EFFECTS OF WORKING CAPITAL MANAGEMENT ON PROFITABILITY OF SUGAR MANUFACTURING FIRMS IN KENYA

BY

CHEMIS KIPTOO PHILIP

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DECLARATION

This research project is my original work and has not been submitted for a degree award in any other University.

Sign_____ Date_____

CHEMIS KIPTOO PHILIP
D61/69565/2013

This is to certify that this research project has been submitted with my approval as the university supervisors,

Sign_____ Date_____

Dr. Duncan Elly Ochieng, PhD, CIFA
Department of Finance and Accounting,
School of Business, University of Nairobi

DEDICATION

I dedicate this study to my family and friends for their unending love, support and prayers.

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I wish to thank the Almighty God for his favour, mercy, provision and protection throughout this journey. Indeed, you appoint time for each and every success. Thank you for seeing me through

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LIST OF ABBREVIATIONS

2SLS	-	Two Stage Least Squares
ACP	-	Average Collection Period
APP	-	Average Payment Period
CCC	-	Cash Conversion Cycle
CR	-	Current Ratio
CS	-	Company Size
DR	-	Debt Ratio
DSL	-	Sugar Development Levy
EOQ	-	Economic Order Quantity
GOK	-	Government of Kenya
ITID	-	Inventory Turnover in Days
JIT	-	Just in Time
KESGA	-	Kenya Sugar Cane Growers Association
KESREF	-	Kenya Sugar Research Foundation
KSB	-	Kenya Sugar Board
MOA	-	Ministry of Agriculture
NWC	-	Net Working Capital
OLS	-	Ordinary Least Squares
ROA	-	Return on Assets
ROI	-	Return on Investment
SMEs	-	Small and Medium Size Enterprises
SUCAM	-	Sugar Campaign for Change
WC	-	Working Capital
WCM	-	Working Capital Management

ABSTRACT

Working capital management plays a vital role in the success of businesses because of its effect on profitability and liquidity. The purpose of this study is to examine the effect of working capital management variables including the Average collection period, Inventory turnover in days, Average payment period, Cash conversion cycle and Current ratio on the Net operating profitability of Sugar Manufacturing firms in Kenya. Debt ratio, size of the firm (measured in terms of natural logarithm of sales) and financial assets to total assets ratio have been used as control variables. The study used secondary data collected from 8 Sugar Manufacturing firms in Kenya covering the period from 2008-2013. Using Pearson's correlation and regression analysis, the study finds a significantly negative relationship between variables of the working capital management and profitability of Sugar Manufacturing firms in Kenya. It means that as the cash conversion cycle increases it will lead to decreasing profitability of the firm, and managers can create a positive value for the shareholders by reducing the cash conversion cycle to a possible minimum level. The study suggests that managers can create value for their shareholders by increasing their inventories to reasonable levels and also reducing accounts receivable period. It is further recommended that, scope for further research may be extended to the individual working capital components including cash, marketable securities and receivables.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Business entities exist for purposes of enhancing owners' investment value. Realization of this objective requires soberness in financial strategy and entrenchment of responsive adoption systems. As a result, a firm is required to maintain a balance between liquidity and profitability while conducting its day to day operations. Liquidity is a precondition to ensure that a firm is able to meet its short-term obligations and its continued flow can be guaranteed from a profitable venture (Gitman, 2005).

Working capital in accounting and financial statement analysis is defined as the firm's short-term or current assets and current liabilities. Net working capital represents the excess of current assets over current liabilities and is an indicator of the firm's ability to meet its short term financial obligations (Brealey & Myers, 2002). Effective working capital management consists of applying the methods which remove the risk and lack of ability in paying short term commitments in one side and prevent over investment in these assets in the other side by planning and controlling current assets and liabilities (Lazaridis & Tryfonidis, 2006).

The Working Capital Management of a firm in part affects its profitability. The ultimate objective of any firm is to maximize the profit. But, preserving liquidity of the firm is an important objective too. The problem is that increasing profits at the cost of liquidity can bring serious problems to the firm (Shin & Soenen, 1998). Therefore, there must be a trade- off between these two objectives of the firms. One objective should not be at cost

of the other because both have their importance. If we do not care about profit, we cannot survive for a longer period. On the other hand, if we do not care about liquidity, we may face the problem of insolvency or bankruptcy. For these reasons working capital management should be given proper consideration and will ultimately affect the profitability of the firm. Firms may have an optimal level of working capital that maximizes their value (Afza & Nazir, 2009). Working Capital Management has its effect on liquidity as well as on profitability of the firm. The study intends to analyze the relationship between different variables of working capital management including the Average collection period, Inventory turnover in days, Average payment period, Cash conversion cycle and the gross operating profit. Debt ratio, size of the firm (measured in terms of natural logarithm of sales) and sales growth will be used as control variables.

1.1.1 Firm Profitability

Profitability is the primary goal of all business ventures. Without profitability the business will not survive in the long run. So measuring current and past profitability and projecting future profitability is very important (Hofstrand, 2013). A company's profitability is the ability of a business to earn a profit. A profit is what is left of the revenue a business generates after it pays all expenses directly related to the generation of the revenue, such as producing a product, and other expenses related to the conduct of the business' activities. (Hofstrand, 2013)

Efficient utilization of the firm's resources and better management of receivables means that firms' management should find effective and efficient ways to deal with the cash available for the day-to-day operations in order to achieve the optimum impact. Good

working capital management leads to increased cash flows, and thus leads to lesser need on external financing therefore; the probability of default for the firm is reduced (Deloof, 2003)

A company's profitability is an essential measure to management as it is an outcome which has been achieved by an individual or a group of individuals in an organization related to its authority and responsibility, not against the law, and conforming to the morale and ethic. Such profitability is the function of the ability of an organization to gain and manage the economic resources in several different ways to develop competitive advantage (Hansen & Mowen, 2005).

1.1.2 Working Capital Management

WCM ensures that organizations have the ability to meet their short-term liabilities adequately and on time. This further makes it possible to curb the situation where firms have accumulated idle resources which may not generate any income or prevent unavailability of sufficient financial resources needed for meeting short-term financial obligations (Akoto, Awunyo & Angwor, 2103). Thus, this therefore explains why it is often argued that efficient WCM is very crucial in achieving the over-arching goal of the firm, which is shareholders value maximization. The importance of efficient WCM by Sugar manufacturing firms in Kenya cannot be over emphasized as this is extremely needed to boost profitability and increase expansion, which are pre-requisites in solving the country's unemployment issues and ensuring economic stability.

