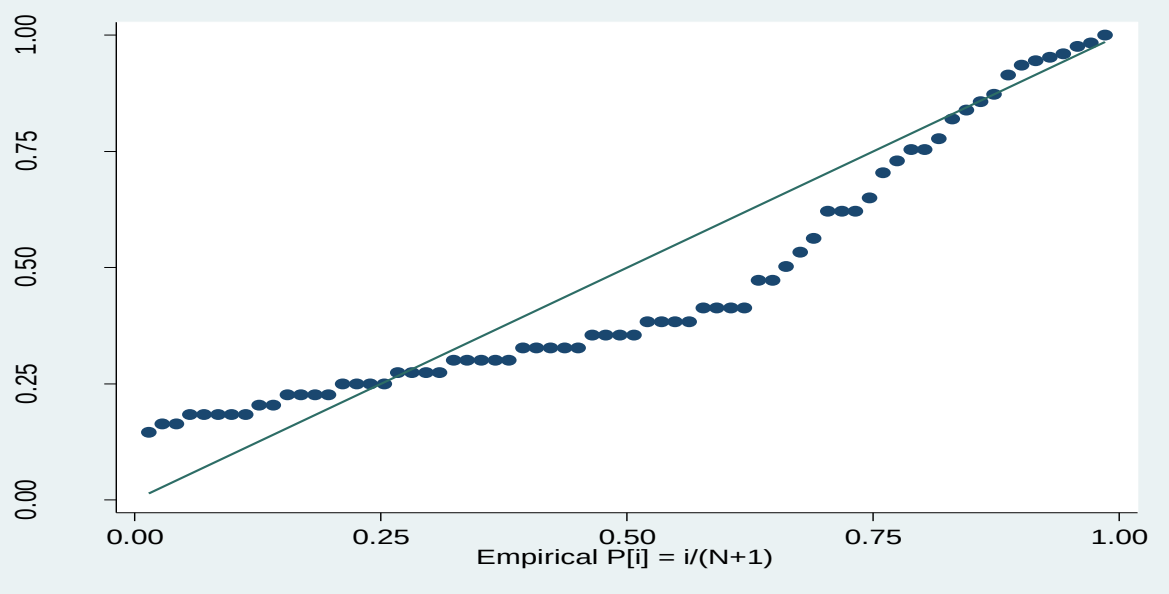
The findings show that average payable was normally distributed with a positive tail since the variable were located cross to the line of goodness of fit.

Return on Asset

The findings normality test on return of asset are indicated in Figure 4.6.

FIGURE 4.6

Return on Asset



Source: Author (2018)

The findings in Figure 4.6 shows that return on asset was normally distributed since plots were positively distributed across the line of goodness of fit.

