

**RELATIONSHIP BETWEEN WORKING CAPITAL MANAGEMENT
FINANCING POLICY AND PROFITABILITY: A SURVEY OF
MANUFACTURING FIRMS IN KENYA.**

BY

CAFFASO/UNNI AGNES

D61/60296/2010

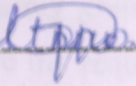
**A MANAGEMENT RESEARCH PROJECT SUBMITTED IN PARTIAL
FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF THE
DEGREE OF MASTER OF BUSINESS ADMINISTRATION, UNIVERSITY OF
NAIROBI**

2011

DECLARATION

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

Signed-----



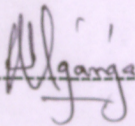
Date-----10th November 2011

CAFFASSO UNNI AGNES

D61/60296/2010

This research report has been submitted for examination with my approval as university supervisor.

Signed-----



Date-----10th November 2011

Supervisor: MR JAMES NG'ANG'A

Lecturer University of Nairobi

ACKNOWLEDGEMENT

Special thanks to God Almighty for giving me strength, time, sane mind and patience to carry out this project report. Secondly I thank my supervisor Mr. James Ngang'a without whose guidance, support and constant advice, this work would not have been a success. I want to sincerely thank him for his tireless efforts, encouragement and valuable critique, during the entire research period.

I also pass my gratitude to the Capital Market Authority library staff who responded promptly to my request by contributing towards this project in a short period of time and whose input has made it a success.

My gratitude also goes to all my MBA colleagues in particular Gitonga Charles, Domsiana, Caroline and Josphine for the valuable support throughout the study period. Last but not least, my special gratitude goes to my dear husband Amos who stood by me throughout the study period and daughter Crystal, your persistence and patience have been rewarded.

May the Almighty God bless you all.

DEDICATION

I dedicate this project to my husband Amos and our daughter Crystal, who are my inspiration in everything I do and every choice I make. I also dedicate this to my parents Mr. & Mrs. Caffaso, my aunt Ruth who always supported me in my every endeavor. They are the reason I'm here at all, and made me who I am today and to all my friends for the moral support and much dedicated time.

The population of interest for the study was all manufacturing firms in Kenya. There are 600 registered manufacturing firms as at 31st Dec 2010. Convenience sampling technique was used. Secondary data for the research was extracted from the audited financial statement of the companies sampled. A descriptive statistics analysis was conducted on all the variables to give the general behavior of the manufacturing firms quoted at the Nairobi Stock Exchange with respect to working capital financing policy and ROA. Pearson correlation coefficient analysis was also conducted to establish the relationship among the variables. The relationship between the dependent variable, ROA and the other variables was conducted using a general regression model.

To establish whether level of the aggressiveness/conservativeness had any significant relationship, a regression model was conducted separately between the independent variable and the independent variables along with the control variables for each of the groups. From the Pearson correlation coefficient analysis, the results showed some degree of relationship among the variables. There was negative relationship between ROA and financing working capital policy. The regression models indicated that there was some relationship between financing working capital policy and the firm's ROA.

ABSTRACT

Working capital management (WCM) is of a particular importance to manufacturing firms at NSE. Corporate finance literature has traditionally focused on the study of long term financial decisions. However, short term assets and liabilities are important components of total assets and needs to be carefully analyzed. Management of these short term assets and liabilities warrants a careful investigation since the working capital management plays an important role for the firms' profitability. The optimal level of working capital is determined to a large extent by the methods adopted for the management of current assets and liabilities. The objective of this research study was to establish whether there is a relationship between working capital management financing policies and profitability of manufacturing firms in Kenya.

The population of interest for the study was all manufacturing firms in Kenya. There are 600 registered manufacturing firms as at 31st Dec 2010. Convenient sampling technique was used. Secondary data for the research was extracted from the audited financial statement of the companies sampled. A descriptive statistics analysis was conducted on all the variables to give the general behavior of the manufacturing firms quoted at the Nairobi Stock Exchange with respect to working capital financing policy and ROA. Pearson correlation coefficient analysis was also conducted to establish the relationship among the variables. The relationship between the dependent variable, ROA and the other variables was conducted using a general regression model.

To establish whether level of the aggressiveness/conservativeness had any significant relationship a regression model was conducted separately between the dependent variable and the independent variables alongside the control variables for each of the group. From the Pearson correlation coefficient analysis, the results showed some aspects of relationship among the variables. There was negative relationship between ROA and financing working capital policy. The regression models indicated that there was some relationship between financing working capital policy and the firm's ROA.

TABLE OF CONTENTS

DECLARATION	ii
LIST OF ABBREVIATIONS	ix
LIST OF TABLES AND FIGURES	x
CHAPTER ONE	1
1.0 INTRODUCTION	1
1.1 Background to the Study	1
1.1.1 Manufacturing Firms in Kenya	3
1.2 Statement of the Problem	5
1.3 Objective of the Study	6
1.4 Significance of the Study	6
CHAPTER TWO	8
2.0 LITERATURE REVIEW	8
2.1 Introduction	8
2.2 The Concept of Working Capital	8
2.3 Profitability	10
2.4 Working Capital Theories	11
2.4.1 Quantity theory of money.	11
2.4.2 Keynesian Theory of money	11
2.4.3 Baumol Inventory Model	12
2.5 Working Capital Policies	12
2.5.1 Aggressive approach	14
2.5.2 Conservative Approach	14
2.5.3 Moderate approach	15

2.6 Empirical Review.....	15
2.7 Significance of liquidity management on performance	18
2.8 Conclusion	20
CHAPTER THREE.....	21
3.0 RESEARCH METHODOLOGY.....	21
3.1 Introduction.....	21
3.2 Research Design.....	21
3.3 Population of the study	21
3.4 Sample selection	21
3.5 Data Collection.	21
3.6 Data analysis	22
3.6.1 Variables and Variable Measurement.....	22
3.6.2 Quantitative Analysis	23
CHAPTER FOUR.....	24
4.0. Data Analysis And Findings	24
4.1. Introduction.....	24
4.2. Descriptive Analysis	24
4.3. Quantitative Analysis.....	25
4.4. Regression analysis.....	27

CHAPTER FIVE 31

5.0. Summary, Conclusions And Recommendations 31

5.1. Introduction..... 31

5.2. Summary Of Findings..... 31

5.3. Conclusion 32

5.4. Recommendations..... 33

5.5. Limitations of the study 33

5.6. Suggestions for further research 33

REFERENCES 34

APPENDIX I 41

APPENDIX II: Data Collection form 42

LIST OF ABBREVIATIONS

CCC	CASH CONVERSION CYCLE	24
CMA	CAPITAL MARKET AUTHORITY	25
EOQ	ECONOMIC ORDER QUANTITY	26
FP	FINANCING POLICY	28
KAM	KENYA ASSOCIATION OF MANUFACTURERS	29
NSE	NAIROBI STOCK EXCHANGE	29
PAT	PROFIT AFTER TAX	29
TA	TOTAL ASSETS	
TCA	TOTAL CURRENT ASSETS	
WCM	WORKING CAPITAL MANAGEMENT	

LIST OF TABLES

1.1 INTRODUCTION

Table 4.2.1: Descriptive statistics	24
Table 4.3.1: Descriptive statistics: Presents Pearson correlation coefficients for all variables considered.....	26
Table 4.4.1: Regression analysis of the industry model	28
Table 4.4.2 Model Summary	29
Table 4.4.3 Analysis of variance of Regression for the industry model.....	29

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background to the Study

Working capital management deals with the management of current assets and current liabilities. As a finance function, the management of working capital is considered an important component of the management function since it directly affects the liquidity and profitability of the company. The importance of a proper management of working capital stems from the fact that majority of firms, especially, manufacturing, have their current assets accounting to over half of the total assets and the proportion could even be higher for a distribution company (Horne and Wachowicz, 2000). Excessive levels of current assets can easily result in a firm realizing a substandard return on investment and at the same time, too few current assets may incur shortages and difficulties in maintaining smooth operations of a firm. Thus, efficient management of the working capital becomes an important function of a finance manager just like the financing, investment and dividend policy function. Further, Joshi (1994) observed that, the management of working capital has turned to be a very sensitive area in the field of financial management because it involves the decision of the amount and composition of current assets and the financing of these assets. The level of working capital in a firm in part affects its profitability and therefore it becomes imperative that an organization should endeavor to maintain an optimal level at any given time.