Working capital is regarded as the result of the time lag between the expenditure for the purchase of raw material and the collection for the sale of the finished goods. The way of managing working capital can have a significant impact on both the liquidity and profitability of the company (Shin & Soenen, 1998). The main purpose of any firm is to maximize profit. But, maintaining liquidity of the firm also is an important objective. The problem is that increasing profits at the cost of liquidity can bring serious problems to the firm. Thus, strategy of firm must maintain a balance between these two objectives of the firms. Dilemma in working capital management is to achieve desired tradeoff between liquidity and profitability (Smith, 1980; Raheman & Nasr, 2007).

1.1.3 Working Capital Management and Firm Profitability

Working capital management plays a significant role in improved profitability of firms. Firms can achieve optimal management of working capital by making the trade-off between profitability and liquidity. Working capital management is the ability to control effectively and efficiently the current assets and current liabilities in a manner that provides the firm with maximum return on its assets and minimizes payments for its liabilities (Raheman & Nasr, 2007).

Working capital management efficiency is vital especially for manufacturing firms, where a major part of assets is composed of current assets (Horne & Wachowitz, 2000). It directly affects the profitability and liquidity of firms (Raheman & Nasr, 2007). The profitability liquidity tradeoff is important because if working capital management is not given due considerations then the firms are likely to fail and face bankruptcy (Kargar & Bluementhal, 1994). The significance of working capital management efficiency is

irrefutable (Filbeck & Krueger, 2005). Working capital is known as life giving force for any economic unit and its management is considered among the most important function of corporate management. Every organization whether, profit oriented or not, irrespective of size and nature of business, requires necessary amount of working capital. Working capital is the most crucial factor for maintaining liquidity, survival, solvency and profitability of business (Mukhopadhyay, 2004).

Working capital management is one of the most important factors while making the liquidity and profitability comparisons among firms (Eljelly, 2004), involving the decision of the amount and composition of current assets and the financing of these assets. The greater the relative proportion of liquid assets, the lesser the risk of running out of cash, all other things being equal. All individual components of working capital including cash, marketable securities, account receivables and inventory management play a vital role in the performance of any firm.

1.1.4 Sugar Manufacturing Firms in Kenya

The sugar sub-sector is mainly concentrated in the western part of Kenya. These include the populous provinces of Nyanza, Western and parts of Rift valley. Potential also exists in the Eastern and Coastal belts (Sucam, 2003). Shortly after independence in 1963 the government set up Muhoroni (1966), previously East African Sugar Company Ltd in 1961; Chemelil (1968); Mumias (1973); Nzoia (1978); South Nyanza (1979). Miwani Sugar, started in 1922 as private investment, was taken over in 1970 by the regulator. Private investment include: West Kenya Sugar, Soin Sugar Company, Kibos Sugar and Allied Industries Ltd, Butali Sugar Company and Busia Sugar Company. Of the private investments only Butali and West Kenya are presently in operation, the rest are proposed

or at varying stages of construction. At present, both Miwani and Muhoroni are under receivership; only the latter is operational. According to Kenya Sugar Board (2005), the state stake holding in the industry is: Miwani Sugar (49%); Muhoroni (82.78%); Chemelil (97.64%); Nzoia (98.87%); South Nyanza (99.79%). The government has divested in Mumias and Miwani, currently retaining 20 percent in the former, also the sole firm presently listed at the Nairobi Stock Exchange. The large government ownership makes the industry prone to state and political interference (Sucam, 2003).

The government oversees the sub-sector principally through the Ministry of Agriculture (MoA) and the Kenya Sugar Board (KSB), the latter being made of representatives from the state, sugar companies, farmers' organization and general industry. The industry has over 150 smaller, artisanal competing for cane with the regular factories (Harding, 2005). Other related industries are: Agro-chemical and Food Company Limited started in the early 1980s with some government stake holding. This scenario has stimulated growth of rural infrastructure in feeder roads, transport services, spurring economic, educational, medical and other social services and the expansion of other rural facilities, all vital to western Kenya's economic well-being. Despite these investments, self-sufficiency in sugar has remained elusive over the years as consumption continues to outstrip supply. Total sugar production grew from 368,970 tonnes in 1981 to 520,404 tonnes in 2007. Domestic sugar consumption increased even faster, rising from 324,054 tonnes in 1981 to 741,190 tonnes in 2007(KSB Report, 2010).

The performance of the sugar industry has continued to be quite dismal. Kenya therefore continues to live off its legacy of being self-sufficient in terms of sugar production. According to sources from the Mumias Sugar Company, current production stands at 520,000 metric tonnes and consumption which has increased steadily over the last years at 740,000 leaving the country with a deficit of 220,000 metric tonnes. From the list of registered millers and jaggeries provided by the KSB, Muhoroni and Miwani Sugar Company are currently under receivership. Muhoroni Sugar has been under receivership for the last four years Ramisi Sugar Factory collapsed in 1988 was reviewed as KISCOL (Kwale International Sugar Company Limited). The sugar manufacturing companies also maintain nucleus estates to ensure there is enough supply of cane. Out growers scheme on the other hand covers individuals or private sugar–cane farmers. Despite the existence of nucleus estates, sugar companies still complain of sugar cane shortage a problem which has also contributed to the production gaps in the industry (KSB Report, 2010).

1.2 Research Problem

The efficient management of working capital is very vital for a business survival. This is premised on the fact that having too much capital signifies inefficiency where as too little cash in hand signifies that the survival of the business is shaky. Most business organizations do not hold the right amount of stocks, debtors and cash. Due to this reason the firm is unable to meet its maturing short term obligations and its upcoming operational needs. Lack of adequate working capital also means that a firm is unable to undertake expansion projects and increase its sales, therefore limiting the growth and profitability of the business (Oladipupo & Okafor, 2013).

Working capital management and management of sugar manufacturing firms in Kenya have been encountering cash constraints and WCM challenges such as failure to meet their operational needs i.e. failure to pay their workers salaries in time and other operational requirements and thus reduced productivity through strikes and go slows which generally affects firms performance and profitability (KSB Report, 2010). It is on these facts that the study intends to find possible road maps to addressing the effect of WCM challenges on profitability of sugar manufacturing firms in Kenya. Majority of sugar manufacturing firms in Kenya have exhibited dwindling returns as well as poor performance in the last several years. However, the extent to which working capital management affects profitability of these firms is not well known. It is on this premise that this study analysis the relationship between working capital management and the firm's operating profit (KSB Report, 2010).In this context, the objective of the current study is to provide empirical evidences about the effect of working capital management on profitability of Sugar manufacturing firms in Kenya for the 12 licensed sugar manufacturing companies in Kenya during the period 2009–2013.