4.5 Trend Graphs

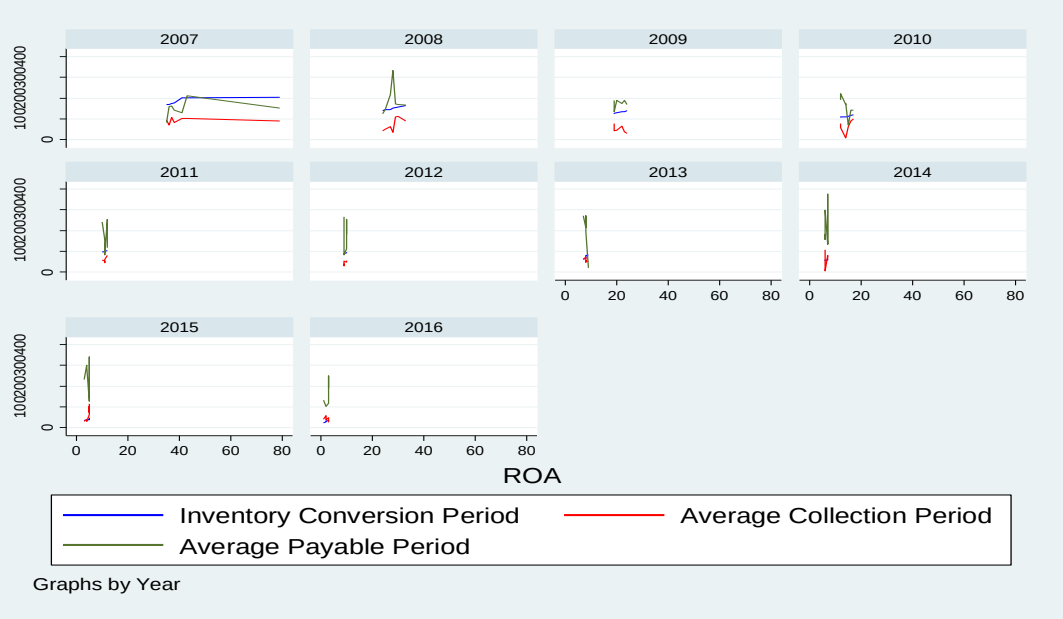
4.5.1 Empirical Growth Plots

The researcher sought to investigate the movement in variables before examining the relationships between the variables from period 2007 to 2016. The study used empirical growth plots as shown in Figure 4.7. The study established that all inventory conversion period was an important working capital strategy of manufacturing companies that enhanced their performance across the study period. Listed manufacturing companies leveraged on average collection period in enhancing their performance. Manufacturing companies paid little attention to average

payable period, in other words, they were extended for longer periods and performance of manufacturing listed companies was not stable across the study period.

FIGURE 4.7

Empirical Growth Plots



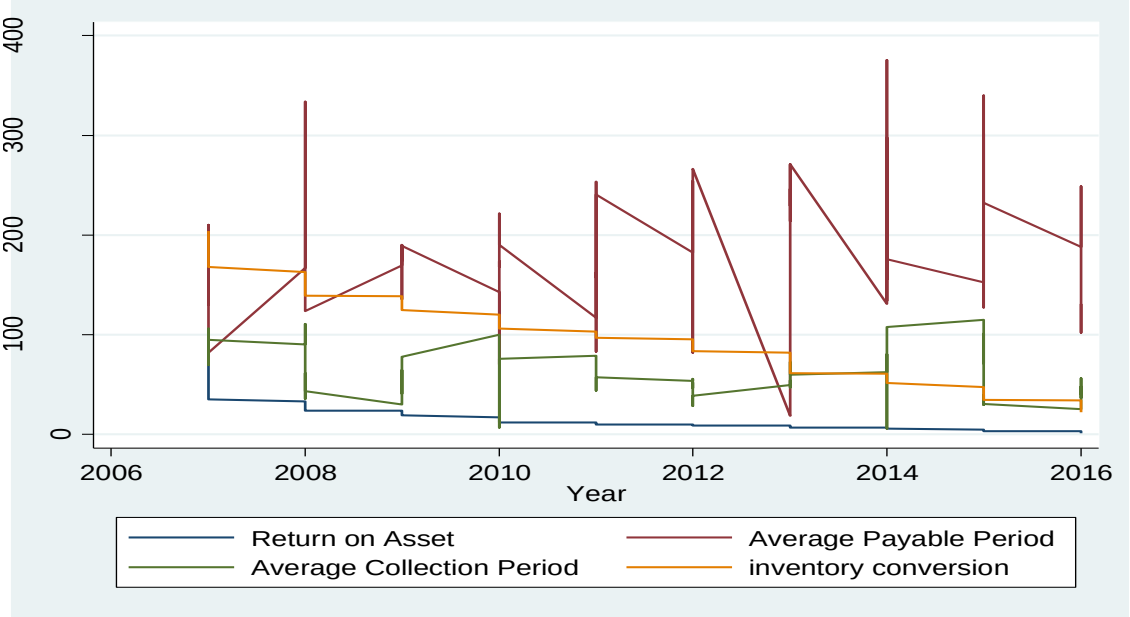
Source: Author (2018)

4.5.2 Overlay Graph

Figure 4.8 show that the overlay of financial performance of manufacturing companies. The findings show different intercepts of the variables. This therefore asserts that the slopes were not significantly different from each other confirming the absence of time related effects that would affect the panel data. This type of panel model has constant slopes but intercepts that differ according to the cross-sectional (group) meaning there are no temporal effects. The section that follows presents more thorough tests to identify the appropriate model.

FIGURE 4.8

Overlay Graph



Source: Author (2018)

4.6 Inferential Statistics

The researcher conducted inferential statistics to establish the relationship and effects of independent on dependent variable. The findings are indicated in subsequent sections.

4.6.1 Correlation Matrix

The researcher conducted Pearson Correlation analysis to establish relationship between the variables of the study.