A day-to-day management of a firm's short term assets and liabilities plays an important role in the success of the firm. Firms with glowing long term prospects and healthy bottom lines do not remain solvent without good liquidity management. For small market players the importance of liquidity as been described as being "a matter of life or death for the small business" since a small business can "survive for a long time without a profit, but fails the day it can't meet a critical payment" (Drever and Hartcher, 2003). Further, Deloof (2003) posits that the efficient management of working capital (inventory, debtors and creditors) is crucial in respect of the prosperity and survival of

SMEs, and the soundness of liquidity management influences survival and financial well-being in enterprises. Liquidity management takes the form of cash management and credit management. Whilst the most important aspect of cash flow management is avoiding extended cash shortages, credit management involves not only the giving and receiving of credit to customers and suppliers, but also involves the assessment of individual customers, the credit periods allowed and the steps taken to ensure that payments are made in time (Poutziouris et al., , 1999). Indeed, efficient management of working capital is a fundamental part of the overall corporate strategy in creating the shareholders' value.

According to Moss and Stine (1993) a useful way of assessing the liquidity of firms is with the cash conversion cycle (CCC). The cash conversion cycle measures the time lag between cash payments for purchase of inventories and collection of receivables from customers. The traditional measures of liquidity such as the current ratio and quick ratio are useful liquidity indicators of firms though they focus on static balance sheet values. On the other hand, the CCC is a dynamic measure of ongoing liquidity management, since it combines both balance sheet and income statement data to create a measure with a time dimension (Jose *et al.*, 1996). While analysis of an individual firm's CCC is helpful, industry benchmarks are crucial as well for a company to evaluate its CCC performance and assess opportunities for improvement (Hutchison *et al.*, 2007).

Profitability is an important aspect in working capital management. Profitability refers to the potential of a venture to be financially successful (Eljelly 2004). This may be assessed before entering into a business or it may be used to analyze a venture that is currently operating. There are three basic situations that can describe a business' financial situation. It can be profitable, it can break even, or it can operate at a loss. In most cases, an organization's goal is to make a profit. When there is constant or abundant cash flow, it can be difficult to determine profitability. The impact of working capital policies on the profitability will be analyzed through accounting measures of profitability as well as market measures of profitability, i.e., Return on Assets (ROA) and Tobin's q .

The maximization of the shareholder wealth still remains the ultimate objective of any firm. However, in-order to achieve this objective, a firm should also maximize its profits. Profitability and solvency are important aims of working capital management. Solvency refers to the firms continuous ability to meet maturing obligations (Krishman 1969). Lenders and creditors expect prompt settlement of their claims as and when due. To ensure solvency the firm should be very liquid, which means larger current assets holding. If a firm maintains a relatively large investment in current assets it will have no difficulties in paying claims of creditors when they become due and will be able to fill all sale orders and ensure smooth production. But firms are not formed solely to be paying creditors claim. There is a cost associated with maintaining a sound liquidity position. A considerable amount of a firm's funds will be tied up in current assets and to the extent this investment is idle; the firm's profitability suffer. To have a higher profitability, the firm may sacrifice solvency and maintain a relatively low level of current assets. When a firm does so it's profitability will improve as less funds are tied up idle assets but its solvency would be threatened and would be exposed greater risk of cash shortage and stockouts.

In Kenya, regulation of capital markets is the responsibility of the Capital Market authority. The CMA'S supervisory department carries out the function of supervising the trading stocks and operations of the NSE to ensure the liquidity solvency and functioning of a stable market. Started in 1954 as an oversees stock exchange, the Nairobi Stock Exchange(NSE) is the principle stock exchange in Kenya. The NSE is divided into five main investment segments.

1.1.1 Manufacturing Firms in Kenya

Kenya manufacturing sector is the fourth biggest sector after agriculture, transport and communication, and wholesale and retail trade. It contributed about 10.1 per cent of Kenya's GDP in 2010 serving both the local market and exports to the East African region. The sector, which is dominated by subsidiaries of multi-national corporations, contributed approximately 18% of the Gross Domestic Product (GDP) in 2010. Improved

power supply, increased supply of agricultural products for agro processing, favorable tax reforms and tax incentives, more vigorous export promotion and liberal trade incentives to take advantage of the expanded market outlets through AGOA, COMESA and East African Community (EAC) arrangements, have all resulted in a modest expansion in the sector of 1.5 per cent in 2008 as compared to 1.2% in 2008.

Although initially developed under the import substitution policy, Kenya's manufacturing sector is now export based in line with the country's policy of emerging as a mid-sized economy in the year 2030. The sector is loosely classified into 12 sub-categories based on the raw materials the companies imports and or the products they manufacture. The individual firm members are organized under the membership of Kenya Association of Manufacturers (KAM) to give them a platform for negotiating common position with the relevant government authorities.

Challenges facing the sector include shrinking demands for locally manufactured goods due rising poverty levels and reduced exports resulting from general economic slump after the recent global recession. In addition, the high cost of inputs resulting from poor infrastructure has led to high prices for final products leading to underutilization of capacity. The erratic and high cost of energy has also had a negative impact. Other challenges include security issues, arbitrary charges levied by regulatory and local authorities and high cost of securing financial facilities from the banks. However opportunity for growth exists with the rollout of common tariff under the newly integrated EAC custom union, because Kenya's manufacturing sector is the largest in the region. As at the end of 2010, there were seventeen (17) manufacturing firms listed in the Nairobi Stock Exchange with the price movement of 5 of them being used to determine the daily average NSE index.

1.2 Statement of the Problem

Efficient management of working capital is a fundamental part of the overall corporate strategy in creating the shareholders' value. Firms try to keep an optimal level of working capital that maximizes their value (Afza and Nazir, 2007). Indeed, in the present day operating business environment, working capital management has become one of the most important issues in the organizations where many managers are struggling to identify the basic working capital drivers and an appropriate level of working capital that will facilitate the firms' ability to meet its' short term obligations when they fall due.

The Kenyan manufacturing sector is considered as one of the key segments of the economy. According to the KAM, the manufacturing sector employs more than 3.5M staff. In addition, the Kenyan vision 2030 blue print, one of the key pillars of the attainment of the objectives of the strategy is the need for the manufacturing sector to grow at the rate of 8% over a period of 20 years. The bulk of the total assets in the manufacturing firms is composed of working capital. Indeed working capital is one of the most important variables that influence performance in this sector.

1.4 Significance of the Study

Several studies have been conducted both locally and abroad on how various working capital elements impact on the firm's profitability. Nganga (2009) studied the relationship between working capital and profitability of listed companies at the NSE and found that differences do exist in mean profitability, activity, leverage and liquidity ratios among industry groups. On his part, Kimani (2009) undertook a research on the relationship between firm's profitability and its size and the book to market value: Evidence from the NSE. She found out that the growth in sales of a firm is positively related to the firm profitability. She further concluded that a firm that manages to increase its sales output improves its revenue and as a result having more funds available for further expansion.

Filbeck and Krueger (2005) highlighted the importance of efficient working capital management by analyzing the working capital management policies of 32 non-financial industries in the US. According to their findings, significant differences exist among industries in working capital practices overtime. Moreover, these working capital

practices, themselves, change significantly within industries overtime. However, Weinraub and Viisscher (1998) discussed the issue of aggressive and conservative working capital management policies by using quarterly data for the period 1984-93 of the US firms. Their study considered 10 diverse industry groups to examine the relative relationship between their aggressive/conservative working capital policies and found that the industries had distinctive and significantly different working capital management policies. It is clear that no study has been carried out exclusively on the relationship between working capital policies and profitability of the manufacturing firms in Kenya. This is the case despite the importance of this sector to the economy. This study therefore, seeks to bridge the knowledge gap on the impact of working capital management policies on the profitability of manufacturing firms.

1.3 Objective of the Study

The objective was to establish the relationship between working capital policy and the profitability of manufacturing firms in Kenya.

