THE EFFECT OF INFLATION ON NET OPERATING CYCLE OF LISTED MANUFUCTURING FIRMS IN THE NAIROBI SECURITIES EXCHANGE

BY

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REG D63/71264/2014

RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE IN FINANCE, UNIVERSITY OF NAIROBI

2016

DECLARATION

This research project is my original work and has not been presented for examination in any other university.

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This research project has been submitted for examination with my approval as University Supervisors.

Signature …….. Date ……

DR JOSEPHAT LISHENGA

ACKNOWLEDGMENT

First and foremost, I would like to convey my highest appreciation and special gratitude to my supervisor for his endless support, intensive guidance and invaluable advice in the supervision of this project.

DEDICATION

This project is dedicated to my family and friends for their love, support and encouragement during the entire period of my studies.

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ABSTRACT

The main objective of the study was to establish the effect of inflation on net operating cycle of listed manufacturing firms in Kenya. It mainly focused on manufacturing firms in Nairobi County that were listed on the NSE starting from 2000-2015. The research used both descriptive research design. The quantitative research approach was employed to arrive at the findings of the study. The study found a positive relationship between inflation and the net operating cycle. Furthermore, the study found the regression coefficient for leverage and inflation to be positive. The study found a negative relationship between the fixed asset structure and inflation. The study recommended that there should be proper inventory management system in manufacturing firms to avoid over stock of inventory resulting efficient outcome of investment. The study further recommended that companies should engage in relationship with those suppliers who allow long credit time period and those customers who allow short payment period.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Inflation conditions are effective on operating performance, management positions and the need to cash and the level of net operating cycle should be changed actively or passively during this condition. The net operating cycle level is the balance between its costs and benefits (Avplr et al. 2009, Peng and Zhu 2010).Since the cash, especially during the period of inflation, is not profitable assets, maintenance of cash can cause loss of purchasing power and increase in prices, interest rates and the cost of capital. Following this increase, to compensate the purchasing power lost, the interest rates rise and investors that want to enter the project require higher return rate than the interest rate and it forms the expected interest rates.

Inflation and money illusion and operating cycle theories contends that inflation ultimately leads to an increase in the level of cash holdings in the company. For longer operating cycle the opposite analysis is true. By increasing the operating cycle, the circulation of capital will be difficult. Capital chain can't meet the common requirements and demands of operational and investment opportunities would be lost. Avhlr and et al (1999), examined the cash flow risk impact and the cash holdings finance capacity and realize that companies that deal with higher risk and have less access to capital markets tend to hold more cash. Furthermore when companies are cash equivalent assets which can be converted to cash at a lower cost level it is reasonable through the sale of these assets increase their financial resources level.(Shleifer and Vishny,2012).

Manufacturing sector in Kenya makes an essential commitment to the Kenyan economy and presently utilizes 254,000 individuals, which speaks to 13 for every penny of aggregate work with an extra 1.4 million individuals utilized in the casual side of the business. To keep up the pace of the changing environmental needs most manufacturing firms in Kenya have diversified their portfolios in both related and unrelated businesses to mitigate their financial losses that may negatively impact on their financial performance (World Manufacturing Production, 2014).During the inflation time, when the net operating cycle cost is high for the companies and the real income decreases, there is less demand for cash and, in fact, the companies tend to reduce their amount of cash. Finally, it can be said that with regard to the economic situation, inflationary pressures have always allowed the company to reduce the cash value. Under such circumstances, there are more tendencies to establish long-term contracts for reducing the risk.

1.1.1 Inflation

Swelling keeps on being a reality of financial life in many nations. High expansion rates have truly dissolved financial values in most creating nations in the course of recent decades, and have delivered new examples of monetary conduct (Davidson and Weil, 1995). Swelling implies rising costs and it demonstrates the expansion in average cost for basic items. In financial aspects, swelling is clarified as ascend in the general level of expenses of items and endeavors in an economy over a time period. With the ascent in value levels a unit of coin will purchase less merchandise and ventures. Accordingly, the obtaining influence of cash will be diminished with swelling. As it were the genuine estimation of cash will be lost step by step alongside expansion (Smith and Anderson, 2012). A low swelling rate is gainful to a nation and zero or negative expansion is considered as terrible. Additionally, a high expansion is hurtful to an economy and it influences an economy from numerous points of view.

High expansion contorts shopper conduct. As a result of the dread of cost expands, individuals tend to buy their prerequisites ahead of time however much as could reasonably be expected. This can destabilize markets making pointless deficiencies. High swelling redistributes the wage of individuals. The altered salary workers and those lacking bartering force will turn out to be generally more regrettable off as their buying power falls. Exchange unions may interest for higher wages now and again of high expansion. In the event that the cases are acknowledged by the businesses, it might offer ascent to a wage-value winding which may bother the swelling issue (Packer, 1997).

Amid a high expansion period, wide variances in the swelling rate make it troublesome for business associations to foresee the future and precisely ascertain costs and comes back from speculations. Along these lines, it can undermine business certainty. At the point when swelling in a nation is more than that in an aggressive nation, the fare from previous nation will be less alluring contrasted with the nation. This implies there will be less deals for that nation's merchandise both at home and abroad and that will make a bigger exchange shortfall. In the meantime, high expansion in a nation debilitates its aggressive position in the universal market (Ferreira, 2014).

1.1.2 Net Operating Cycle

Net operating cycle impact on costs of a company depends on many factors, including industrial factors, business model and management efficiency. In general, the company's operating assets and work force must be in balance so that the company activities would be in balance and there wouldn’t be any problems. In other words, from the demand perspective, if the goods have a shorter operating cycle, the working capital, would cycle less time and the company should

always inject new funding for the cycle of the buying, production and sale. In such conditions, the company should hold more cash to cover transaction ahead. In terms of supply, the shorter operating cycle means the shorter process of inventory, sales and cash flow recovery. This ultimately leads to an increase in the level of net operating cycle in the company. For longer operating cycle the opposite analysis is true. By increasing the operating cycle, the circulation of capital will be difficult.

Capital chain can't meet the common requirements and demands of operational and investment opportunities would be lost. Avhlr and et al (2009), examined the cash flow risk impact and the net operating cycle finance capacity and realize that companies that deal with higher risk and have less access to capital markets tend to hold more cash. If the company fails to spread liquidity risk well, it forced to have more cash for trading and speculation motivation. So, when the operating cycle reaches a certain point, that it is the precautionary motive in keeping money in the cash holding theory.