TABLE 4.6

Correlation Matrix

	Return~s	A~Paya~d	A~Coll~d	Invent~d
Return on As~s	1.0000			
Average Pay~d	-0.1570	1.0000		
Average Col~d	0.3972	-0.1229	1.0000	
Inventory C~d	0.9071	-0.2074	0.3500	1.0000

Source: Author (2018)

The findings of correlation analysis are established in Table 4.6. Huber (2004) held that in the interpretation of results for the linear relationships in the study, for a weak correlation, "r" ranges from ± 0.10 to± 0.29; in a moderate correlation, "r" ranges between ±0.30 and ±0.49; while in a strong correlation, "r" ranges from ±0.5 and ± 0.9.

From the findings, inventory conversion period had a Pearson correlation 0.9071 an indication of strong correlation between the variables. Average Collection Period had a Pearson Correlation of 0.3972 an indication of weak correlation. Average Payable Period had a Pearson correlation of -0.157 an indication of weak negative correlation between the variables.

4.6.2 Regression Analysis

The researcher carried out regression analysis to assess the effect of working capital management strategies on the financial performance of listed Manufacturing firms in the NSE. The findings are indicated as follows.

TABLE 4.7

Regression Analysis

Source	SS	df	MS	Number of Obs	=	70
Model	9997.21133	3	3332.40378	F (3, 66)	=	108.54
Residual	2026.27438	66	30.701127	Prob > F	=	0.0000
Total	12023.4857	69	174.253416	R-squared	=	0.8315
				Adj R-squared	=	0.8238
				Root MSE	=	5.5409

Source: Author (2018)

The findings indicate the coefficient of determination R square of 0.8315. This means that 83.15% change in performance of manufacturing listed firms is explained by working capital management strategies adopted. This therefore indicates that there are other factors that explain performance of listed manufacturing firms that were not covered in the current study. The finding further indicate that the value of F calculated is 108.54 while F critical is 2.744. Since the value of F critical is less than the value of F calculated, this shows that the overall regression model was significant.

Table 4.8

Coefficients

Return on Asset	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Average Payable Period	.0071947	.0099331	0.72	0.471	-.0126374	.0270268
Average Collection Period	.0468853	.0272418	1.72	0.090	-.0075046	.1012753
Inventory Collection Period	.2437656	.0151413	16.10	0.000	.213535	.2739961
_cons	-12.74356	2.861047	-4.45	0.000	-18.45583	-7.031296

Source: Author (2018)

The adopted regression model becomes;

$$\mathbf{ROA_{it} = -12.743 + 0.2437CP_{1it} + 0.0468ACP_{2it} + 0.0071APP_{3it}}$$

Where,

ROA = Return on Assets

ICP= Inventory Conversion Period

ACP= Average Collection Period

APP= Average Payable Period

Therefore, holding other factors constant, performance of listed manufacturing companies would be at 12.743. A unit increase inventory conversion period holding other factors constant would result into 0.243 unit increase in performance of manufacturing listed companies. The p value p=0.000 which is less than 0.05 hence inventory conversion period had significant effect on performance of listed manufacturing companies. Large inventory and generous trade credit policy may lead to higher sales and greater inventory decrease the risk of stock out (Long, Mertiz and Ravid, 2005; and Deloof and Jergers, 2004).

On the other hand, average collection period (p=0.090) and average payable period (p=0.471) had insignificant effect on performance of listed manufacturing companies. This is because their respective p values are greater than 0.05. The finding contradicts Naimulbari (2012) who established that there exists a highly significant positive relationship between the time it takes the firm to pay its creditors (average payment period) and profitability.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter summarizes the key findings from the collected data. The key findings are used to make conclusions. Recommendations emanating from the key findings are also presented. The suggestions for further studies are also indicated.

5.2 Summary of the Findings

The purpose of the study was to investigate the effect of working capital management strategies on the financial performance of listed Manufacturing firms in the NSE. The study was guided by the following specific objectives; to determine the effect of inventory conversion period on the financial performance of manufacturing firms listed at the NSE, to establish the effect of average collection period on the financial performance of manufacturing firms listed at the NSE, and to assess the effect of average payable period on the financial performance of manufacturing firms listed at the NSE. To achieve these objectives, secondary data was collected over a ten-year period (2007-2016).

Out of the 9 listed manufacturing companies, complete data for analysis was obtained from 7 companies giving a response rate of 77.7%. This response rate was sufficient for analysis and interpretation of the findings as stipulated by Mugenda and Mugenda (2003). The values of the diagnostic tests (multicollinearity, normality and Heteroskedasticity) all confirmed that the data set was suitable for analysis as their respective values were within the prescribed thresholds. Hence, leveraging both on the response rate and the diagnostic tests, analysis was done using

descriptive and inferential statistics. The value of the coefficient of determination R square was 83.15% and an Analysis of Variance (ANOVA) confirmed that the overall regression model was significant in estimating how working capital management strategies affected performance of listed manufacturing companies.