1.4 Significance of the Study

The study will be of importance to the Management of manufacturing firms, Government, Customers, the Shareholders and the academicians as follows:

Management of Manufacturing firms

Managers are keen to know the outcomes of a particular decision they make as far as their ability to meet short term obligations when they fall due. In this context, since manufacturing firms deal with a high proportion of raw materials in their inventories, it is important that the managers have adequate current assets to facilitate the purchases and also be able to pay in time the credit purchases. Failure to pay in time to these obligations will affect credit rating of the firm. Thus it is important for the management to adopt an appropriate credit policy that will lead to an optimal liquidity position and at the same time lower opportunity cost of carrying cash and near cash assets which will eventually lead to maximization of the shareholder wealth.

Government

The government will also benefit from the study in that by understanding the effect that various working capital policies has on the profitability of the firm, the government will be able to develop appropriate strategies that will foster adoption of these strategies in order to enhance the profitability of the firms. The government can at the same time replicate through appropriate adjustment the same working capital policies in other sectors of the economy which will finally improve the country's economy.

Scholars

This study is expected to increase body of knowledge to the scholars of manufacturing industry especially on matters of maintaining optimal working capital and their influence on the performance of these oil firms. It may also encourage further research on other factors influencing working capital position of the manufacturing firms and the material will form a source of reference by other scholars in the area of the impact of working capital policies on the profitability of firms.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

This chapter provides information from publications on topics related to the research problem. It examines what various scholars and authors have said about working capital policy effect on a firm's profitability. The chapter is divided into three main areas: concept of working capital, theories of working capital policies, theoretical review, and empirical review.

2.2 The Concept of Working Capital

Working capital management (WCM), which deals with the management of current assets and current liabilities, is very important, in corporate finance because it directly affects the liquidity and profitability of the firm. According to Eljelly (2004), the current assets of a typical manufacturing firm or even a distribution firm account for more than half of the firm's total assets. Deloof (2003) held the same proposition that the accounts receivables and inventories comprise a substantial percentage of the total assets of a firm. Excessive levels of current assets can easily result in a firm's realizing a substandard return on investment. However, firms with too few current assets may incur shortages and difficulties in maintaining smooth operations. The main objective of the working capital management is to ascertain that a firm has the ability to continue operating with sufficient cash flow for payment of both maturing short-term debt and impending operational expenses.

According to Sardakis et al., (2007), efficient and effective liquidity management is crucial if the survival and prosperity of small firms is to be ensured. Liquidity refers to the level of cash and near-cash assets held, as well as cash inflows and outflows of these assets. McMahon and Stanger (1995, p. 24) further emphasize the importance of liquidity in a firm as being "a matter of life or death for the small business" since a small business can "survive for a long time without a profit, but fails the day it can't meet a critical

payment". However, according to Hartcher, (2003) this important issue has for some time been overlooked in some countries, with limited research in others. Deloof (2003) posits that the efficient management of working capital (inventory, debtors and creditors) is crucial in respect of the prosperity and survival of SMEs, and the soundness of liquidity management influences survival and financial well-being in enterprises. Liquidity management takes the form of cash management and credit management. Whilst the most important aspect of cash flow management is avoiding extended cash shortages, credit management involves not only the giving and receiving of credit to customers and suppliers, but also involves the assessment of individual customers, the credit periods allowed and the steps taken to ensure that payments are made in time (Poutziouris et al., 1999).

According to Michna (2007), the efficient management of Liquidity is particularly important for small firms at a time of economic downturn such as the "credit crunch". A "credit crunch" is defined as a sudden reduction in the general availability of loans and credit or sudden increase in the cost of obtaining loans from banks (Ding et al., 2008). Consequently, owner-managers find it more difficult to raise finance for working capital due to the higher cost of borrowing, the effect of declining property value on the ability of owner-managers to provide the necessary collateral, and the perception that the banks have become even more risk-averse than they were already. Further, Afza and Nazir (2007) observe that firms try to keep an optimal level of working capital that maximizes their value and the efficient management of working capital is likely to yield significant results and its neglect can be highly dangerous to any firm (Christopher and Kamalavalli, 2009).

Eljelly (2004) described that the efficient WCM are engaged with planning and controlling current assets and liabilities in such a way that eliminates the risk of inability to meet short-term obligations in hands with the avoidance of excessive investments in these assets. Siddiquee et al., (2009) indicate that the inefficient management of WC not only reduces profitability but ultimately may also lead a concern to financial crisis thus

every organization, irrespective of its profit orientation, size and nature of business, needs requisite amount of WC. Consequently, the efficient WCM is the most crucial factor in maintaining survival, liquidity, solvency and profitability of the concerned business organization.

2.3 Profitability

Profitability refers to the potential of a venture to be financially successful(Eljelly 2004). This may be assessed before entering into a business or it may be used to analyze a venture that is currently operating. Although it may be found that one set of factors is not likely to be successful or has not been successful, it may not be necessary to abandon the venture. It may instead be feasible to change operational factors such as pricing or costs. There are three basic situations that can describe a business' financial situation. It can be profitable, it can break even, or it can operate at a loss. In most cases, an organization's goal is to make a profit. When there is constant or abundant cash flow, it can be difficult to determine profitability. Therefore profitability is an important aspect in working capital management. Solvency is also another important aspect of working capital management and it refers to the firms ability to meet maturing obligations(Krishman 1969).

The impact of working capital policies on the profitability will be analyzed through accounting measures of profitability as well as market measures of profitability, i.e., Return on Assets (ROA) and Tobin's q .

$$ROA = \frac{\text{Profit After Taxes (PAT)}}{\text{Book value of Assets (BVA)}}$$

Tobin's q compares the value of a company given by financial markets with the value of a company's assets. A low q (between 0 and 1) means that the cost to replace a firm's assets is greater than the value of its stock. This implies that the stock is undervalued. Conversely, a high q (greater than 1) implies that a firm's stock is more expensive than the replacement cost of its assets, which implies that the stock is overvalued.

$$\text{Tobin's } Q = \frac{\text{Market Value of a Firm (MVF)}}{\text{Book Value of Assets (BVA)}}$$

where Market Value of Firm (MVF) is the sum of book value of long plus short term and market value of equity. Market value of equity will be calculated by multiplying the number of shares outstanding with the current market price of the stock in a particular year.

2.4 Working Capital Theories

There are various theories that support the significance of working capital. Some of the most important theories under working capital management include the following;

2.4.1 Quantity theory of money.

According to the quantity theory money is held only for purpose of making payments for current transactions (Keynes, 1936). It was proposed by Ivan fishers in 1911. Fisher's version of the quantity theory can be explained in terms of the equation of exchange model.

$$MV = PT$$

Where M is the nominal stock of money in circulation. V is the transaction velocity of circulation of money, i.e. the average number of times the given quantity of money changes hands in transactions, P is the average price of all transactions and T is the number of transactions that take place during the time period. Both MV and PT measure the total value of transaction during the time period and so must be identical. Thus, the 'equation' is really an identity which must always be equal. It tells us only that the total amount of money handed over in transactions equals to the value of what is sold.

2.4.2 Keynesian Theory of money

Keynes (1936) his great work: "The general Theory of employment, interest and money identified three reasons why liquidity is important, the speculative motive, the precautions motive and the transaction motive.

The speculative motive is the need to hold cash to be able to take advantage of. For example, bargain purchase, and favourable exchange rate fluctuations in the case of international firms. For most firms, reserve borrowing ability and marketable securities can be used to satisfy speculative motives.

Precautionary motive is the need for a safety supply to act as a financial reserve. Once again, there is probably a precautionary motive for liquidity. However, given that the value of money market instruments is relatively certain and that instruments such as T. bills are extremely liquid, there is no real need to hold substantial amount of cash for precautionary purpose.

The transaction motive is the need to have cash on hand to pay bills. Transactions related needs come from collection activities of the firm. The disbursement of cash includes the payment of wages and salaries, trade debts, taxes and dividends.