Working capital management (WCM) is very important for a firm to continue to exist, because of its effects on a firm's profitability and risk, and consequently its value (Smith, 1980). Working capital Management directly affects the liquidity and profitability of a company (Rahman & Nasr, 2007). WCM is the day-to-day function of management of a firm. Efficient WCM is very vital for the long-term endurance of a business. Due to increase in cost of operations globally in current circumstances, management of working capital has become more important for a firm survival. WCM is the indispensable concern of all firms and it is very essential for all the firms to manage their working capital effectively.

Efficient management of working capital plays an important role of overall firm performance of Sugar manufacturing firms in Kenya in order to create shareholder value. Working capital is regarded as the result of the time lag between the expenditure for the purchase of raw material and the collection for the sale of the finished goods. The way of managing working capital can have a significant impact on both the liquidity and profitability of the company (Shin & Soenen, 1998). The main purpose of any firm is to maximize profit. But, maintaining liquidity of the firm also is an important objective. The problem is that increasing profits at the cost of liquidity can bring serious problems to the firm. Thus, a firm must maintain a balance between these two objectives of the firms. Dilemma in working capital management is to achieve desired tradeoff between liquidity and profitability (Smith, 1980; Raheman & Nasr, 2007). It is on this dilemma that the study intends to achieve the desired tradeoff between liquidity and profitability.

1.3 Objectives of the Study

1.3.1 General Objective

The general objective of the study was to examine the effect of working capital management on the profitability of sugar manufacturing firms in Kenya.

1.3.2 Specific Objectives

Specifically, the study sought to examine the relationship between:

1. Average collection period and profitability of Sugar manufacturing firms in Kenya
2. Inventories turnover in days and profitability of Sugar manufacturing firms in Kenya.
3. Average payment period and profitability of Sugar manufacturing firms in Kenya.
4. Cash conversion cycle and profitability of Sugar manufacturing firms in Kenya.

1.4 Significance of the Study

The study's findings will help the Sugar manufacturing firms in Kenya and other companies in general improve on their financial decision making so as to optimize the value of the shareholders and maintain a favorable trade- off between liquidity and profitability. The findings will also be of great benefit to future researchers in the field of working capital management in providing relevant literature in building up the course of study. It will also benefit other scholars and students of finance who may use the findings for academic purposes.

With working capital management playing a major role in financial stability of different firms, its efficient utilization is necessary in achieving the goals of financial stability. The study recommends ways through which working capital can be effectively utilized in financial decision making. This effective utilization in the long run will increase wealth of the shareholders.

The study findings will assist in policy formulation for the Sugar sector for operational efficiency; it is also a key pillar to achieving vision 2030 and generally helps managers to improve performance of the firm.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter discusses both the theoretical and empirical literature on the study's thematic areas. It presents a review of the literature on working capital management which eventually enhances the firms' profitability. Working capital management involves the management of the most liquid resources of the firm which includes cash and cash equivalents, inventories and Trade and other receivables with a view to enhance firms profitability

2.2 Theoretical Literature

Working capital management involves the relationship between a firms short term assets and its short term liabilities (Pandey, 2005).The goal of working capital management is to ensure that a firm is able to continue its operations and that it has sufficient ability to satisfy both maturing short term debt and upcoming operational expenses (Padachi, 2007). The management of working capital involves the management of inventories, accounts receivable and payable and cash. Working capital refers to current assets and in particular Cash, Debtors and Stocks (Manasseh, 2001).

2.2.1 Agency Theory

This is a relationship between principals and agents in business. It is concerned with solving problems that can exist in agency relationship such as shareholders and company executives. These problems arise when desires and goals of the principal and agent are in conflict and the principal is unable to verify what the agent is actually doing (Bruce et al., 2005).

According to Akoto, Awunyo-Vitor and Angmor (2013) analyzed the relationship between working capital management practices and profitability of listed manufacturing firms in Ghana. The study used data collected from annual reports of all the 13 listed manufacturing firms in Ghana covering the period from 2005-2009. Using panel data methodology and regression analysis, the study found significant negative relationship between Profitability and Accounts Receivable Days. However, the firms' Cash Conversion Cycle, Current Asset Ratio, Size, and Current Asset Turnover significantly positively influence profitability. The study suggests that managers can create value for their shareholders by creating incentives to reduce their accounts receivable to 30 days. It is further recommended that, enactments of local laws that protect indigenous firms and restrict the activities of importers are eminent to promote increase demand for locally manufactured goods both in the short and long runs in Ghana.

2.2.2 Risk Return Trade Off Theory

The theory assumes that every investor is rational and at a given level of risk they will accept only the largest expected return. That is, given two investments at the exact same level of risk, all other things being equal, every rational investor will invest in the one that offers the higher return. The risk-return tradeoff is pervasive throughout finance (Markowitz, 1990).

According to Almazari (2013) investigated the relationship between the working capital management (WCM) and the firms' profitability for the Saudi cement manufacturing companies. The sample included 8 (eight) Saudi cement manufacturing companies listed in the Saudi Stock Exchange for the period of 5 years from 2008-2012. Pearson Bivariate

correlation and regression analysis were used. The study results showed that Saudi cement industry's current ratio was the most important liquidity measure which effected profitability, therefore, the cement firms must set a trade-off between these two objectives so that, neither the liquidity nor profitability suffers. It was also found, as the size of a firm increases, profitability increased. Besides, when the debt financing increased, profitability declined. Linear regression tests confirmed a high degree of association between the working capital management and profitability.

2.3 Determinants of Firm Performance

Firm Performance is a set of financial and nonfinancial indicators which offer information on the degree of achievement of objectives and results Lebans & Euske (2006) after Kaplan & Norton, (1992). To define the concept of firm performance is necessary to know its elements characteristic to each area of responsibility. To report an organization's performance level, it is necessary to be able to quantify the results. There are a number of studies that have investigated various factors that have a critical role in the success of an organization. The key elements of the model are:

2.3.1 Competition

Competition is rivalry in which everyone tries to get what other sellers are seeking at the same time: sales, profit and market share by offering the best practicable combination of price quality and service. Where the market information flows freely, competition plays a regulatory function in balancing demand and supply (Porter, 1979). The main driver of competition is the number and capability of competitors in the market. Many competitors, offering undifferentiated products and services, will reduce market attractiveness.

Numerous studies have shown that financial indicators are most appropriate when the competitive environment is characterized by a low level of uncertainty, the foundations of the competition being less complex (Brownell, 1982; Govindarajan, 1984).