The first specific objective assessed the effect of inventory conversion period on the financial performance of manufacturing firms listed at the NSE. From descriptive statistics, it takes listed manufacturing companies an average of 96 days to convert inventories into sales. An examination of the trend analysis indicated that there was generally stability in inventory conversion period among listed manufacturing firms across the period 2007 to 2016. Regression results indicated that inventory conversion period ($p=0.000$) had significant positive effect on performance of listed manufacturing companies.

The second specific objective investigated the effect of average collection period on the financial performance of manufacturing firms listed at the NSE. The findings from descriptive statistics indicated that it takes listed manufacturing companies an average of 60 days to collect debts. Trend analysis results indicated that there was stability in average collection period among listed manufacturing firms across the study period 2007 to 2016. From regression analysis, average collection period ($p=0.090$) had no significant effect on performance of listed manufacturing companies.

The last specific objective examined the effect of average payable period on the financial performance of manufacturing firms listed at the NSE. As shown from descriptive statistics, it takes an average of 181 days for listed manufacturing companies to clear their creditors. The findings of trend analysis indicated that there was instability in average payable period among

listed manufacturing firms over the study period 2007 to 2016. Average payable period (p=0.471) did not significantly influence performance of listed manufacturing companies.

5.3 Conclusion

On inventory conversion period, the study concludes that it takes listed manufacturing companies an average of 96 days to convert inventories into sales. There was generally stability in inventory conversion period among listed manufacturing firms across the period 2007 to 2016. Inventory conversion period had significant positive effect on performance of listed manufacturing companies.

In view of average collection period, the study concludes that it takes listed manufacturing companies an average of 60 days to collect debts. Trend analysis results indicated that there was stability in average collection period among listed manufacturing firms across the study period 2007 to 2016. From regression analysis, the study concludes that average collection period had positive but insignificant effect on performance of listed manufacturing companies.

With regard to average payable period, the study concludes that it takes an average of 181 days for listed manufacturing companies to clear their creditors. There was instability in average payable period among listed manufacturing firms over the study period 2007 to 2016. Average payable period had positive but insignificant influence on performance of listed manufacturing companies.

5.4 Recommendations of the Study

The study established that inventory conversion period had positive and significant effect on performance listed manufacturing companies. This study recommends that the top management

of all listed manufacturing companies in Kenya should balance the level of inventories with the cost of sales to achieve optimal working capital for performance of their organizations. All manufacturing companies in Kenya should consider shortening their inventory conversion periods for optimal working capital that will enhance performance.

It took an average of two months for listed manufacturing companies to collect their debts. Based on this finding, the study recommends that all manufacturing companies should significantly reduce the number of days it take to collect debts for optimal performance.

The findings of the study indicated that there was instability in average payable period among listed manufacturing firms over the study period 2007 to 2016. Strategies should therefore be formulated to deal with this instability in average payable periods among listed manufacturing companies. On average, it takes 181 days for listed manufacturing companies to clear their creditors. The study recommends that all manufacturing companies in Kenya should consider increasing their average payable periods by negotiating with their creditors and forming relationships that will result into better performance of their organization.

5.5 Suggestions for Further Studies

The current study was done among listed manufacturing companies, future studies should be done in other segments within the Nairobi Security Exchange NSE like the banking and insurance sector. Regression results indicated a coefficient of determination R square of 83.1% indicating that there are other factors that explain 16.9% change in performance of listed manufacturing companies that future scholars should cover.

The study further suggests future scholars to carry out similar studies by use of both primary and empirical data for precise results. The study recommends future scholars to increase

data sets while using panel data and future scholars are advised to use fixed effect models in their studies.

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APPENDICES

Appendix I: Manufacturing Firms Listed in the Nairobi Securities Exchange

1. B.O.C Kenya Ltd
2. British American Tobacco Kenya Ltd
3. Carbacid Investments Ltd
4. East African Breweries Ltd
5. Mumias Sugar Co. Ltd
6. Unga Group Ltd Ord
7. Eveready East Africa Ltd Ord
8. Kenya Orchards Ltd
9. Flame Tree Group Holdings Ltd

Source: Nairobi security exchange website - https://www.nse.co.ke/listed-companies/list.html