2.4.3 Baumol Inventory Model

Baumol (1952) developed the inventory development model. This model is based on the Economic order quantity (EOQ). The objectives are to determine the optimal target cash balance. Bauman made following assumptions in his model: The firm is able to forecast its cash requirements with certainty and receive a specific amount at regular intervals, the firms cash payments occur uniformly over a period of time, the opportunity cost of holding cash is known and does not change over time. Cash holdings include an opportunity cost in the form of opportunity foregone and the firm will incur the same transactions cost whenever it converts securities to cash.

The assumption of no cash receipts during the projected period is a major limitation of Bauman model.

2.5 Working Capital Policies

Anand (2001) asserted that an individual company's investment in working capital

will be related to the type of industry it operates in and the essential working capital policy each individual company adopts. Working capital investment decisions concerns how much of the firms limited resources should be invested in working capital. Financing decisions relate to how investment in working capital is to be financed. What may be considered an acceptable level of working capital policy for one industry or line of business may be unacceptable (e.g. too much or too low) in another, as a result of different business practices across industries. Working capital requirements are also likely to change over time in response to changes in nature of a company's operation (Block and Hilt 1992).

Broadly, there are three distinct types of working capital policy, which a company can adopt:- An aggressive policy, moderate policy and conservative policy. Bhattacharya (2001) The type of policy relates to the firms general approach to the investing and financing of its working capital needs. Aggressive and conservative policies tend to represent the opposite ends of spectrum of working capital policy options. The policies differ in their attitudes to both the investment in and financing of current assets. The more conservative in attitudes the policy is; the greater the level of investment in current assets and the greater the firm's reliance on long term capital (in the form of debt and equity) to finance the investment in current assets. Conversely, the more aggressive the working capital policy the lower the investment in current assets and the less is the firms reliance on long-term capital to finance current assets.

2.5.2 Conservative Approach

Financing of current assets from current liabilities particularly in the form of interest free credit from suppliers is a less expensive source of financing than equity and long term debt capital (Van Vorne 1995). The type of working capital policy operated will be dictated by such factors as the growth rate of the company, its size, the nature of its industry whether it is manufacturing or non manufacturing and by the risk altitude of the firms management. (Gitman and Maxwell 1985).

2.5.1 Aggressive approach

This approach considered more risk because of the frequent need to refinance to support permanent current assets as well as fluctuating current assets. Moyer et al., (2005) observe that if a firm relied on overdraft for this, it will be vulnerable to a rapid withdrawal of that facility and if stocks and cash are reduced to pay back the overdraft the firm may experience severe disruptions, loss of sales and output, and additional costs because of a failure to maintain the minimum required working capital to sustain optimum profitability. Thus, Bringham and Ehrhardt (2004) posit that this working capital policy will be associated with higher return and risk.

According to Smith (1980), a firm may adopt an aggressive working capital management policy with a low level of current assets as a percentage of total assets, or it may also be used for the financing decisions of the firm in the form of high level of current liabilities as a percentage of total liabilities. Working capital management is important because of its effects on the firms' profitability and risk, and consequently its value (Smith, 1980). The greater the investment in current assets, the lower the risk, but also the lower the profitability obtained. However, contrary to this, Carpenter and Johnson (1983) provided empirical evidence that there is no linear relationship between the level of current assets and revenue systematic risk of the US firms; however, some indications of a possible nonlinear relationship were found, which were not highly statistically significant.

2.5.2 Conservative Approach

The low-risk is to make sure that long term financing covers the total investment of the assets. When there are times in the course of the year when surplus cash is available, this will be invested in short-term instruments. Many managers feel much happier under the conservative approach because of the lower risk of being unable to pay bills as they arise. However, such a policy may not be to the best interest of the owners of the firm. The short term funds invested in the short term securities is unlikely to earn satisfactory return relative to the cost of the long term funds. In all likelihood, shareholders would be better off if the firm reduced its long term financing, by returning cash to shareholders or paying off some long term loans.

Van Horne and Wachowicz (2000) further observe that excessive levels of current assets as advocated by the conservative working capital may have a negative effect on the firm's profitability, whereas a low level of current assets may lead to a lower level of liquidity and stock outs, resulting in difficulties in maintaining smooth operations. More aggressive working capital policies are associated with higher return and risk, while conservative working capital policies are associated with lower risk and return (Weinraub and Visscher, 1998).

2.5.3 Moderate approach

Gitman (1997) stated that a moderate or balanced capital falls midway between aggressive and conservative policies. With a moderate policy the level of investment of current assets is neither lean or excessive. Following a moderate policy, long term funds are used to finance the investment in fixed assets and the permanent components of current assets investment. Temporary or seasonal current assets are financed by short term services of finance. The moderate policy is less risky than the aggressive but more risky than conservative. The company only resorts to short term financing when seasonal and other temporary demands requires it. (Gitman 1997), returns under moderate policy under and corresponding higher than under a conservative policy idea lower than under an aggressive policy

2.6 Empirical Review

The importance of WCM is not new to the finance literature and the review of prior literature reveals that there exists a significant relation between performance and working capital management by using different variable selection for analysis. Ganesan, (2007) analyze the working capital management efficiency of firms from telecommunication equipment industry. The variables used to represent the working capital are days sales outstanding, days inventory outstanding, days payable outstanding, days working capital, and current ratio while profitability and liquidity represent by cash conversion efficiency, income to total assets and income to sales.

This study found evidence that even though "day's working capital" is negatively related

to the profitability, it is not significantly impacting the profitability of firms in telecommunication equipment industry. However, this was contrary to the results of Chowdhury et al., (2007) who had found positive correlations between WCM with financial performance of the Pharmaceutical industry in Bangladesh.

Narware (2004) in his empirical study on Indian National Fertilizer Limited, for 1990-91 to 1999-2000 signify that working capital management and profitability of the company disclosed both negative and positive association. He also found evidence that increase in the profitability of a company was less than the proportion to decrease in working capital. However, the study done by Raheman & Nasr, (2007) on a sample of 94 Pakistani firms listed on Karachi Stock Exchange for a period of 6 years from 1999 – 2004, demonstrate a strong negative relationship exists between variables of the working capital management represented by liquidity and debt with profitability of the firm.

Whilst, Afza and Nazir (2007) through cross-sectional regression models on working capital policies, profitability and risk of the firms, found a negative relationship between the profitability measures of firms and degree of aggressiveness on working capital investment and financing policies, their result indicates that the firms yield negative returns if they follow an aggressive working capital policy by investigating the relative relationship between the aggressive or conservative working capital policies for 208 public limited companies listed at Karachi Stock Exchange for a period of 1998-2005.

According to Padachi (2006) high investment in inventories and receivables is associated with lower profitability. He used return on total assets as a measure of profitability for a sample of 58 small manufacturing firms in Mauritius for the period 1998 –2003. His findings reveal an increasing trend in the short-term component of working capital financing and this findings are similar to most recent study by Christopher and Kamalavalli (2009), which focus on 14 corporate hospitals in India for the period 1996-97 to 2005-06. Their correlations and regression analysis signifying that working capital component namely current ratio, cash turnover ratio, current assets to operating income and leverage negatively influence profitability.

The cash conversion cycle had been widely used as a major component representing working capital. One of the earlier studies done by Jose, Lancaster and Stevens(1996) for the twenty-year period from 1974 through 1993 of 2,718 firms offers strong evidence that aggressive working-capital policies indicated by shorter cash conversion cycle enhance profitability. Their findings are similar to Lazaridis and Tryfonidis (2006) that showed there is a statistical significance between profitability, measured through gross operating profit, and the cash conversion cycle using the sample of 131 companies listed in the Athens Stock Exchange (ASE) for the period of 2001-2004. In addition, a relatively recent study by Uyar (2009) also found a significant negative correlation between the CCC with profitability measured by return on asset but not significant with return on equity. By utilizing ANOVA and Pearson correlation analyses of the corporations listed in the Istanbul Stock Exchange (ISE) for the year 2007, he indicates that the firms with shorter CCC are more likely to be more profitable than the firms with longer CCC.

Ochieng (2006) on his studies on effects of the relationship between working capital of firms listed at the NSE and the economic activity in Kenya finds that the of liquidity of firms, as measured by the current and quick ratios, increases the economic expansion and decreases during economic showdowns.