2.3.2 Customers

Customer (sometimes known as a client, buyer, or purchaser) is the recipient of a good, service, product, or idea, obtained from a seller, vendor, or supplier for a monetary or other valuable consideration (Juan, 1988)

The importance of customer orientation and its impact on firm performance has been highlighted in numerous studies. Brady et al. (2002) demonstrated that customer orientation is linked indirectly with organizational quality, customer satisfaction and performance of the organization. Another study that had the same objective belongs to Pinar et al. (2003). In this study, oriented toward Turkish companies, there were significant differences between firms characterized by a greater orientation towards customers and firms characterized by lower customer orientation. The first category of firms, showed noticeably higher performance than the latter.

2.3.3 Innovation and Development

Innovation is a new idea, more effective device or process. Innovation can be viewed as the application of better solutions that meet new requirements, in articulated needs, or existing market needs. This is accomplished through more effective products, processes, services, technologies, or ideas that are readily available to markets, governments and society. The term innovation can be defined as something original and more effective and, as a consequence, new, that "breaks into" the market or society (Drucker, 2005)

Kotler (2003) studied the relationship between innovation and performance, offering the example of Sony, a leader in innovation that has significantly increased market share by means of numerous new products to clients.

2.3.4 Corporate Governance

Gompers, Ishi and Metrick, (2003) demonstrated the existence of a positive relationship between the quality of corporate governance and firm performance. Brown and Caylor, (2009) have obtained similar results in their research which is an extension of the research carried out by Gompers et al. Drobetz et al. (2004) also identified a positive impact of corporate governance on the performance of German firms. In Japan, (Bauer et al. 2008) using the database provided by GMI, showed that companies with better governance are more efficient than companies with weaker governance by up to 15% annually.

2.4 Empirical Review

Padachi, (2006) examined the trends in working capital management and its impact on firms' profitability. The results proved that a high investment in inventories and receivables is associated with lower profitability. Further, he showed that inventory days and cash conversion cycle had positive relation with profitability. On the other hand, account receivables days and account payables days correlated negatively with profitability. In another study, Dong and tyh-tay-su (2010) documented a study to find out the relationship between working capital management and profitability. They considered gross operating profitability as a dependent variable and account receivable ratio in number of days, account payable ratio in number of days, inventory turnover ratio

in number of days, and cash conversion cycle as independent variables. Size of the firms, debt ratio and fixed assets to total assets are control variables. They found that there is a negative relationship between account receivable in number of days and inventory in number of days and profitability. But there is positive relationship between account payable in number of days and profitability.

The significance of working capital management efficiency is irrefutable. Business success heavily depends on the ability of the financial managers to effectively manage receivables, inventory, and payables (Filbeck and Krueger, 2005). Firms can decrease their financing costs and raise the funds available for expansion projects by minimizing the amount of investment tied up in current assets.

Mathuva (2010) in his study on the influence of working capital management on corporate profitability found that there exists a highly significant negative relationship between the time it takes for firms to collect cash from their customers and profitability. He explained that the more profitable firms take the shortest time to collect cash from the customers. The study further revealed that there exist a highly significant positive relationship between the inventory conversion period and profitability. It was explained that firms, which maintain sufficiently high inventory levels, reduce costs of possible interruptions in the production process and loss of business due to scarcity and products. Finally, the study established that there exists a highly significant positive significant positive relationship between the average payment period and profitability. He held that the longer a firm takes to pay its creditors, the more profitable it is. In this study, a sample of 30 firms listed on Nairobi Stock Exchange for the periods 1993 to 2008 was used. Both the ported OLS and the fixed effects regression models were used.

Garcia-Teruel and Martinez-Solano (2007) collected a panel of 8,872 small to medium-sized enterprises (SMEs) from Spain and tested the effects of working capital management on SME profitability using the panel data methodology. The results demonstrated that managers could create value by reducing their inventories and the number of days for which their accounts are outstanding.

Large inventory and a generous trade credit policy may lead to high sales. Larger inventory reduces the risk of a stock-out. Trade credit may stimulate sales because it allows customers to assess product quality before paying (Deloof & Jegers, 1996). Another component of working capital is accounts payable. Delaying payments to suppliers allows a firm to assess the quality of bought products, and can be an inexpensive and flexible source of financing for the firm. On the other hand, late payment of invoices can be very costly if the firm is offered a discount for early payment. Deloof (2003) established that most firms had a large amount of cash invested in working capital. It can therefore be expected that the way in which working capital is managed will have a significant impact on profitability of those firms. Using correlation and regression tests he found a significant negative relationship between gross operating income and the number of days accounts receivable, inventories and accounts payable of Belgian firms. On the basis of these results he suggested that managers could create value for their shareholders by reducing the number of days' accounts receivable and inventories to a reasonable minimum. The negative relationship between accounts payable and profitability is consistent with the view that less profitable firms wait longer to pay their bills.

Rahman and Mohamed (2007) studied the effect of different variables of working capital management including average collection period, inventory turnover in days, average payment period, cash conversion cycle, and current ratio on the net operating profitability of Pakistani firms. They found that as the cash conversion cycle increases, it leads to decreasing profitability of the firm and managers can create a positive value for the shareholders by reducing the cash conversion cycle to a possible minimum level.

Falope and Ajilore (2009) utilized panel data econometrics in a pooled regression, where time-series and cross-sectional observations were combined and estimated. They found a significant negative relationship between net operating profitability and the average collection period, inventory turnover in days, average payment period and cash conversion cycle for a sample of fifty Nigerian firms listed on the Nigerian Stock Exchange.

Christopher and Kamalevalli's (2011) study, the independent variables used were current ratio, quick ratio, inventory turnover ratio, working capital turnover ratio, debtor's turnover ratio, ratio of current asset to total asset, ratio of current asset to operating income, comprehensive liquidity index, net liquid balance size and leverage and growth while dependent variable (profitability) was measured in terms of return on investment (ROI). From multiple regression analysis, negative association with ROI was established in current ratio, cash turnover ratio, current asset to operating income and leverage. On the other hand, positive association with ROI is in quick ratio, debtor's turnover ratio, current asset to total asset and growth rate. In another study, Gameson (2007) analyzed impact of working capital management upon the performance of firms in Telecom

industry. The variables used were, days sales outstanding, number of days for payment to vendors, average days inventory held, cash conversion efficiency, revenue to total assets, revenue to total sales, etc. Findings revealed negative & insignificant

Raheman, Afza, Qayyum and Bodla (2010) analyzed the impact of working capital management on firm's performance in Pakistan for the period 1998 to 2007. For this purpose, balanced panel data of 204 manufacturing firms was used which are listed on Karachi Stock Exchange. The results indicate that the cash conversion cycle, net trade cycle and inventory turnover in days are significantly affecting the performance of the firms. They concluded that manufacturing firms were in general facing problems with their collection and payment policies. Moreover, financial leverage, sales growth and firm size also had significant effect on the firm's profitability. They study recommended that effective policies must be formulated for the individual components of working capital.