According to what was said earlier, there is U-shaped relationship between operating cycle and net operating cycle. At a specified interval, wider operating cycle means that the supply of money is constant and there is no need to keep large amounts of cash for transactions but extend operating cycle reduces the efficiency of working capital and provides more funds. This would reduce the level of funds to be kept. However, at a certain level by increasing the product cycle, especially when receivable accounts collection rate would be slows, the company will be dealing with a larger operating cycle and the risk of this issue requires companies to hold more cash to deal with future risks and uncertainties . According to these points, the second hypothesis is as follows, (Ferreira, 2014)

1.1.3 Inflation and Net Operating Cycle

Net operating cycle of individual firms to the aggregate cycle of the business, highlights how the organizations are performing; in addition it likewise uncovers the territories where promote change is required (Hutchison, 2007). For the entrepreneurs, a standout amongst the most essential assignments is to gauge and assess money streams of the business, to well recognize the long run and short run money inflows and outpourings to convenient deal with the money deficiencies and overabundance to plan financing and contributing techniques separately. It additionally helps in arranging the installments to lenders on time to abstain from losing notoriety and trust of the clients and to evade potential chapter 11 and swelling. Organizations can diminish expansion by reducing their length of Networking go through diminishing or decreasing the receivables accumulation period, diminishing or reducing the stock offering time frame and expanding or protracting the credit installment period.

Since each corporate affiliation is to an awesome degree stressed over how to direct and diminish the extension levels, they have to keep an eye out for the components affecting swelling. In such way, liquidity organization having its proposals on risks and swelling levels of the corporate affiliations can't be disregarded by these affiliations and consequently cash change cycle being pointer of the liquidity organization ought to be explored and with respect to how it may impact the Inflation levels of the corporate units. Today as a result of changing world's economy, progress of development and extended overall competition among the associations, every association is trying to keep up an engaged edge and for that associations are putting every push to bring their cash change cycle at perfect level to lessen the expansion levels.

1.1.4 Manufacturing Firms in Listed in the NSE

Since freedom, the Kenyan economy has remained dominatingly farming, with industrialization remaining a basic part of the nation's advancement systems. The modern part's share of financial GDP has stayed around 15-16% while that of assembling segment has stayed at somewhat more than 10% in the course of the most recent two decades. Fabricating exercises represent the best share of modern creation yield and shape the center of industry (KAM, 2013).

Fabricating division makes a vital commitment to the Kenyan economy and right now utilizes 254,000 individuals, which speaks to 13 for every penny of aggregate work with an extra 1.4 million individuals utilized in the casual side of the business. The area is predominantly agro-based and portrayed by generally low esteem expansion, work, and limit use and fare volumes somewhat because of frail linkages to different areas (Ngui, 2008). The middle of the road and capital merchandise businesses are additionally moderately immature, inferring that Kenya's assembling part is exceedingly import subordinate (World Manufacturing Production, 2014).

Also, the segment is profoundly divided with more than 2,000 assembling units thus separated into a few expansive sub-areas, as appeared in figure. The main three assembling subsectors represent 50 for every penny of the division GDP, 50 for each penny of fares, and 60 for each penny of formal business. About 50 for every penny of assembling firms in Kenya utilize 50 laborers or less. Most assembling firms are family-possessed and worked. What's more, the main part of Kenya's fabricated merchandise (95 for each penny) are fundamental items, for example, sustenance, refreshments, building materials and essential chemicals. Just 5 for every penny of fabricated things, for example, pharmaceuticals, are in ability escalated exercises (KAM, 2013).Manufacturing firms in Kenya are fundamentally concentrating on getting to be effective

and adaptable in their assembling strategies with a specific end goal to build their benefits and guarantee that they deliver ecological cordial items that support trust and certainty of purchasers (Bolo & Wainaina, 2011).

1.2 Problem Statement

Swelling exacerbates adjust of installment positions. Swelling has helped constrained up financing costs therefore deciding speculation thus by doing lessens the genuine estimations of total purchaser riches, for example, government obligation and cash. It has repressed and mutilated purchaser spending by rising local costs with respect to outside costs, the cash expansion restrains sends out and animates imports in this manner, exhausting the countries rare remote assets. Because of the inflationary circumstance savers discover that the estimation of their investment funds is disintegrated henceforth they are compelled to include their present utilization along these lines frustrating capital development and the country's financial development. Inflation militates against long term savings plan of the consumer and hence becomes a function in improving a sub optimal lifetime consumption pattern upon the consumer.

The study adopted inflation and money illusion theory, operating cycle theory and the net operating cycle theory. As per the cash fantasy hypothesis, Stock market financial specialists neglect to comprehend the impact of expansion on ostensible profit development rates and extrapolate authentic ostensible development rates even in times of evolving swelling. The working cycle hypothesis takes note of that the stream idea of liquidity can be produced by amplifying the static accounting report examination of potential liquidation esteem scope to incorporate salary proclamation measures of an association's working movement. The networking cycle, which speaks to the collaboration between the segments of working capital

and the stream of money inside an organization, can be utilized to decide the measure of money required for any business level.

Worldwide studies done by Lewellen, Johnson and Edmister (Lewellen, 2012; Lewellen, 2013) clarify how value level and expansion, are successful on the choices identified with the generation of products and money holdings in companies. Using the consumer price index, the results of this study show that with the increase in inflation, from perspective of the loss of purchasing power of the monetary assets, the level of cash holdings by companies are reduced. However, with reaching the inflation to the specified level, companies try to deal with bankruptcy with increasing the levels of corporate cash holdings. At the micro level, results show that the level of cash holdings in long operating cycle, is less But when it reaches to the certain amount during the operating cycle, companies for reducing the amount of risk, raise the level of their cash. The longer this time slack, the bigger the interest in working capital (Deloof 2014). A longer net operating cycle might be caused by increase in inflations However, low inflation rates may likewise diminish with the networking cycle, if the expenses of higher interest in working capital ascent quicker than the advantages of holding more inventories or potentially conceding more exchange credit to clients.

Locally, contemplates have been done to build up relationship amongst expansion and the networking cycle. Agnes (2011) did a study on Relationship between Working Capital Management Financing Policy and Profitability: A Survey of Manufacturing Firms in Kenya and her study reasons that there is requirement for judicious administration of working money to guarantee beneficial outcome on productivity. Biwott (2011) The Relationship between Working Capital Management Practices and Profitability of Companies Quoted at the Nairobi Stock Exchange. His study reasons that there is a solid negative relationship between the measures of

working capital administration including the ACP, stock turnover in days, APP and the networking cycle with corporate gainfulness. Another study led by Runyora (2012) additionally led a study on The Impact of Working Capital Management on the Profitability of the Oil Industry in Kenya and her study presumes that there exist relationship amongst WCM and benefit of retail oil organizations in Kenya.