According to Nyaga (2007) working capital management policies are crucial instruments of success factors . He notes that it is only when a firm is profitable that it will see the light of the market growth , market share and progress through product and industry life cycles.

Nyakundi (2003) observes that aggressive working capital management policy is the most predominant among public companies on Kenya. He says that this would be basically due to the high cost of long term funds in Kenya, which for most part of the research period was five years, was about 20%. His research findings however collaborated that of similoglu and Demirgunes carried out for a period of 10 years in Turkey on the firm listed at his Istanbul stock exchange . Management of most

companies would tend to use short term funds like trade creditors which often carry very minimal direct cost adds Nyakundi. The other source of long term funds the owners' equity; he says might not have been attractive to the companies because of the floatation costs associated with raising such funds besides the annual dividends expectations from shareholders.

A study by Kieschnick et al (2008) using data on a panel of U.S. corporations from 1990 through 2004, established the importance of working capital management to firm value. Their study used stock's excess return to represent the firm value and findings show that on average an additional dollar invested in net operating working capital reduces firm value and this indicates that their study is consistent with industry surveys suggesting that some firms over-invest in net operating working capital.

Mwangi (2010) conducted a study on the relationship between working capital management and the systematic risk of companies quoted in NSE. A sample of 22 companies listed on the Nairobi Stock Exchange for a period of seven years from 2003 to 2009 was studied to determine the relationship between working capital management components and beta. Current ratio, size of the firm (measured in terms of natural logarithm of sales), fixed financial assets to total assets ratio and debt ratio we used as control variables. Pearson's correlation and regression analysis (pooled least square) were used for analysis. The results showed that there was no statistical significant relationship between variables of working capital management and the beta of a firm. This means that the manager may not mitigate systematic risk of a firm by handling correctly the cash conversion cycle and keeping each different component of working capital management at an optimal level.

2.7 Significance of liquidity management on performance

Liquidity always comes first, and without it a firm does not open its doors and with it a., firm: may not have time to solve its basic problem (Hubbard, 2000). Liquidity is an important determinant of financial distress, because without liquidity a firm cannot meet

its financial obligations (Beaver, 1996). Murphy (2005) pointed out that Enron's bankruptcy was nearly inevitable because of the combination of the company's low cash resources and its reliance on manipulative trading profits that could not be expected to continue indefinitely. However, even if Enron had somehow been able to survive its liquidity squeeze and avoid its 2002 bankruptcy, the stock was clearly overpriced up until the final weeks before the end.

A study done by Tamari (1966) has shown that liquidity ratios are strong predictors of financial distress in a study of companies based in the US and elsewhere. Miegs et al., (1999), observed that being too liquid is costly as well as having too little liquidity. The objective of liquidity management therefore is to ensure that a firm will be able to meet in full all its obligations as they fall due (Gardner and Mills, 1994).

The importance of cash flow is not new to the finance literature. Over twenty years ago, Largay and Stickney (1980) reported that the then-recent bankruptcy of W.T. Grant, a nationwide chain of department stores, should have been anticipated because the corporation had been running a deficit cash flow from operations for 8 of the last 10 years of its corporate life. As part of a study of the Fortune 500's financial management practices, Gilbert and Reichert (1995) found that time value of money cash flow analysis was used to select projects in 91 percent of the firms. Accounts receivable management models were used in 59 percent of these firms, while inventory management models were used in 60 percent of the companies. Recently, Farragher et al., (1999): found that 55 percent of firms in the S&P Industrial index complete some form of a cash flow assessment, but did not present insights regarding accounts across industries.

Maness and Zietlow (2002) presented two models of value creation through effective short-term financial management activities. However, these models were generic models and did not consider unique firm or industry influences. An industry that a company is located in may have more influence on that company's fortunes than overall GDP.

2.8 Conclusion

The use of either short term finance or long term finance to fund the working capital has different impacts to a firm's profitability. Short term financing enhances a firm's return because a firm enjoys the advantage of cheap funding from current liabilities offered by trade creditors (Sayaduzzaman, 2003). Kessen (2003) notes the trends in the working capital management and its impacts on a firms performance is a comprehensive measure of profitability as captured by the computation of the return on total assets. Empirical studies by samiloglu and Domirgnes (2008) however give strong evidence that capital management policy significantly affects profitability of manufacturing firms in Turkey. Small firms are vulnerable to fluctuations in the level of working capital.

The three important aspects that give relevance to working capital management policy are; Investment, financing and risk and returns give different profit levels depending on particular working capital policy adopted by an individual firm due to different operating business characteristics . Pandey (1993) notes that financing of current assets from current liabilities in the form of interest free credit from supplies is a less cost of financing source and although it is cheap in a high risk capital. On the other hand, Copeland and Weston (1998) document preference to; the play it safe philosophy of conservative working capital management policy. They observe that the most conservative policy will attempt to provide sufficient long term financing to cover all unanticipated eventualities. The firm is not subjected to frequent interrupted production and stock outs of short term loans and thus makes the short term source of financing risky.

Generally the results of previous studies document that there in no working capital policy that is superior to others. There seems to be no conclusive agreements as to which working capital management policy guarantees a higher profitability and this study therefore is a modest attempt to close the knowledge gap by analyzing the relationship between various working capital management policies and profitability of manufacturing firms in Kenya.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Introduction

This chapter explained the research design, the population of interest, data collection and the data analysis.

3.2 Research Design

The main purpose of this research determined the relationship between a firm's working capital management policy and profitability of the manufacturing firms in Kenya. This is a empirical relationship study between working capital management policies and its effects on the profitability on the manufacturing firms in Kenya. It was established for a period between 2006 to 2010. This period was considered by the researcher to be adequate for establishing any relationship, between working capital management policies and the profitability of the manufacturing firms in Kenya.

3.3 Population of the study

The population of this study comprised of all manufacturing firms registered in Kenya. As at December 2010 there were 600 registered manufacturing firms. This statistics was received from the Kenya Association of Manufacturers.

3.4 Sample selection

The sample size was the eighteen manufacturing firms listed at the Nairobi stock exchange. (Appendix 1) Convenient sampling technique was used due to the fact that the financial statements of manufacturing firms listed at the NSE were readily available and reliable.

3.5 Data Collection.

The research study used secondary source of data. Data on working capital policy and profitability were extracted from the audited financial statements of the sampled manufacturing firms listed companies at the NSE. Two types of information was used.

The audited balance sheets and the profit and loss accounts showing annual financial statements. The period of data collection was from 2006 to 2010 covering six years. The specific data collected during the five years period was in form of annual profit after tax, sales turnover, current assets, current liabilities, fixed assets, accounts receivable, inventory, accounts payable as well as the financing aspects including the long term debt and equity for each year of financial statement of sampled firms. The data also assisted to show the breakdown of financing of current assets into long term financing and short term financing to compute performance measures as well as the working capital policies.

3.6 Data analysis

To determine the working capital management financing policy adopted by the manufacturing firms and their effects on their profitability, the data was analyzed through the use of regression and correlation analysis.

3.6.1 Variables and Variable Measurement

The data collection procedure was achieved by developing a similar framework used by Weinraub et al, (1998), Shin and Soenen (1998), Afza and Nazir (2004), Raheman and Nasr (2007). The following data was used to come up with the required variables; The sales at the beginning and end each year; Trade receivables; Trade payables; Inventories; Current assets; Current liabilities; Total sales; Non-current assets; Long term debt; profit after taxes, total equity. They included dependent, independent and control variables.

Dependent variables

Return on Assets (ROA) calculated by dividing profit after tax (PAT) with Book value of Assets (BVA) was used as the dependent variable. The impact of working capital financing policies on the profitability was analyzed through accounting measures of profitability.

$$\text{ROA} = \frac{\text{Profit After Taxes (PAT)}}{\text{Book value of Assets (BVA)}}$$

Independent variables

Financing Policy (FP) was calculated by dividing Total Current Liabilities (TCL) with Total Liabilities (TL) was used as the independent variables.

$$FP = \frac{\text{Total Current Liabilities (TCL)}}{\text{Total Liabilities (TL)}}$$

Total Liabilities (TL)

Control variables

The size of the firm (*SIZE*) as measured by the logarithm of total assets the growth of firm (*GROWTH*) measured by variation in annual sales value with reference to previous year's sales and the financial leverage (*LVRG*) taken as the debt to equity ratio of each firm for the whole sample period were used as the control variables.