Eljelly (2004) elucidated that efficient liquidity management involves planning and controlling current assets and current liabilities in such a manner that eliminates the risk of inability to meet due short-term obligations and avoids excessive investment in these assets. The relation between profitability and liquidity was examined, as measured by current ratio and cash gap (cash conversion cycle) on a sample of joint stock companies in Saudi Arabia using correlation and regression analysis. The study found that the cash conversion cycle was of more importance as a measure of liquidity than the current ratio that affects profitability. The size variable was found to have significant effect on profitability at the industry level. Garcia-Teruel and Martinez-Solano (2007) also established that shortening the cash conversion cycle improves the firm's profitability.

Ghosh and Maji (2003) in their paper made an attempt to examine the efficiency of working capital management of the Indian cement companies during 1992 - 1993 to 2001 - 2002. For measuring the efficiency of working capital management, performance, utilization, and overall efficiency indices were calculated instead of using some common working capital management ratios. Setting industry norms as target efficiency levels of the individual firms, this paper also tested the speed of achieving that target level of efficiency by an individual firm during the period of study. Findings of the study indicated that the Indian Cement Industry as a whole did not perform remarkably well during this period.

In another study by Lyroudi and Lazaridis (2000), food industry in Greece was used to examine the cash conversion cycle as liquidity indicator of the firms and characteristics with its components variable and investigate the implication of C.C.C in terms of profitability. Indebtedness and firm's size indicate that there is a significant positive relationship between C.C.C and net profit margin but had no linear relationship with leverage ratios conversely the debt to equity ratio and a positive one with time interest earned ratio, and finally there is no difference between liquidity ratios of large and small firms.

A popular measure of Working Capital Management (WCM) is the cash conversion cycle, i.e. the time lag between the expenditure for the purchases of raw materials and the collection of sales of finished goods. The longer this time lag, the larger the investment in working capital (Deloof, 2003). A longer cash conversion cycle might increase profitability because it leads to higher sales. However, corporate profitability might also

decrease with the cash conversion cycle, if the costs of higher investment in working capital rise faster than the benefits of holding more inventories and/or granting more trade credit to customers. This discussion of the importance of working capital management, its different components and its effects on profitability leads us to the problem statement which the researcher will be analyzing.

Singh and Pandey (2008) had an attempt to study the working capital components and the impact of working capital management on profitability of Hindalco Industries Limited for period from 1990 to 2007. Results of the study showed that current ratio, liquid ratio, receivables turnover ratio and working capital to total assets ratio had statistically significant impact on the profitability of Hindalco Industries Limited.

Hayajneh (2011), did a study on the impact of working capital efficiency on profitability of Jordanian Manufacturing firms analyzed the panel data through descriptive statistics, Pearson correlation coefficients, ordinary least squares (OLS) and two stage least squares (2SLS) regressions model. The results of study found a negative significance relationship between profitability and the average receivable collection period, average conversion inventory period and average payment period, and also the cash conversion cycle which expresses the efficiency of working capital. This study revealed a positive significance between the size of the firm, growth of sales and current ratio from this side and profitability from other side. Finally, financial leverage correlated negatively with profitability.

Lazaridis and Tryfonidis (2006) have investigated relationship between working capital management and corporate profitability of listed companies in the Athens Stock Exchange. A sample of 131 listed companies for period of 2001-2004 was used to examine this relationship. The result from regression analysis indicated that there was a statistical significance between profitability, measured through gross operating profit, and the cash conversion cycle. From those results, they claimed that the managers could create value for shareholders by handling correctly the cash conversion cycle and keeping each different component to an optimum level.

Finally, Amarjit, Nahum and Neil (2010) studied the relationship between working capital management and profitability in the United States with 88 American firms listed on the New York Stock Exchange for a period of 3 years (2005 - 2007). Their study applied co-relational and non-experimental research design and measured the variables as; (independent) number of days account receivable, number of days account payables, cash conversion cycle; (dependent) gross operating profit; (control variables) firm size, financial debt ratio and fixed financial asset ratio. Their study indicated a negative relationship between profitability and average days of account receivable and a positive relationship between cash conversion cycle and profitability. Based on these findings, they suggest that managers can create value for their shareholders by reducing the debtor's collection period. Furthermore, less profitable firms will pursue a decrease of their debtors in an attempt to reduce their cash conversion cycle. Hence, they concluded that profitability can be enhanced if firms can efficiently manage their working capital.

In spite of the touted impact efficient working capital management may have on business profitability, not much has been done in the area of the provision of empirical evidence in support of the claims of working capital management on profitability performance of Kenyan companies. Given this paucity of empirical studies, it is hoped that this study will fill a gap and provide useful support for understanding the determinants of corporate performance in Kenya.

2.5 Summary and Research Gaps

Working capital management entails the management of the most liquid resources of a firm with a view to maintain the firm's liquidity, enhance profitability and promote business growth. Working capital management concentrates on the management of inventories, cash and cash equivalents and accounts receivable. The proper management of these items is critical to the success of an organization. The management of inventories is aimed at determining the optimal level of stocks an organization should hold. It ensures that the organization is holding the right quantity of inventories at the right time and in the right location. Proper management of inventories is meant to check on costs associated with holding incorrect quantity of stocks which includes damages to stocks, high capital tied up in stocks, stock holding costs and lost goodwill and profitability associated with being out of stocks.

The management of cash on the other hand is aimed at determining the optimal level of cash an organization should hold. This is to enable it to meet its day to day operating expenses, its short term financial obligations and ensure that funds are available for investments in expansion projects. The excess cash balances not immediately required for use are invested in income generating activities.

Accounts receivable management refers to the determination of the optimal level of debtors an organization should hold. It involves a cost benefit analysis of selling on credit. It involves evaluating the credit policies of an organization with a view to selecting and implementing a policy that yields the maximum benefit to a firm. A firm selling on credit terms increases it turnover therefore increases it profits, however there are costs associated with the credit sales. Debtor's management policy impacts on the firm's profitability, liquidity, growth and the level of operating and financial risk of an organization. A problem therefore arises as to what should be the optimal level of debtors and the credit policy that an organization should adopt in order to reap maximum benefits. Several studies do not provide clear-cut direction of the relationship between working capital and firm's profitability.

Further examination of these studies reveals that there is no empirical evidence on the working capital management and its impact on the firm profitability in the case of Sugar Manufacturing firms of Kenya. Therefore, the present study is an attempt to fill this gap and estimates the relationship between working capital management variables (Average Collection Period, Inventory Conversion Period, Average Payment Period and Cash Conversion Cycle) and firm profitability of Sugar manufacturing firms in Kenya

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the study methodology that was followed towards attainment of the objectives. Specifically, it outlined the research design, target population, data collection, research validity and reliability, and data analysis.