This study varies from all above studies as prior analysts just concentrate on particular ventures segments in the Kenyan market and the attention is not on the freely recorded organizations where we anticipate that data will be more precise and cutting-edge because of high administrative environment. As to Biwott's study, the distinction is that it takes a gander at the impact of swelling furthermore the concentration of this study is the networking cycle. Additionally above concentrates just concentrate on one target; clarifying the relationship amongst Inflation and the networking cycle of the assembling firms while the goals of this exploration are as recorded beneath. The issue explanation broke down in this study was: "Does swelling influence networking cycle of recorded assembling firms in Kenya?"

1.3 Research Objective

To determine the effect of inflation on net operating cycle of listed manufacturing firms in Kenya.

1.4 Value of the Study

The study of the effect of inflation on net operating cycle of listed manufacturing firms in Kenya was expected to be beneficial to a number of parties such as;

It is hoped that the study informed policy makers to give more attention to effect of inflation on net operating cycle given its contribution to the financial performance of firms. Examples of interested policy makers include the National Treasury (NT), the CMA, NSE, KRA and relevant associations such as the Kenya Association of Manufacturers (KAM).

This study helped listed companies in Kenya in appreciating the effect of inflation on net operating cycle of listed manufacturing firms in Kenya.

The study contributed to the body of knowledge and hence will be of interest to both researchers and academicians who sought to explore the relationship between inflation and operating cycle of listed manufacturing firms in Kenya.

CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction

In this chapter, the research reviews the existing literature on the link between the inflation and the net operating cycle of manufacturing firms listed in the Nairobi securities Exchange. Most of the results of studies that empirically examined the relationship between inflation and the net operating cycle showed a significant and negative relationship.

2.2. Review of Theories

This section presents review of the relevant theories on which the study is anchored. The specific theories covered were inflation and money illusion theory, operating cycle theory and the net operating cycle theory.

2.2.1 Inflation and Money Illusion Theory

Modigliani and Cohn (2012), theory states that the real effect of inflation is caused by money illusion. Inflation illusion suggests that when there is a rise in expected swelling, security yields rise, but since value speculators mistakenly markdown genuine money streams utilizing ostensible rates, the expansion in ostensible yields prompts to underpricing of values, (Bekaert and Engstrom 2007).

Securities exchange speculators neglect to comprehend the impact of expansion on ostensible profit development rates and extrapolate authentic ostensible development rates even in times of evolving swelling. Consequently when expansion expands, security advertise members

increment ostensible loan costs which are utilized by stock exchange members to rebate unaltered desires of future ostensible profits. The profit value proportion moves with the ostensible security yield since securities exchange financial specialists nonsensically neglect to change the ostensible development rate to coordinate the ostensible markdown rate. This infers stock costs are underestimated when swelling is high and may get to be exaggerated when expansion falls. The profit yield that rises up out of the communication of levelheaded and silly financial specialists is emphatically corresponded with expansion and the long haul ostensible loan cost. In conclusion this theory is in collaborated with the study findings with on the effect of inflation on net operating cycle of listed manufacturing firms at the Nairobi Securities exchange.

2.2.2 Operating Cycle Theory

Park and Gladson, (1963) noted that the operating cycle theory holds that money is blocked first in raw materials, labor and other conversion costs come later, selling and distribution costs come at the end. Thus all items do need cash support for the entire operating cycle days. Hence the need to aggregate working capital could be more accurately derived by considering each component of working capital.

The stream idea of liquidity can be produced by expanding the static asset report investigation of potential liquidation esteem scope to incorporate wage articulation measures of an association's working action. Specifically, consolidating records of sales and stock turnover measures into a working cycle idea gives a more fitting perspective of liquidity administration than doe’s dependence on the present and basic analysis proportion markers of dissolvability. These extra liquidity measures unequivocally perceive that the futures of some working capital parts depend"

upon the degree to which three essential exercises creation, conveyance (deals), and gathering - are non-momentary and un-synchronized (Weston and Eugene, 2009).

Debt claims turnover is a pointer of the recurrence with which a company's normal receivables venture is changed over into money. Changes in credit and accumulation approach directly affect the normal exceptional records receivable adjust kept up with respect to a company's yearly deals. Allowing more liberal terms to an association's clients makes a bigger, and possibly less fluid, current interest in receivables. Unless deals increment in any event proportionately to the expansion in receivables, this potential crumbling in liquidity will be reflected in a lower receivables turnover and a more developed receivables accumulation period. Choices that submit a firm to keeping up bigger normal receivables ventures over a more drawn out day and age will definitely bring about higher present and analysis proportions (Richards and Laughlin, 2011).

Stock turnovers delineate the recurrence with which firms change over their combined load of crude material, work-in-process, and completed merchandise into item deals. Embracing buying, creation booking, and appropriation procedures that require more broad stock responsibilities per dollar of expected deals delivers a lower turnover proportion. This, thus, mirrors a more extended and conceivably less fluid stock holding period. In the event that organizations can't adjust either the installment hones set up with exchange banks or their entrance to fleeting obligation financing gave by non-exchange lenders, choices that make longer or less fluid holding periods will again be joined by a higher current proportion marker of dissolvability (Weston and Eugene, 2009).

The aggregate days per turnover for records receivable and stock speculations approximates the length of an association's working cycle. Fusing these benefit turnovers into a working cycle idea

of the present resource transformation period in this manner gives a more sensible, albeit fragmented, marker of an association's liquidity position. The working cycle idea is insufficient as a trade stream allot that it neglects to consider the liquidity prerequisites forced on a firm when measurement of its present risk responsibilities. Coordinating the time example of money surge necessities forced by a company's present liabilities is as essential for liquidity examination as assessing the related time example of money inflows created by the change of its present resource ventures (Richards and Laughlin, 12011). As the study is determining the effect of inflation on the net operating cycle, the net operating cycle is essential in bringing clarity on the concept of operating cycle.

2.2.3 Net operating cycle Theory

The networking cycle, which addresses the collaboration between the parts of working capital and the flood of cash inside an association, can be used to choose the measure of cash required for any business level. Gitman (2014) made systems administration cycle as a noteworthy part of working cycle which is figured by adding stock period to records receivables period and a short time later subtracting accounts payables from it. Its fixation is on the time designation between the securing of unrefined materials and diverse wellsprings of data and the inflows of cash from the offer of finished stock, and addresses the amount of days of operation for which financing is required.