3.6.2 Quantitative Analysis

Two methods of quantitative analysis were applied in this study. One method used was correlation models specifically Pearson correlation to measure the degree of association between different variables under consideration. The other method was multiple regression analysis that estimates the causal relationships between ROA and other chosen variables. SPSS version 17 software was used for analysis of the different variables in this study. A multivariate regression was used to analyze the relationship between the working capital management level of the firm and the performance of the firm and the working capital factors influencing performance as follows:

$$ROA_{it} = \beta_0 + \beta_2 (FP) + \beta_3 SIZE + \beta_4 GROWTH + \beta_5 LVRG + \varepsilon$$

ROA_{it}: Return on assets of a firm at time t for i=1,2,.....20 firms

FP: Financing policy

SIZE_i: Natural log of firm size

GROWTH_i: Growth of sales

β₀: The intercepts of equation

β₁, β₂, β₃, β₄ and β₅: Coefficients of variables

t : Time = 1,2,, 5 years.

ε: The error term

CHAPTER FOUR

4.0. DATA ANALYSIS AND FINDINGS

4.1. INTRODUCTION

This chapter focused on data analysis, interpretation and presentation of the findings. The researcher made use of descriptive statistics and quantitative analysis to present data. For analysis purposes firms were classified into two categories those who's financing policy was below 70% were assumed to be conservative and those above 70% as aggressive. To determine the relationship between working capital policy and profitability separate analysis was conducted for the entire industry, for firms using conservative financing policy and for those firms using aggressive financing policy.

4.2. DESCRIPTIVE ANALYSIS

Descriptive analysis presents the mean, standard deviation, maximum values, and minimum values of the different variables in this study.

Table 4.2.1: Descriptive statistics

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ROA	18	-0.19678	59.77229	0.715	1.421
Growth	18	-1	6317.883	66.577	161.942
FP	18	0.004152	47.31	0.995	1.153
Size	19	6.003887	19.59776	15.009	0.523
Leverage	18	0.012997	0.911137	0.599	0.032
Valid (listwise	N 18				

Source: The descriptive analysis of all the variables in the study using SPSS software for.

Table 4.2.1 above shows the mean, standard deviation, minimum values and maximum values for 14 companies listed on Nairobi Stock Exchange for 70 firms-year observations from year 2006 to year 2010.

From the table above, ROA is 1.0441 which means that on average manufacturing companies sampled returned positive returns over the five years period. The finance policy used as a proxy to measure working capital policy has a mean value of 0.7066 with standard deviation of 0.2496, indicating that most manufacturing firms use aggressive financing policy. This means that the proportion of current liabilities to total liabilities is 70% hence meaning that most of the financing comes from current liabilities. In terms size which is measured as by natural logarithm of sales we can see that manufacturing have recorded impressive sales levels. On average growth by firms in manufacturing sector is 66.57% over the five year period which is positive for the whole industry. The standard deviation is very high at 161, meaning that while others have recorded tremendous growth, other manufacturing companies have recorded declining growth. On average the size of manufacturing firms as measured by natural logarithm of total assets is 15.009 with standard deviation of 0.523, which from the logarithmic tables, we figure that the average assets in the manufacturing industry is Kshs 3 billion. The leverage average is 0.599 which means that most of the manufacturing companies use slightly more debt than equity in their financing activities.

4.3. QUANTITATIVE ANALYSIS

Pearson correlations were calculated for all the variables used in the study starting with the Pearson correlation results.

Table 4.3.1: Descriptive statistics: Presents Pearson correlation coefficients for all variables considered

		ROA	Growth	FP	Size	Leverage
ROA	Pearson Correlation	1.000	.886*	-.314	-.029	.086
	Sig.(2 tailed)	.	.019	.544	.957	.872
	N	70	70	70	70	70
Growth	Pearson Correlation	.886*	1.000	-.086	.314	-.029
	Sig. (2-tailed)	.019	.	.872	.544	.957
	N	70	70	70	70	70
FP	Pearson Correlation	-.314	-.086	1.000	.371	-.771
	Sig. (2-tailed)	.544	.872	.	.468	.072
	N	70	70	70	70	
Size	Pearson Correlation	-.029	.314	.371	1.000	-.600
	Sig. (2-tailed)	.957	.544	.468	.	.208
	N	70	70	70	70	70
Leverage	Pearson Correlation	.086	-.029	-.771	-.600	1.000
	Sig. (2-tailed)	.872	.957	.072	.208	.
	N	70	70	70	70	70

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

From the correlation statistics we can see that ROA correlates highly with growth at

0.886 which would be explained by the fact that the driver of growth is sales which has a direct impact on profitability. Pegging the significance level at 0.05, we can see that it is only growth that is significant in determining ROA.

On the other hand financial policy correlates highly with leverage at 0.771 though negatively. This is due to the fact that all of them have liabilities as a factor in determining each of them, however at 0.05 significance level, the relationship is not significant.

Size correlates highly with leverage, which can be explained on the fact that, given that size is measured by total assets, these assets are financed by debt or equity which is used to calculate leverage. Given the relationship between the two is negative; we can say that most of the assets are acquired using debt capital, however at 0.05 significance level, this relationship is not significant.

4.4. Regression analysis

The researcher conducted a multiple linear regression analysis so as to determine the relationship between the ROA and the independent variables; financing policy, size; growth; leverage; the error term for 5 years. The regression equation is

$$ROA_{it} = \beta_0 + \beta_1 (FP_{it}) + \beta_2 (SIZE_{it}) + \beta_3 (GROWTH_{it}) + \beta_4 (LVRG_{it}) + \varepsilon$$

Where: ROA_{it} : return on total asset; β_0 : The intercepts of equation; $SIZE$: natural logarithm of total assets; $GROWTH$: percentage change in sales'; $LVRG$: debt ratio; ε :

The error term

Regression analysis of the industry model

$$ROA_{it} = \beta_0 + \beta_1 (FP_{it}) + \beta_2 (SIZE_{it}) + \beta_3 (GROWTH_{it}) + \beta_4 (LVRG_{it}) + \varepsilon$$

Table 4.4.1: Regression analysis of the industry model

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		Beta	Std. Error	Beta		
1	(Constant)	50.245	55.153		.911	.530
	Growth	.036	.039	4.145	.937	.521
	FP	-5.180	5.554	-4.205	-.933	.522
	Size	-2.147	2.635	-.790	-.815	.565
	Leverage	-24.327	46.686	-.541	-.521	.694

a. Dependent Variable: ROA

From table we can write the following equation:

$$ROA_{it} = 50.245 - 5.180 (FP_{it}) - 2.147 (SIZE_{it}) + .036 (GROWTH_{it}) - 24.327 (LVRG_{it}) + 110.067$$

We can see that there is a negative relationship between financial policy and ROA as well as with size and leverage. Financial policy means that a company with a high amount of liabilities would have less returns as interest used to pay debt commitments would affect returns. On size this be explained from the fact big companies in terms of size which is measured in terms of total assets, would have lower return on assets as the returns would have to be divided by assets to get ROA. Growing companies record a better returns as this has a direct impact on ROA. Highly leveraged companies would struggle produce better returns as they have debt commitments that would take away their profits.

Table 4.4.2 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.735 ^a	.540	-1.298	2.153402374

The coefficient of determination (R square) measures the proportion of variability in a data set that is accounted for by a statistical model. In this case it can be seen that there is very strong relationship between financial performance and working capital management policies. It can be seen that, working capital policies determined by; the natural logarithm of assets, sales, financial policy and leverage explains 73.5% of financial performance determined by return on assets. Adjusted R squared attempts to correct R squared to more closely reflect the goodness of fit of the model in the population but since we used only one model, we can only rely on R square. Standard error is a measure of variability and as such measures the variability that a constant would be expected to show during sampling and a result of 2.15 means the variability in our model is low.