3.2 Research Design

The study adopted the descriptive research design. The study was concerned with the effects of working capital components on profitability. It aimed at identifying the impact of working capital components, that is, the Average collection period (ACP); Inventory turnover in days (ITID); Average payment period (APP) and Cash conversion cycle (CCC) on profitability. Descriptive research tries to determine the association of the subject matter with something else (Kothari, 2004).

The design enables the researcher to identify the relationship that exists between the independent variables and the dependent variable. Examining data for the study requires panel data analysis to find out the relationships that exists among the variables under study over a given period (Huang et. al, 2008).

3.3 Population of the Study

Population refers to all the members of a real or hypothetical set of people, events or objects to which we wish to generalize the results of our research. The population of this study comprised of 8 Sugar manufacturing firms in Kenya since they are entities operating under the Kenya Sugar Board directorate license, strict corporate governance regulations, making their financial and accounting disclosures largely reliable.

The data was obtained from document analysis of consolidated financial reports of years ending December: 2008, 2009, 2010, 2011, 2012 and 2013 of the companies. The use of the secondary data enabled the researcher to collect reliable information from the target population. These reports enabled the researcher to save time in data collection; they were cost effective and contained the required information.

3.4 Data Collection

To ensure comprehensive examination and inter-firm comparison, use of secondary data was adopted. The secondary data was ascertained from financial statements and inventory records with the aid of predesigned desk review checklist. Using secondary data was helpful in enhancing reliability of findings due to minimal inconsistencies.

3.5 Data Analysis and Presentation

The data collected was analyzed using multiple regression and correlation analysis to establish the relationship between the independent variables of working capital: ACP, APP, ITID and CCC and the dependent variable (Gross Operating Profit). According to Kothari (2004), regression analysis is concerned with the study of how one or more variables affect changes in another variable. To test the hypotheses of the study, the following model was used to analyze the relationship between the variables:

$$Y = a + \beta 1(X1) + \beta 2(CS) + \beta 3(CR) + \beta 4(DR) + e$$

Where:

a = Constant term for the independent variables

Y= Gross Operating Profit (Profitability)

X1= Variables (Average Collection Period, Inventory Turnover in Days, Average Payment Period, Cash Conversion Cycle)

CR = Current Ratio

CS = the size of the company

DR =Debt Ratio

e = the error term

β = Regression model coefficient

Control variables:

Liquidity (CR): The companies with more Liquidity have more profitability, so Liquidity variable will be used as control variable in order to make its effect on profitability neutral. Current ratio will be used as Liquidity criterion.

The Company Size (CS): The companies which have more sales naturally have more profitability too. So the company size variable will be used to control the effect of this. The company size is: *natural logarithm* (sale).

Debt Ratio (DR): used as proxy for Leverage and is calculated by dividing Total Debt by Total Assets:

Data consisted of 8 Sugar manufacturing firms in Kenya that had financial data available for the period 2009-2013. All data was hand collected from the annual reports of each firm.

The cash conversion cycle is the measure of working capital management, where it is measured as follows:

Cash Conversion Cycle = Stockholding Period + Debtors Collection Period – Creditors Payment Period

The components of cash conversion cycle are measured as follows:

Stockholding Period = Stock/Cost of Sales*365

Debtors Collection Period = Stock/Sales*365

Creditors Payment Period = Creditors/Cost of Sales*365

To analyze the effect of working capital management on profitability, we operationalized profitability as Return on Assets (ROA). ROA is defined as:

Return on Assets = Operating Profit/Total Asset

The control independent variables are the natural logarithm of sales, sales growth and debt ratio which are calculated as follows:

Natural Logarithm of Sales = Ln (Sales)

Sales Growth = (Salest – Salest-1)/Salest-1

Debt Ratio = Total Liabilities/Total Asset

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter shows findings of the study and discusses these findings in length. The study targeted eight Kenyan Sugar Manufacturing firms in Kenya for a period of six years from 2008 to 2013. Section 4.2 gives the descriptive statistics, section 4.3 provides the diagnostic statistics while section 4.4 is the chapter summary.

4.2 Descriptive Statistics

Descriptive analysis shows the average, and standard deviation of the different variables of interest in the study. It also presents the minimum and maximum values of the variables which help in getting a picture about the maximum and minimum values a variable can achieve.

Table 1 gives descriptive statistics for 8 Kenyan sugar companies for a period of six years from 2008 to 2013 and for a total 48 firms- year observations. . The table shows that the average value of net operating profitability (ROA) is 4.74% of total assets, and standard deviation is 13.05%. This figure means that the value of profitability can deviate from mean to both sides by 13.05%. The maximum and minimum values of net operating profitability are 25% and -24% respectively.

To check the liquidity of the companies, a traditional measure of liquidity (current ratio) was used. The average current ratio for Kenyan Sugar companies is 1.05 with a standard deviation of 0.68. The highest current ratio for a company in a particular year is 2.2 times and in the same way the minimum ratio for a company in a year is 0.04.

To check the debt financing and its relationship with the profitability the debt ratio (obtained by dividing the total debt of the company by the total assets) was used as a control variable. The results of descriptive statistics show that the average debt ratio for the Kenyan Sugar companies is 84% with a standard deviation of 109%. The maximum debt financing used by a company is 501% which is unusual but may be possible if the equity of the company is in negative. The minimum level of the debt ratio is 13%. The average collection period in days is 43 days with standard deviation 16 days. Minimum time taken by a company to collect cash from customers is 22 days while the maximum time for this goal is 81 days.

Table 4.1: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Return on Assets	48	-.24	.25	.0474	.13051
Current Ratio	48	.04	2.20	1.0450	.68043
Debt Ratio	48	.13	5.01	.8428	1.08603
Cash Conversion Cycle	48	-3077.23	5.81	-432.1513	927.82153
Inventory Turnover	48	32.63	99.69	56.2326	17.80051
Average Payment Period	48	89.05	1743.82	497.3386	471.21372
Average collection period	48	22.32	81.45	43.7982	16.95704
Company Size	48	13.06	16.58	14.7574	.96115
Valid N (listwise)	48				

Source: Research Data (2015)

To check the size of the firm and its relationship with profitability, natural logarithm of sales is used as a control variable. The mean value of log of sales is 14.75 while the standard deviation is 0.96. The maximum value of log of sales for a company in a year is 16.58 and the minimum is 13.06.