The systems administration cycle is a dynamic measure of persistent liquidity organization, since it unites both money related record and wage clarification data to make a measure with a period estimation (Jose and Lancaster, 2012). While the examination of an individual organization's

networking cycle is valuable, industry benchmarks are fundamental for an association to survey its systems administration cycle execution and assess open entryways for improvements in light of the fact that the length of systems administration cycle may change from industry to industry. In this way the right course is to balance a specific firm with the business in which it works (Hutchinson, 2007). The systems administration cycle is used as a broad measure of working capital as it shows the time slack between utilization for the purchase of rough materials and the collection of offers of finished stock (Padachi, 2010). Everyday organization of an affiliation's transient assets and liabilities accept an essential part in the achievement of the firm. Firms with growing whole deal prospects and sound essential concerns don't remain dissolvable without extraordinary liquidity organization (Jose and Lancaster, 2012).

Richards and Laughlin (12011) contended that conventional proportions, for example, current proportion, Quick basic analysis and money proportions has not possessed the capacity to give exact data about working capital and demanded utilizing continuous liquidity measures as a part of working capital administration, where progressing liquidity alludes to the inflows and surges of money as a result of procurement, generation, deals, installment and accumulation handle done after some time. The association's progressing liquidity is an element of its networking cycle, consequently the fittingness of assessment by networking cycle, as opposed to liquidity measures.

As indicated by Arnold (2008) the shorter the networking cycle, the less are the assets required by the organization. So the more drawn out the cycle the higher will be the interest in the working capital. Be that as it may, likewise a more extended cycle could build deals, which could prompt to higher productivity. In any case, this more drawn out cycle, will likewise prompt to higher venture and could rise quicker than the advantages of the higher productivity.

Numerous creators like Shin and Soenen (2010) have contended that it is essential for firms to abbreviate the networking cycle, as chiefs can make esteem for their shareholders by lessening the cycle to a sensible least. They additionally contended that a more extended networking cycle may show that an organization's deals are rising and that the organization can contend by having remiss credit strategies or high inventories. Yet, despite what might be expected, a higher net working cycle can really hurt an organization's benefit by expanding the time that money is attached to non-enthusiasm bearing records, for example, accounts receivables. By shortening the networking cycle the organization's money streams will have a higher net present esteem since money is gotten snappier. The quantity of days records receivables; inventories and records payables are utilized as the operationalization of the administration of exchange credit and give the significant data on the impact of swelling and the networking cycle in the assembling firms at the Nairobi Securities Exchange.

2.3 Determinants of net operating cycle

The choice whether to amplify the exchange credit terms, is a bargain between restricting the danger of taking into account the installment deferment from inconsistent buyers and increasing new clients by method for a more liberal endeavor exchange credit approach. This choice shapes the level and nature of records receivable. Robichek, (2015) disk hazard required to debt claims choices, which must be acknowledged by money related establishments vowing o records of sales of the firm.

(Smith, 2013) predicts that portfolio hypothesis might be utilized to abatement debt claims hazard. (Friedland, 2010) concur with that present resources could be seen in portfolio setting.

Pringle and Cohn (Pringle, 2014) even attempt to adjust the CAPM hypothesis to working capital components. Bierman and Hausman (Bierman, 2012) examine the allowing strategy of a firm and demonstrates that exchange credit approach requires adjusting the future deals picks up against conceivable misfortunes. Lewellen, Johnson and Edmister (Lewellen, 2012; Lewellen, 2013) clarify how and why customary gadgets utilized for checking money due ought to be changed by new and better ones. (Freitas, 2013) demonstrates connection amongst liquidity and hazard amid records receivable administration.

High swelling influences estimation of the free money streams, the holding and growing of net working capital ties up money used for financing net working capital. In case net working capital forms, the firm ought to utilize and tie up more money, and this reductions free cash streams. Creation level improvement requires extended levels of cash, inventories, and records receivable. A piece of this development will be secured with current liabilities that consequently develop with the development of creation and deals. The rest of the money necessities (that are noted as net working capital development, will require an alternate type of financing. Exchange credit strategy choices changing the terms of exchange credit make another records receivable level. Thusly, exchange credit strategy has an impact on firm esteem. This comes as an aftereffect of option expenses of cash tied in records receivable and general expenses connected with overseeing money due. Both the first and the second include adjustment of future free money streams and as a result the firm esteem changes, (Bierman, 2012).

Debt claims administration choices are extremely perplexing. From one perspective, an excessive amount of cash is tied up in records receivables, as a result of an extraordinary liberal

arrangement of giving exchange credit. Swelling troubles the business with higher expenses of records receivable administration with extra high option costs. Extra expenses are further created by awful obligations from dangerous clients. Then again, the liberal exchange credit strategy could expand wage from deals. In the article, the issue was connected to the operational danger of buyers inspired by getting exchange acknowledge who, as independently considered gatherings, may portray too high hazard level. In any case, on the off chance that they are considered as one of a few gatherings of big business clients, and if their installment propensities are associated with the installment propensities for the rest of the gatherings, what was once in the past outlandish could get to be conceivable, and may even turn productive. The arrangement of benefits, similar to the arrangement of records receivables, now and then displays a lower hazard to worthy points of interest than the autonomously considered gatherings of buyers, (Lewellen, 2013).

In recent years, Iran's consumer price index has been rising with steep and steadily. The inflation conditions are effective on operating performance, management positions and the need to cash and the level of cash holdings should be changed actively or passively during this condition. The cash holdings level is the balance between its costs and benefits (Avplr et al. 1999, Peng and Zhu 2006).Since the cash, especially during the period of inflation, is not profitable assets, maintenance of cash can cause loss of purchasing power and increase in prices, interest rates and the cost of capital. Following this increase, to compensate the purchasing power lost, the interest rates rise and investors that want to enter the project require higher return rate than the interest rate.

To evaluate an investment project, the expected rate of return on capital investment usually is used to adjust the present value of future cash flows as the discount rate. The company invest

some cash and the cash holding level is reduced (Ferreira, 2003). Furthermore When companies are cash equivalent assets Which can be converted to cash at a lower cost level it is reasonable through the sale of these assets increase their financial resources level.(Shleifer and Vishny,2014).Companies that hold greater amounts realizable assets show less willing to hold cash. Especially in the inflation time, these companies turn their assets into cash to raise its monetary level. So companies in comparison with cash holding tend to increase the assets with high liquidity. According to the mentioned issues, it seems that during the inflation time, when the cash holdings cost is high for the companies and the real income decreases, there is less demand for cash and, in fact, the companies tend to reduce their amount of cash. Finally, it can be said that with regard to the economic situation in Iran, inflationary pressures have allowed the company to reduce the cash value. Under such circumstances, there are more tendencies to establish long-term contracts for reducing the risk. In this situation, companies would face cash shortages for the allocation of resources, production and distribution. However, with inflation reaching a certain point, the company's cash increased by inflation, (Robichek, 2015).