Table 4.4.3 Analysis of variance of Regression for the industry model

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.452	4	1.363	.294	.861
	Residual	4.637	1	4.637		
	Total	10.089	5			

Analysis of variance (ANOVA) is a method of testing the null hypothesis that several group means are equal in the population, by comparing the sample variance estimated from the group means to that estimated within the groups. Sum of squares measures the variability of a data set. Given our regression model on the sum of squares, is larger than residual, we can conclude that our model accounts for most of the variation on the dependent model, which is return on assets. We use the F statistic to measure if the regression model fits well. From the results we can see that F statistic is 0.294 while f

CHAPTER FIVE

5.0. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1. INTRODUCTION

The chapter summarizes the findings of the analysis of the relationship between financing working capital management policy and profitability of the firm measured by return on assets (ROA). The chapter also draws conclusions and gives recommendations based on the findings. It highlights the limitations of the study and makes suggestions of further research in future.

5.2. SUMMARY OF FINDINGS

The objective of this research was to find out the relationship between working capital financing policy and ROA of the manufacturing firms quoted on the NSE. In order to achieve this objective a causal relation was conducted where the ROA used as the dependent variable for each of 14 sampled firms quoted at the Nairobi Stock Exchange were computed. The FP was computed as independent variables. Alongside the dependent and independent variables were also control variables such as logarithm of total assets used as proxy for size, growth, and leverage.

The choice of quoted manufacturing companies was preferred because they represented the main sectors of the Kenyan economy, In addition, since they are publicly quoted and publish their annual reports, information about the measurement of working capital policies and ROA was readily available, unlike those unlisted of companies.

A descriptive statistics analysis was conducted on all the variables to give the general behavior of the manufacturing firms quoted at the Nairobi Stock Exchange with respect to working capital financing policy and ROA. Pearson correlation coefficient analysis was also conducted to establish the relationship among the variables. The relationship between the dependent variable, ROA and the other variables was conducted using a general regression model. To establish whether level of the

critical values $F_{4,1} (\alpha=0.05) = 7.7086$ hence we accept the null hypothesis, that there is no relationship between working capital management and profitability. This is confirmed by the significance value of 0.861 which is greater than 0.005 hence the working capital factors do not affect profitability.

From the Pearson correlation coefficient analysis, it was seen that it was only ROA and growth that had a significant relationship. Even though for other variables it was still found out that relationship though strong was not significant. In collating all variables under working capital, it was found out the whole relationship had a high coefficient of determination, measured by R square. However on carrying out analysis of variance, the researcher found out that we fail to reject the null hypothesis from the F statistic and thus there was no significant relationship between working capital and profitability. In addition this was confirmed by the significant factor.

5.3. CONCLUSION

The management of working capital is important for several reasons. If a company is to operate efficiently, its financial policy must be tightly monitored and controlled. More fundamental, however, is the effect that working capital decisions have on the company's risk, return, and share price. Having an adequate level of working capital is therefore vitally important for the survival of any business.

In the manufacturing industry, by making sure that production lines do not stop due to lack of raw materials, that inventories do not build up because production continues unchanged when sales dip, that customers pay on time and that enough cash is on hand to make payments when they are due. Obviously without good working capital management, no firm can be efficient and profitable. For the manufacturing companies surveyed, it has been seen that there is need for prudent management of working capital to ensure positive effect on profitability.

aggressiveness/conservativeness had any significant relationship with the dependent variable (ROA) firms were classified into aggressive and conservative and a regression model was conducted separately between the dependent variable and the independent variables alongside the control variables for each of the group.

From the Pearson correlation coefficient analysis, it was seen that it was only ROA and growth that had a significant relationship. Even though for other variables it was still found out that relationship though strong was not significant. In collating all variables under working capital, it was found out the whole relationship had a high coefficient of determination, measured by R square. However on carrying out analysis of variance, the researcher found out that we fail to reject the null hypothesis from the f statistic and thus there was no significant relationship between working capital and profitability. In addition this was confirmed by the significant factor.

5.3. CONCLUSION

The management of working capital is important for several reasons. If a company is to operate efficiently, it's financial policy must be tightly monitored and controlled. More fundamental, however, is the effect that working capital decisions have on the company's risk, return, and share price. Having an adequate level of working capital is therefore vitally important for the survival of any business.

In the manufacturing industry, by making sure that production lines do not stop due to lack of raw materials, that inventories do not build up because production continues unchanged when sales dip, that customers pay on time and that enough cash is on hand to make payments when they are due. Obviously without good working capital management, no firm can be efficient and profitable. For the manufacturing companies surveyed, it has been seen that there is need for prudent management of working capital to ensure positive effect on profitability.

5.4. RECOMMENDATIONS

The present study investigates the relationship between the working capital asset management and financing policies and its impact on profitability of 14 quoted manufacturing firms for the period 2006-2010. The study fails to confirm any significant relationship between working capital management and profitability. This could be due to the fact that the variables representing working capital cancel each other out. Therefore future studies could look at factors that are important to the manufacturing industry such as inventory turnover, average collection period for its debtors and average payment method.

5.5. LIMITATIONS OF THE STUDY

The analysis only covered the manufacturing firms quoted at the Nairobi Stock Exchange only and this may limit the fair findings that could have been found if the non quoted firms were covered. The sample size could have affected the results and thus the findings should not be generalized with certainty.

5.6. SUGGESTIONS FOR FURTHER RESEARCH

This study needs to be done in future to cover a wide sample size as well as companies not quoted at the Nairobi Stock Exchange. This study covered financing policy alone, similar study should be conducted in future to cover investment policy or both.

REFERENCES

- Afza, T., and Nazir, M. S. (2007). "Working Capital Management Practices of Firms: Empirical Evidence from Pakistan" in the Proceedings of 9th South Asian management Forum (SAMF) held on February 24-25, pp. 334-343, North South University, Dhaka, Bangladesh.
- Anand., M (2001) "Working Capital Management performance of corporate India. An Empirical survey", Management & accounting Research Vol.4,pp.35-65.
- Baumol, W.J., (1952). Journal of Economics Vol. LXV1. No 4 pp 67-71.
- Beaver, W.H. (1966) 'Financial ratios as predictors of failure's journal of accounting research pp 71-111.
- Bhattacharya, H., (2001) working capital management strategies and Technical, Prentice Hall, New Delhi.
- Block S.B and Hirt G.A (1992) Foundations of financial management 6th Edition Von Hoffman Press Inc.
- Brigham E F and Ehrhardt M C (2004), *Financial Management: Theory and Practice*, 11th Edition, South- Western College Publishing, New York.
- Carpenter M D and Johnson K H (1983), "The Association Between Working Capital Policy and Operating Risk", *Financial Review*, Vol. 18, No. 3, p. 106
- Christopher, S.B., and Kamalavalli, A. L. (2009). Sensitivity of profitability to working capital management in Indian corporate hospitals. Working Paper, NCrM College.

- Chowdhury, Anup & Amin, Md. Muntasir. (2007). Working capital management practiced in pharmaceutical companies listed in Dhaka stock exchange. BRAC University Journal, Vol. IV, No. 2, 2007, pp. 75-86
- Collis, J., Jarvis, R. (2000), "Financial Information: the vital spark in the small enterprise management", paper presented at the 23rd ISBA National Small Firms Policy and Research Conference, Small Firms: Adding the Spark, The Robert Gordon University, Aberdeen, 15-17 November, .
- Copeland , T.B, and Weston, F.J., (1988): Foundations of financial Management , 6th Edition , Von Hofman Press. London Corporations and changes in the business cycle; unpublished research presented at Mid. South Academy of Economic and Finance.
- Deloof, M., (2003), Does working capital management affect profitability of Belgian Firms. Journal of Business Finance 30: 573-587.
- Drever, M. and. Hatcher, J (2003),"Advising small and medium-sized enterprises (SMEs) on their liquidity issues", paper presented at the International Council for Small Business Conference, Washington, DC.
- Eljelly A M A (2004), "Liquidity-Profitability Tradeoff: An Empirical Investigation in an Emerging Market", International Journal of Commerce and Management, Vol. 14, No. 2,
- Farragher, E., R. Kleiman and A. sahu (1999)"Current Capital Budgeting Practices, "The Engineering Economist, Vol. 44, No. 2, 1999, pp. 137-151.
- Filbeck G and Krueger T (2005),"Industry Related Differences in Working Capital Management", Mid-American Journal of Business, Vol. 20, No. 2, pp. 11-18.
- Ganesan, V. (2007). An analysis of working capital management efficiency in