The cash conversion cycle used as a proxy to check the efficiency in managing working capital is on average -432 days and standard deviation is 927 days. Firms receive payment against sales after an average of 44 days and standard deviation is 16 days. Minimum time taken by a company to collect cash from receivables is 22 days while the maximum time for this purpose is 81 days. It takes an average 56 days to sell inventory with standard deviation of 17 days. Here, maximum time taken by a company is 99 days and minimum is 32 days. The companies wait an average 497 days to pay their purchases with standard deviation of 471 days. Here, minimum time taken by a company is 89 days and maximum time taken for this purpose is 1743 days, which is unusual.

4.3 Diagnostic Statistics – Test for normality and Colinearity

For diagnostic statistics two methods were used. At first, correlation was used to measure the degree of association between different variables under consideration. Pearson and Spearman correlations were calculated for all variables used in the study starting with the Pearson's correlation results.

4.4 Correlation Analysis

Pearson's Correlation analysis was used for data to see the relationship between variables such as those between working capital management and profitability. If efficient working capital management increases profitability, one should expect a negative relationship between the measures of working capital management and profitability variable. There is a negative relationship between gross profitability on the one hand and the measures of working capital management on the other hand.

The results of correlation analysis show a strong negative coefficient -0.586 between average collection period and return on assets, with a p value of 0.00, which is significant at p=0.05. It means that if average collection period decreases it will have a positive impact on profitability and it will increase. This finding implies that managers can improve profitability by reducing the credit period granted to their customers.

Correlation results among the payable turnover in days or average payment period also indicate the same trend. Here again, the coefficient is negative and highly significant. The coefficient is -0.669 and the p value is (0.000). It means that the less profitable firms wait longer to pay their bills.

The cash conversion cycle which is a comprehensive measure of working capital management also has a negative coefficient 0.644 and the p value is (0.00). It is significant at ά. = 1%. It means that if the firm is able to increase this time period known as cash conversion cycle, it can increase its profitability.

Current ratio is a traditional measure of checking liquidity of the firm. In this analysis the current ratio has a significant negative relationship with profitability (Return on Assets). The coefficient is 0.817 and p-value of (.000). The result is significant at ά. = 1%. It indicates that the two objectives of liquidity and profitability have positive relationships. So, the sugar companies need to increase liquidity to increase profitability.

A negative significant association exists between company size and profitability. The coefficient is -0.532; with p-value of (.000). The result is highly significant at ά. = 1%. It shows that as size of the firm increases, it will decrease its profitability.

Table 4.2: Correlations

			Company Size	Return on Assets	Current Ratio	Debt Ratio	Cash Conversion Cycle	Inventory Turnover	Average Payment Period	Average collection period
Spearman's rho	Company Size	Correlation Coefficient	1.000	-.532**	-.202	.318*	-.210	.147	.412**	.114
		Sig. (2-tailed)		.000	.168	.028	.152	.320	.004	.438
	Return on Assets	Correlation Coefficient	-.532**	1.000	.817**	-.870**	.644**	-.491**	-.669**	-.586**
		Sig. (2-tailed)	.000		.000	.000	.000	.000	.000	.000
	Current Ratio	Correlation Coefficient	-.202	.817**	1.000	-.914**	.636**	-.576**	-.561**	-.714**
		Sig. (2-tailed)	.168	.000		.000	.000	.000	.000	.000
	Debt Ratio	Correlation Coefficient	.318*	-.870**	-.914**	1.000	-.724**	.536**	.722**	.631**
		Sig. (2-tailed)	.028	.000	.000		.000	.000	.000	.000
	Cash Conversion Cycle	Correlation Coefficient	-.210	.644**	.636**	-.724**	1.000	-.023	-.233	-.154
		Sig. (2-tailed)	.152	.000	.000	.000		.877	.111	.295
	Inventory Turnover	Correlation Coefficient	.147	-.491**	-.576**	.536**	-.023	1.000	.710**	.961**
		Sig. (2-tailed)	.320	.000	.000	.000	.877		.000	.000
	Average Payment Period	Correlation Coefficient	.412**	-.669**	-.561**	.722**	-.233	.710**	1.000	.682**
		Sig. (2-tailed)	.004	.000	.000	.000	.111	.000		.000
	Average collection period	Correlation Coefficient	.114	-.586**	-.714**	.631**	-.154	.961**	.682**	1.000
		Sig. (2-tailed)	.438	.000	.000	.000	.295	.000	.000	

**. Correlation is significant at the 0.01 level (2-tailed).

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

Source: Research Data (2015)

A negative relationship between average payment period and profitability is consistent with the view that less profitable firms wait longer to pay their bills. In that case, profitability affects the account payables policy and vice versa. An alternative explanation for a negative relationship between the average payment period and profitability could be that the sugar companies wait too long to pay their accounts payable. Speeding up payments to suppliers might increase profitability because firms often receive a substantial discount for prompt payment.

The results of correlation analysis indicate that as far as Sugar manufacturing firms in Kenya are concerned, the working capital management very significantly and strongly affects their profitability.

4.5 Working Capital Management and Profitability

A shortcoming of Pearson correlations is that they do not allow identifying causes from consequences. Hence, regression analysis was used to investigate the impact of working capital management on corporate profitability. The determinants of corporate profitability are estimated with a fixed effects model. Fixed effects estimated assumes firm specific intercepts, which capture the effects of those variables that particular to each firm and that are constant over time.

The model used is:

$$Y = a + \beta 1(X1) + \beta 2(CS) + \beta 3(CR) + \beta 4(DR) + \varepsilon$$

Where:

Y: Return on assets (ROA)

a : a constant, the value of ROA when the independent variable are at zero

$b_{1\text{-}n:}$ is the regression coefficient or change induced in ROA by each of the variables

X1: Variables (Average Collection Period, Inventory Turnover in Days, Average Payment Period, Cash Conversion Cycle)

CS: the size of the company

CR = Current Ratio

DR =Debt Ratio

ε = the error term

All regression models were tested for multicollinearity. The variance inflation factor (VIF) or the tolerances of the explanatory variables is used to detect whether one predictor has a strong linear association with the remaining predictors. VIF measures how much the variance the regression coefficient is inflated by multicollinerity thus misleading inflates the standard errors. The largest VIF among all predictors is often used as an indicator of severe multicollinearity. Predictor with the highest variance inflation factor had 3.682, which totally indicates that there is absence of multicollinearity between the predictors in the regression models.