2.4 Empirical Review

Studies on the net operating cycle of the Company, investigate the effect of the company's financial condition, governance systems, capital structure, cost of external financing on the level of their net operating cycle. For example, in financial terms, it has been found that net operating cycle in the company have strong relationship with the company's financial characteristics (Xin and Zhou, 2010). For example it has positive relationship with the enterprise leverage ,information asymmetry, age and size, investment opportunities and changes in cash flow (Falkndr ,2012) and a negative correlation with the company credit rating (Ozkan and Ozkanm , 2013)

Bates et al., (2012) suggest that the funds with higher risk, lower inventory levels and increase in spending on the research and development and increase the level of net operating cycle in the United States. Jean and Geo (2012) suggest that Chinese companies with better corporate governance mechanisms, have more reasonable amounts of cash and lack of cash could be seen less among them. In the literature on systems of corporate governance and capital structure, Kusnadi (2014), conclude that the relationship between net operating cycle and the number of board members is positive while the relationship between net operating cycle and Non-management block holder ownership is negative.

Increase in inflationary pressure is undoubtedly would have effect on the amount and cost of money and the advantages and disadvantages of reconciliation between net operating cycle. In addition, the operating cycle of a company has effect on the level of net operating cycle (Wang and et al, 2014) this study, taking into account the economic cycle at the macro level and the micro level specifications in the operating cycle, investigated the factors affecting cash holding by companies under inflationary conditions.

Recent studies on corporate net operating cycle by big companies focus on the macro level or middle factors, including political, economic, legislative and industrial environment. In a comparison between countries, Pynkvytz and et al (2010) suggest that in countries with a lower level of investor's protection and a higher political risk willing to cash holding is more. Companies that are faced with financial constraints increase its cash during the economic crisis and increase its liquidity during the credit crunch promote (Custodio and et al, 2005). Also, due to the difference in tax rates between different countries, increasing tax rates and the costs associated with the multinational corporations changes the Company's liquidity ratio (Titman and et al. 2004). In Iran in recent years in the financial literature, attention on corporate net operating

cycle is increased. This interest stems from the fact that companies keep significant amounts of cash on their balance sheets.

2.5 Conceptual Model

The schematic diagrams below was not only guide the study but also showed the interrelationship among the key variables in the study as illustrated in Fig. 2.1.

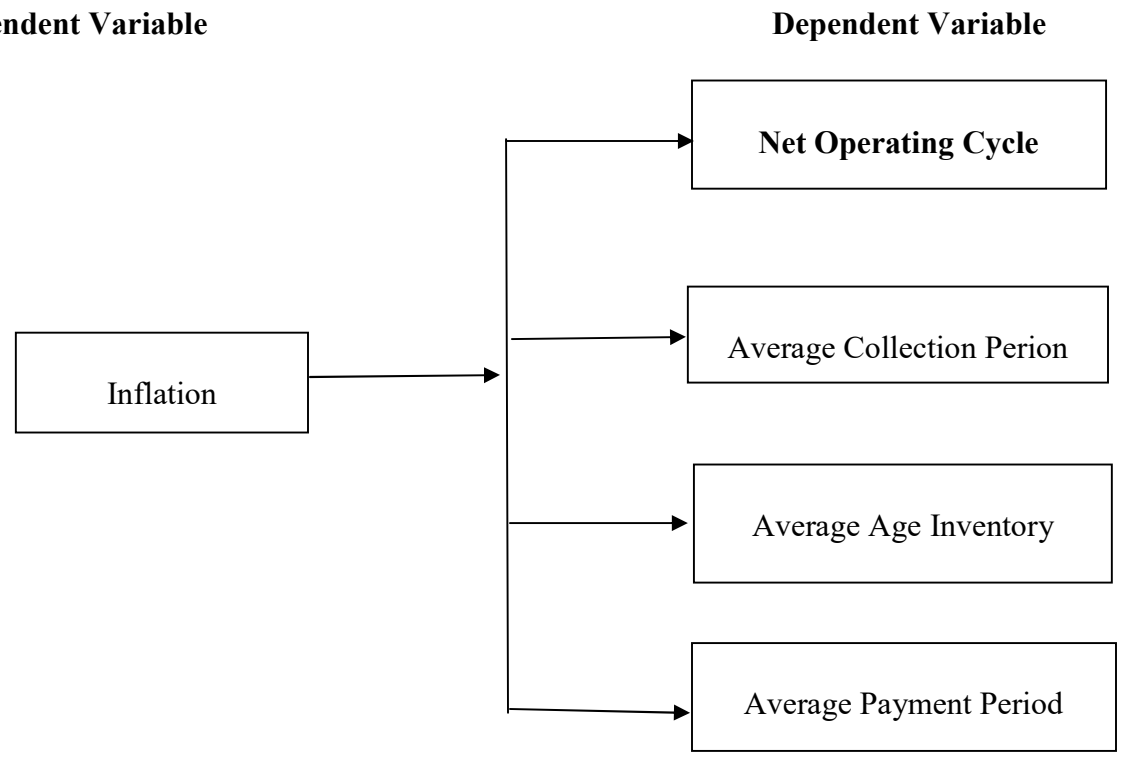

Figure 2.1: Conceptual Framework

2.6 Summary Empirical Studies

Many financial analysts would speculate about the net operating cycle of a firm using other measures that are not efficient. It is, be that as it may, no mystery that to pick a strong entertainer when the market is moderate or under assault takes somewhat more know-how. The networking cycle can let you know how money is traveling through an organization as far as span. This proportion is key on the grounds that the cycle speaks to the quantity of days an association's money stays tied up inside the operations of the business in setting aside the opportunity to locate the networking cycle, focus on the pattern of its three general segments with unique accentuation on the payables preparing period, (Subramaniam and Tang, 2010).

Now and again shorter preparing periods for stock or potentially receivables can be to a great extent balance by increments in the handling time frame for records payables. The handling time frame for records payables will increment if the firm is paying its banks and providers at a slower rate. The principle indicate recollect, notwithstanding, is that a comprehension of each of the three calculates the recipe can pinpoint the pattern in the networking cycle as well as in the individual preparing periods themselves, bits of knowledge that can give both an outline of operational effectiveness and the defense behind it.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1. Introduction

This part covers in subtle elements the distinctive strategies that the analyst will use to do the examination and get information. The exploration outline, target populace, test plan, information gathering strategy and information investigation technique.