- telecommunication equipment Industry. *Rivier Academic Journal*, Vol.3, No. 2, Fall 2007, pp 1 - 10.
- Gardner, M.J. and Mills, D.L. (1994). *Managing Financial Institutions: An Asset Liability Approach*, The Dryden Press, Orlando.
- Gilbert, E., & Reichert, A., (1995), *The practice of financial management among large United States corporations*. *Financial Practice & Education*, pp 16-23.
- Gitman L.A. (2005). *Principles of Managerial Finance* (11th Edition). New York: Addison Wesley Publishers
- Gitman, J.L. and Maxwell, C.T., (1985), *financial activities of major U.S forms ; A survey and analysis of fortunes low financial management : P,P, 517- 529*.
- Horne, J. C. & Wachowicz, J. M. (2000) *Fundamentals of Financial Management*, 11th Ed. Prentice Hall Inc
- Hubbard.R.G., (2000), "imperfections of investments" *Journal of economic literature* , Alumni Hall of Fame, University of central Florida.
- Hutchison, P. D., Farris II, M. T., and Anders, S. B. (2007). "Cash-to-cash analysis and Management", *The CPA Journal*, Vol. 77 No. 8, pp. 42-47.
- Jose M L, Lancaster C and Stevens J L (1996), "Corporate Returns and Cash Conversion Cycle", *Journal of Economics and Finance*, Vol. 20, No. 1, pp. 33-46.
- Joshi, P. V. (1995). *Working Capital Management under Inflation*, 1st Ed. Anmol Publishers, pp. 20 – 93
- Kessen, P.(2006): *International Review of Business Research paper* 5,2,10, 17 – 1038

Keynes, M., (1936). The General Theory of employment, interest and money .London: Macmillan .

Kieschnick, R., LaPlante, M and Moussawi, R. (2008). Working capital management, agency costs, and firm value, Macmillan publishers, USA., pp: 550-644.

Kimani, F, N (2009): The relationship between firm's profitability and its size and book to market value: Evidence from the NSE

Krishman, J.E., (1969) Principles of investment, MC Graw-Hill.

Largay, J. and C. Stickney. (1980). Cash flows, ratio analysis and the W.T. Grant Company bankruptcy. Financial Analyst Journal , 36(4), 51 -54.

Lazaridis I and D Tryfonidis (2006). Relationship between Working Capital Management and Profitability of Listed Companies in the Athens Stock Exchange. Journal of Financial Management and Analysis 19 (1): 26-35.

Maina, Z.N. (2009). Evaluation factors that determine financial sustainability at Kenya Association of Manufacturers MBA Management Project, University of Nairobi. . Unpublished

McMahon, R., Stanger, A. (1995), "Understanding the small enterprise financial objective function", Entrepreneurship Theory and Practice, Vol. 19 pp.4.

Meigs, R.F., Williams, J.R. & Bettner, M.S., (1999). Accounting- The basis for Business Decision. 11th ed. United States of America: Irwin McGraw-Hill

Michna, A. (2007), "Dimensions of organizational learning and linking them with SME performance", paper presented at the 30th ISBE Conference, International Entrepreneurship, Glasgow, 7-9 November,

Moss, J. D. and Stine, B., 1993. "Cash conversion cycle and firm size: a study of retail firms", *Managerial Finance*, Vol. 19 No. 8, pp. 25-34.

Moyer RC, JR McGuigan and WJ Kretlow (2005). *Contemporary Financial Management* (10th Edition). New York: South-Western College Publication.

Murphy .K (2005). "Increasing returns durables and economic fluctuations," *Journal of financial Economics*.

Mwangi P.K., (2010), The relationship between working capital management and the systematic risk of companies quoted at the NSE, Unpublished MBA project, University of Nairobi.

Narware P. C. (2004). Working capital and profitability- an empirical analysis. *The Management Accountant*, Vol, 39 (6), pp 120-127.

Nganga, S.C. (2009). Relationship between Working Capital and Profitability of listed companies in the NSE., Unpublished MBA Project, University of Nairobi.

Nyakundi , M, (2003) A survey of working Capital Management among public companies in Kenya, Unpublished MBA Project University of Nairobi .

Ochieng, J.A, (2006). Relationship between working capital of firms listed in NSE and economic activities in Kenya . Unpublished MBA thesis university of Nairobi.

Padachi, K. (2006). Trends in working capital management and its impact on firms' performance: An analysis of Mauritian small manufacturing firms. *International Review of Business Research Papers*, Vol.2 No. 2, pp. 45 -58

Pandey, L., (1993): Financial Management, 6th Edition, Vikas Publishing House. New Delhi.

Poutziouris, P., Chittenden, F., Michaelas, N. (1999), The Financial Affairs of Private Companies: Research, Manchester Business School, Manchester,

Rao, R. K. S. (1989). Fundamentals of Financial Management, 3rd Ed. Macmillan publishers, pp 550-644

Raheman A, Nasr M, 2007. 'Working capital management and profitability – case of Pakistani Firms. International Review of Business Research Papers, 3: 279-296

Samiloglu, F and Domirgnes, K (2008) Risks and Returns. The international journal of Applied Economics and finance, 28 8961-8988

Sardakis, G., Mole, K., Hay, G. (2007), "Do liquidity constraints in the first year of trading reduce the likelihood of firm growth and survival? Evidence from England", paper presented at the 30th ISBE Conference, International Entrepreneurship, Glasgow, 7-9 November,

Sayaduzzaman M, (2006): The cost of long term Loan viz –viz short term loan.

Siddiquee, Moniruzzaman & Khan, Shaem Mahmud, (2009). Analyzing working capital performance: evidence from Dhaka stock exchange.

Smith, K (1980), Profitability versus Liquidity Tradeoffs in Working Capital Management, in Readings on the Management of Working Capital, West Publishing Company, St. Paul, New York.

Soenen, L. A. 1993. "Cash conversion cycle and corporate profitability", Journal of Cash Management, Vol 13 No 4 pp. 53-58.

Soenen, L...Shin, H.H (1998) Efficiency of Working Capital and corporate profitability "Financial practice & Education Vol.8 No.2, pp.37-45.

Tamari, M. (1980), The financial structure of the small firm: an international comparison of corporate accounts in the USA, France, UK, Israel and Japan, American Journal of Small Business, 4, p. 20 – 34.

Uyar, A. (2009). The relationship of cash conversion cycle with firm size and profitability: An empirical investigation in Turkey. International Research Journal of Finance and Economics, ISSN 1450-2887 Issue 24, Euro Journals Publishing, Inc.

Van vorne J.C (1995) Financial Management and policy 10th Edition , Prentice Hall of India private Ltd Page.

Weinraub H J and Visscher S (1998), "Industry Practice Relating to Aggressive Conservative Working Capital Policies", Journal of Financial and Strategic Decision, Vol. 11, No. 2, pp. 11-18

APPENDIX I

MANUFACTURING FIRMS LISTED AT THE NSE

Main Investment Market Segment

Industrial and Allied Sector

1. Athi River Mining co. Ltd

2. Bamburi Cement Ltd

3. BAT Ltd

4. Carbacid Investment

5. Crown Berger Ltd

6. E.A. Cables Ltd

7. E.A. Portland Ltd

8. EABL

9. Eveready E.A. Ltd

10. KenGen Ltd

11. KPLC Ltd

12. Mumias Ltd

13. Sameer Africa Ltd

14. Total Kenya Ltd

15. Unga Group Ltd

16. A Baumann & Co. ltd

17. Eaagads ltd

18. Kenya Orchards ltd

APPENDIX II:

Data Collection form

Name of the Company-----

Description	Year					
	2005	2006	2007	2008	2009	2010
Sales						
Total assets						
Fixedl assets						
Total receivables						
Trade payables						
Current assets						
Current liabilities						
Debt						
Total liabilities						
Equity						
Profit after tax						