3.2. Research Design

The fundamental reason for this exploration is to decide the relationship between firms' amongst expansion and the networking cycle of assembling firms recorded on the NSE. This is an experimental relationship concentrate on between networking cycle and its consequences for the assembling firms recorded in the NSE. The scientist connected illustrative research outline. This was considered suitable as it included a profundity of investigation of the relationship amongst expansion and NET Operating Cycle of assembling organizations recorded in NSE which helped the scientist to portray the condition of current undertakings and survey the qualities of the circumstance. The exploration was built up for a period between 2000-2015. This period was considered by the specialist to be sufficient for building up any relationship amongst swelling and the NET Operating Cycle of assembling NSE recorded firms.

3.3. Population of the study

The number of inhabitants in this study contained all assembling firms recorded on the NSE. As at December, 2015 there were 10 firms recorded on the NSE. This measurement was gotten from

NSE and the Capital Markets Authority (CMA) site. This was helpful because of the way that money related explanations of recorded assembling firms are promptly accessible and solid. Because of the little target populace, the concentrate in this manner played out a statistics, (Appendix 1).

3.5 Data Collection

The exploration concentrate fundamentally utilized optional wellspring of information. Information on swelling measures. The optional information was fundamentally obtained from NSE and CMA. The period to be secured by the study was reached out to fifteen years, beginning from 2000-2015. The specialist utilized chiefly the evaluated articulation of monetary position and Income explanation.

3.6 Data Analysis

Elucidating examination was the initial phase in this investigation; it helped us depict the pertinent parts of networking cycle and give definite data about each important variable.

3.6.1. Variables

Selection of factors was affected by the past studies on swelling and the Networking cycle. They incorporated the needy, autonomous and control factors. Networking cycle (I/networking cycle) of the firm was utilized as needy variable. Moreover, measure (normal logarithm of offers (LOS), obligation proportion and the proportion of Fixed Assets Tangibility (FAT) was incorporated as control factors. Every single above factor at last influence networking cycle. It was normal that there is a negative relationship amongst Inflation and factors of networking cycle.

3.6.2. Regression model

This study utilized load up data backslide examination of cross sectional and time game plan data. The pooled backslide sort of board data examination was used. The pooled backslide is one where both pieces and grades are relentless, where the cross zone firm data and time game plan data are pooled together in a singular fragment expecting that there are no essential cross portion common effects. The general type of the model was;

Inflation = $\beta o + \Sigma\beta_i X + \square$,

Where Y is

Inflation at time t,

βo, the intercept of equation, βi coefficient of X and $\square\square$is the error term.

The study investigated the effect of inflation on net operating cycle as a whole and also looked into the various components of net operating cycle i.e.; Average Collection Period [ACP], Average Age of Inventory [AAI] and Average payment Period [APP]. All the two regression models will use three control variables namely leverage [LEV], Firm Size [SIZE] and Fixed Asset Structure [FAS] specifically, when converting the above general least squares model into specified variables it became;

Model shall was as follows:

NOC= $\beta o + \beta_1$ (ACP) + β_2 (AAI) + β_3 (APP) + β_4 (LEV) + β_5 (SIZE) + β_6 (FAS) + β_7 (IN) +$\square$

Model 2 was as follows:

$IN = \beta o + \beta_1$ (Net Operating Cycle) $+ \beta_2$ (Leverage) $+ \beta_3$ (LOS) $+ \beta_4$ (FAS) + □

NOC=Net Operating Cycle

ACP= Account receivables *365/Sales

AAI= Inventory *365/Cost of Sales

APP = Accounts Payables *365/Cost of Sales

IN= Inflation

Net Operating Cycle = AAI +ACP – APP

LEV = Total Debt / Total Assets

FAS = Fixed Assets / Total Assets

SIZE = Natural of logarithm of sales

□□= Error term

3.6.3: Test of Significance

The study conducted several test of significance. Independent t-test was used to estimate the significance of inflation on the net operating cycle of manufacturing firms. The t-test was conducted at 95% confidence level ($\alpha \leq .05$). Thus, should the significance value be less than 0.05, the study rejected the null hypothesis of population means from the two groups being equal and accept the alternative hypothesis of unequal means. This pointed to inflation having significant effect on the net operating cycle. The study also conducted test of homogeneity of variance using Levene's Test of Equality of Variances. Levene produced f-statistics and significance value which is equal or less than 0.05 ($\alpha \leq .05$) will signify equal variances between the groups.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

In this section, the study gave two sorts of information examination; in particular unmistakable investigation and inferential investigation. The expressive examination helps the study to depict the important parts of the wonders under thought and give nitty gritty data about each pertinent variable. For the inferential examination, the study utilized board information relapse investigation of cross sectional and time arrangement information. Board information relapse will give assess between the Networking cycle (I/networking cycle) and Average Collection Period [ACP] in days, Average Age of Inventory [AAI] in days, Average installment Period [APP], influence [LEV], Firm Size [SIZE], Fixed Asset Structure [FAS] and Inflation (IN) of assembling firms. Besides, in inspecting if the Networking cycle (I/networking cycle) is essentially influenced by the factors, the t-Test measurements was utilized.

4.2 Data Analysis and Findings

Secondary data on 10 manufacturing companies was considered in the analysis. The study provided two types of data analysis; namely descriptive analysis and inferential analysis. In descriptive statistics mean and standard deviation variables were determined. The study also carried out inferential statistics to determine in depth relationship between the variables such as correlation, regression and tested the hypothesis using t-Test.

4.3 Descriptive statistics

The study first found it necessary to evaluate the effect of inflation on net operating cycle of listed manufacturing firms in Kenya which include Average Collection Period [ACP] in days, Average Age of Inventory [AAI] in days, Average payment Period [APP], leverage [LEV], Firm Size [SIZE] and Fixed Asset Structure [FAS]. Their mean and standard deviation values were determined as indicated in Table 4.1.

Table 4.1: Descriptive Statistics for the Averages of Variables

	Mean[b]	**Standard Deviation**	**N**
Average Collection Period [ACP]	.4017	.4110	99
Average Age of Inventory [AAI]	79.564	100.1247	99
Average payment Period [APP]	2.114	2.86174	99
leverage [LEV]	.4537	.4671	99
Firm Size [SIZE]	79.651	89.5467	99
Fixed Asset Structure [FAS]	.538	.588	99
Inflation [IN]	.331	.657	99

a. Coefficients have been calculated through the origin.

The above table 4.1 shows the results of summary statistics of all the taken variables in the analysis. In the findings above, there were 6 observations which were used for this study for all

the variables. Mean score for Average Collection Period was 0.4017. Mean scores for Average Collection Period, Average Age of Inventory, Average payment Period, leverage, Firm Size, Fixed Asset Structure and Inflation were 79.564, 2.114, 0.4537, 79.651, 0.538 and 0.331 respectively.

The mean for Average Collection Period shows that over the period under study, Average Collection Period was averaging at 40.17%. The descriptive statistics for Average Age of Inventory in Months explains that average financial sector efficiency for the companies under study was 79 days. Average mean for Average payment Period explains the average instituted monetary policy measures for the companies which were at 2 days. Mean score for Firm Size explains the inflationary pressure which was at 79 days averaged during the duration under study.

4.4 Correlation Analysis

Variance inflation factor (VIF) and correlation analyses were used to test the presence of multicollinearity among the regressors. The results are shown in table 4.2 and 4.3 respectively.

NOC = Net Operating Cycle

ACP = Average Collection Period

AAI = Average Age of Inventory

APP = Average payment Period

LEV = Leverage

SIZE = Firm Size

FAS = Fixed Asset Structure

IN = Inflation

Table 4.2: Variance Inflation Factor Test

Variables	**Model 1**		**Model 2**	
	VIF 1	**VIF 2**	**VIF 1**	**VIF 2**
NOC			1.85	0.631
ACP	1.75	0.4207		
AAI	1.61	0.3961		
APP	1.19	0.9044	1.23	0.4754
LEV	2.09	0.1132	1.21	0.0955
SIZE	4.12	0.1806	5.33	0.2281
FAS	3.15	0.5869	3.19	0.5433
IN	2.28	0.112	2.16	0.1161
Mean VIF	**2.32**		**2.49**	

From the discoveries, display 1 rejected NOC yet included ACP and AAI, while demonstrate two just utilized NOC. In this way, the VIF of the two models were evaluated. The VIF method for

model 1 and 2 of 2.32 and 2.56 individually, fall inside the benchmark for dismissing that the nearness of multicollinearity is huge (Kutner, 2004).

Table 4.3: Correlation Analysis

Variable	NOC	ACP	AAI	APP	LEV	SIZE	FAS	IN
NOC	1.000							
ACP	.401	1.000						
AAI	.259	-.046	1.000					
APP	-.051	-.204	-.503	1.000				
LEV	.319	.059	.517	.217	1.000			
SIZE	.109	.001	.224	.013	-0.311	1.000		
FAS	.057	.061	.112	.643	-0.198	0.189	1.000	
IN	.001	-0.12	-0.11	.008	.345	.017	-0873	1.000

*. Correlation is significant at the 0.05 level (2-tailed).

The findings show positive correlation between Net operating cycle (NOC) and Average Collection Period (ACP) in months with a correlation coefficient of 0.401. This implies that if manufacturing firms' Net operating cycle can be of given terms, the average collection period will be highly effective and this can reduce the effects of inflation on net operating cycle of listed manufacturing firms.

The findings also show a positive correlation between Net operating cycle (NOC) and Leverage lending (LEV) with a correlation of 0.319. This implies that if firms have relatively less leverage lending, the rate of leverage will increase thus affecting inflation on net operating cycle of listed manufacturing firms.

The study shows a positive correlation between Net operating cycle (NOC) and Average Age of Inventory (AAI) with correlation of 0.259. This implies that better enforcement of minimum or regulatory on Net operating cycle can significantly increase leverages.

There is a negative correlation between Average payment Period (APP) and Net operating cycle (NOC) with a correlation coefficient of -0.051. Average payment period lead to increased risk of loss due to a debtor's non-payment of asset or other line of credit and this implies that low interest rates encourage ex-ante risk taking thus high average loan durations.

The findings illustrate the results obtained from the correlation analysis for the sampled commercial banks for the period of study at a 0.05 significance level.

4.5 Regression Analysis

A panel data regression analysis of cross sectional model and time series data were used to determine the relationship between inflation and net operating cycles for manufacturing firms in Nairobi. All the two regression models were converted to a general least squares model. The resultant regression model was as follows;

$$NOC = \beta o + \beta_1 (ACP) + \beta_2 (AAI) + \beta_3 (APP) + \beta_4 (LEV) + \beta_5 (SIZE) + \beta_6 (FAS) + \beta_6 (IN) + \square$$

Therefore, the researcher conducted regression analysis using random effects technique in which all the variables under study were included. Table 4.4 presents the findings.

Table 4.4: Coefficients Distribution

Variables	**Model 1**				**Model 2**			
	Coefficient	**Std. Error**	***f*-stat**	**Prob.**	**Coefficient**	**Std. Error**	***t*-stat**	**Prob.**
(Constant)					.251	.055	.211	.462
ACP	.010	.028	.244	.002				.001
AAI	.253	.003	.081	.021	.443	.882	4.22	.004
APP	.219	.029	.293	.004	.388	.299	2.33	.101
LEV	-.096	.002	-.088	0.00	.124	.411	.776	.018
SIZE	.223	.362	.007	.005	-0.255	.354	-1.87	.006
FAS	-0.011	.448	.332	.003	-0.144	1.22	4.14	.072
IN	-0.118	.354	.229	.000	-0.597	2.58	3.01	.007

a. Dependent Variable: Net Operating Cycle (NOC)

According to the regression equation established, taking all factors into account (Average Collection Period [ACP] in days, Average Age of Inventory [AAI] in days, Average payment

Period [APP], leverage [LEV], Firm Size [SIZE], Fixed Asset Structure [FAS] and Inflation [IN] measured by NOC will be 0.251.

The regression coefficient for Average Collection Period in Months is 0.010. This means that the relationship between the average collection period and net operating cycle is positive. This implies that an increase in average collection period in months results to an increase in average net operating cycle and vice versa.

The regression coefficient for Average Age of Inventory is 0. 443. This means that the relationship between the average age of inventory and net operating cycle is positive. This implies that effective average age of inventory results to stability and low cost incurred during net operating cycle in the selected manufacturing firms, thus an increase in average age of inventory results to an increase in net operating cycle and vice versa.

The regression coefficient for Average payment Period is 0.388. This means that the relationship between the average payment period and net operating cycle is positive. This implies that an increase in average payment period results to an increase in manufacturing firms' net operating cycle and vice versa.

Furthermore, the regression coefficient for leverage is 0.124. This means that the relationship between the leverage and net operating cycle is positive. This implies that an increase in leverage results to an increase in manufacturing firms' net operating cycle and vice versa.

The regression coefficient for Firm Size is 0.223. This means that the relationship between the firm size and net operating cycle is positive. This implies that an increase in firm size results to an increase in manufacturing firms' inflation and vice versa.

The regression coefficient for fixed asset structure is -0.144. This means that the relationship between the fixed asset structure and inflation is negative. This implies that an increase in fixed asset structure results to a decrease in inflation and vice versa.

Finally, the regression coefficient for Inflation is -0.597. This means that the relationship between the inflation and net operating cycle is negative. This implies that an increase in inflation to an increase in manufacturing firms' net operating cycle and vice versa.

4.6 Discussion of Findings

The study found that the relationship between the predictor's variables (Average Collection Period [ACP] in days, Average Age of Inventory [AAI] in days, Average payment Period [APP], leverage [LEV], Firm Size [SIZE] and Fixed Asset Structure [FAS]) and response variable (Net Operating Cycle) is positive. These findings are consistent with Robert (1969) who asserts that when lenders or investors are uncertain about the future inflation, they may wish to hedge their belts by introducing new dimensions into the interest rates calculations and gives rise to the term structure of the inflation. Harrod (1934) in his study found that inflation for each bond with a different maturity is determined by the supply of and demand for the bond with no effects from the expected returns on other bonds with other maturities.

The study also revealed that net operating cycle has an altogether positive association with swelling. As it were as assembling firms increment the length of its indebted individuals' gathering period and diminish its lenders' installment period, the productivity of assembling firms is extraordinarily upgraded. This is because of the way of working capital utilized for firms operations. Bank working capital is generally comprised of fleeting obligations as client stores, overdraft resources and transient speculations vehicles. As the I is deferred through protracted

APP and abbreviated ACP, fabricating firms increment their advantage income (which is the fundamental wellspring of income for assembling firms) and lessen their advantage consumption simultaneously. All these empower producing firms to decrease swelling. This outcome appears to go amiss to a great extent from our desires and most past observational works which utilize information from non-monetary firms (Shin and Soenen, 1998; Wang, 2002 and Deloof, 2003) yet confirm that of (Padachi, 2006 and Sharma and Kumar, 2011). A large portion of these exact works contend for a negative relationship amongst I and expansion. The alert (with this concentrate) however is that the level of premium wage earned by assembling firms depends to a great extent on the level of credit accessible to assembling firms for loaning. Subsequently, producing firms ought to coordinate their advantages against their liabilities fittingly by finding the ideal blend of current resources and current liabilities that would empower the assembling firms to remain beneficial.

The outcomes additionally affirm transcendently known relationship amongst hazard and return. Application and AAI have positive association with networking cycle. Obviously as credit hazard expands, producing firms exploit that and increment their loan cost which constantly prompts to an improved gainfulness. This outcome appear to recommend that the extent of cost which ought to be borne by borrowers for high default more than provides food for default chance and that assembling firms advantage at whatever point there is an expansion in credit chance. Essentially, producing firms additionally advantage from conversion standard hazard. At the point when trade rates are unpredictable the greater part of the assembling firms purchase and clutch the remote monetary standards with the trust of offering in future to profit by the value differential.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This section introduces the outline of the discoveries exhibited in part four as indicated by the study objective. It exhibits the conclusions and the proposals to the study.

5.2 Summary of Findings

The study found the relationship between the normal accumulation time frame and Net Operating Cycle to be certain. It found that an expansion in normal gathering period in months results to an expansion in normal Net Operating Cycle. It likewise found the relationship between the normal time of stock and Net Operating Cycle is certain. The study found that successful normal period of stock results to dependability and ease acquired amid Net Operating Cycle in the chose fabricating firms, along these lines an expansion in normal time of stock results to an expansion in Net Operating Cycle and the other way around. The study found the relationship between the normal installment time frame and Net Operating Cycle to be certain. This suggests an expansion in normal installment period results to an expansion in assembling firms' Net Operating Cycle and the other way around.

Besides, the study found the relapse coefficient for influence and Net Operating Cycle to be sure. The study found that an expansion in influence results to an increment in assembling firms' Net Operating Cycle and the other way around. The study found the relationship between the firm size and Net Operating Cycle to be certain. It found that an expansion in firm size results to an increment in assembling firms' Net Operating Cycle and the other way around. The study found

a negative relationship between the altered resource structure and Net Operating Cycle. It found that an expansion in settled resource structure results to a reduction in Net Operating Cycle.

5.3 Conclusions

This study is an unobtrusive endeavor to inspect whether observational results on the relationship between networking cycle and expansion of assembling firms. Utilizing board information procedure, inside the system of the irregular impacts show the study reasons that while networking cycle has an essentially positive association with expansion. The concentrate likewise includes that successful normal period of stock results to dependability and minimal effort brought about amid networking cycle in the chose producing firms and size. Shockingly, however recorded firms seem to perform inadequately when contrasted with unlisted assembling firms. Hence, despite the fact that organizations are encouraged to build their networking cycle, they are to do as such mindfully since the level of premium wage earned by firms depends to a great extent on the level of credit accessible to them for loaning. Therefore, firms ought to coordinate their advantages against their liabilities properly by finding the ideal mix of current resources since a successful normal time of stock results to dependability and minimal effort brought about amid networking cycle in the chose fabricating firms.

5.4 Recommendations

From the findings, the study recommends that there should be proper inventory management system in manufacturing firms to avoid over stock of inventory resulting efficient outcome of investment. Management of manufacturing firms should also make sure certain standards and levels which will stop piling up of inventory. The study further recommends that companies should engage in relationship with those suppliers who allow long credit time period and those

customers who allow short payment period. There is also still need in the future to identify the sector wise relationship between inflation and net operating cycle among manufacturing firms in Kenya.

5.5 Suggestions for Further Research

There is requirement for further studies to do comparative study for a more extended era. A comparable study ought to likewise be done on impact of swelling on networking cycle of assembling organizations in Kenya consolidating more money related and bookkeeping factors furthermore considering the predominant macroeconomic circumstance in the nation instead of the present study which thought about just six factors.

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APPENDICES

APPENDIX I: LIST OF MANUFUCTURING FIRMS IN THE NSE

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

7. Eveready East Africa Ltd

8. Kenya Orchards Ltd

9. A.Baumann CO Ltd

10. Flame Tree group Holdings Ltd