The b_0 is a constant, where the regression line intercepts the y axis; representing the amount of dependent ROA will be when all the independent variables are zero. In the equation b_0 is 0.576

From the data in table (3), our model is as follows:

ROA = 0.576 - 0.040CS + 0.084CR + 0.019DR+ 0.003IT – 0.004ACP

Table 4.3: Multiple Regression Analysis Results

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	.576	.146		3.955	.000					
	Company Size	-.040	.009	-.292	-4.310	.000	-.466	-.563	-.270	.860	1.162
	Current Ratio	.084	.025	.440	3.330	.002	.806	.466	.209	.225	1.441
	Debt Ratio	.019	.025	.161	.791	.434	-.719	.124	.050	.095	1.581
	Cash Conversion Cycle	6.287E-05	.000	.447	2.350	.024	.681	.348	.147	.109	2.185
	Inventory Turnover	.003	.003	.429	1.252	.218	-.376	.194	.079	.034	2.724
	Average Payment Period	-6.580E-05	.000	-.238	-3.032	.004	-.418	-.432	-.190	.641	1.559
	Average collection period	-.004	.003	-.492	-1.350	.185	-.459	-.209	-.085	.030	3.682

a. Dependent Variable: Return on Assets

Source: Research Data (2015)

The adjusted R^2, also called the coefficient of multiple determinations, is the percent of the variance in the dependent explained uniquely or jointly by the independent variables and is -81.5%. This means that 81.5% of the variance in return on assets is explained uniquely or jointly by the predictors. The F statistic is used to test significant of R. From result of SPSS, we see that the model is fit with F statistics 30.55 and p-value is 0.000. It is significant at p= 0.05. This concludes that the independent variables positively explain the variation in ROA. The Durbin-Watson statistics is a statistic that indicates the likelihood that the deviation values for the regression have a first order auto regression component. The value is 1.295 meaning there is no serial correlation.

Table 4.4: Regression Model Summary Statistics

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.918[a]	.842	.815	.05615	.842	30.555	7	40	.000	1.295

a. Predictors: (Constant), Average collection period, Company Size, Cash Conversion Cycle, Average Payment Period, Current Ratio, Debt Ratio, Inventory Turnover

b. Dependent Variable: Return on Assets

Source: Research Data (2015)

The findings of this study show that there is a positive relationship between working capital management and profitability in the sugar industry in Kenya.

WCM explained 84.2% (R2 = .842, F=30.555) Variation in change on the relational predictors and return on Assets

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a summary of the study and its findings, the conclusion and recommendations for future study. Its lays emphasis on the summary of the key findings, the relationship of WCM and profitability, and the conclusions are then drawn based on these findings and discussion.

5.2 Summary of Findings

Working capital management is highly important in firms as it is used to generate further returns for the stakeholders; however, it has attracted less attention of researchers and practitioners. When working capital is managed improperly, allocating more than enough of it will render management non-efficient and reduce the benefits of short term investments. On the other hand, if working capital is too low, the company may miss a lot of profitable investment opportunities or suffer short term liquidity crisis, leading to degradation of company credit, as it cannot respond effectively to temporary capital requirements. There may be various external and internal factors that may induce the firms to strike a balance between meeting unforeseen capital requirements and avoiding non-efficient management of working capital.

Most of the Kenyan sugar firms have large amounts of cash invested in working capital. It can therefore be expected that the way in which working capital is managed will have a significant impact on profitability of those firms. The study has found a positive relationship between net operating profitability and the predictors of study for the Kenya

sugar firms. These results suggest that managers can create value for their shareholders by reducing the average collection period to a reasonable period. The negative relationship between accounts payable and profitability is consistent with the view that less profitable firms wait longer to pay their bills.

On basis of the above analysis we may further conclude that these results can be further strengthened if the firms manage their working capital in more efficient ways. Management of working capital means management of current assets and current liabilities, and financing these current assets. If these firms properly manage their cash, accounts receivables and debts in a proper way, this will ultimately increase profitability of these companies.

5.3 Recommendations

The findings indicate that working capital management, particularly managing cash and account receivables is important for the purpose of increasing sales and decreasing operating costs. Working capital has an important role for value creation. It is particularly important for the purpose of increasing sales by managing trade receivables. Based on the findings, firms should focus on reducing the accounts receivable period.

The management can also create value for their shareholders by increasing their inventories to a reasonable level. Firms can also take long to pay their creditors in as far as they do not strain their relationship with the creditors.

Firms are capable of gaining sustainable competitive advantage by means of effective and efficient utilization of the resources of the organization through a careful reduction of the cash conversion cycle to its minimum. In so doing, profitability of the company is expected to increase.

5.4 Limitations of the Study

The aim of the study was to establish the relationship between WCM and profitability of Sugar Manufacturing firms in Kenya. However the study should be evaluated in light of the following limitations:

Firstly, the study covered relatively a short period of time. This was occasioned by constraints of data availability. Secondly, the study relied heavily on the financial statements and also on ratio analysis. There are inherent limitations of using financial statements. Thirdly, our case research is limited to the Kenya. Because of this limitation it is not possible to extend our findings and conclusions to situations in other developing countries. Similar research could be made in other countries in order to have the possibility of comparison.

The other limitation of the study was that four out of the twelve companies targeted by the study were not willing to provide the information required for the study. It was therefore not possible to obtain their consolidated financial reports for the period covered by the study, thus the findings of the study may not be generalized to these companies.

5.5 Suggestions for Further Research

There is much to be done about working capital in Kenya in future. The researcher suggests that further research be conducted on the same topic with different companies such as companies that are in other sectors such as education, agriculture, tourism among others.

Future research may also consider extending the number of years of the study. The scope for further research may be extended to the individual working capital components including cash, marketable securities, and receivables.

There is room for research on the effect of changes in the components of working capital on profitability. It would also be of interest to study the impact of information technology on working capital and subsequently on the profitability of firms. This study suggests that further research be conducted on the same topic extending the years of the sample.

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APPENDICES

APPENDIX I: LETTER OF INTRODUCTION

UNIVERSITY OF NAIROBI
SCHOOL OF BUSINESS
MBA PROGRAMME

Telephone: 020-2059162
Telegrams: "Varsity", Nairobi
Telex: 22095 Varsity

P.O. Box 30197
Nairobi, Kenya

DATE 05/10/2015

TO WHOM IT MAY CONCERN

The bearer of this letter CHEMIS PHILIP KIPTOO

Registration No D61/69565/2013

is a bona fide continuing student in the Master of Business Administration (MBA) degree program in this University.

He/she is required to submit as part of his/her coursework assessment a research project report on a management problem. We would like the students to do their projects on real problems affecting firms in Kenya. We would, therefore, appreciate your assistance to enable him/her collect data in your organization.

The results of the report will be used solely for academic purposes and a copy of the same will be availed to the interviewed organizations on request.

Thank you.

UNIVERSITY OF NAIROBI
SCHOOL OF BUSINESS
05 OCT 2015
P.O Box 30197 - 00100, NAIROBI

PATRICK NYABUTO
MBA ADMINISTRATOR
SCHOOL OF BUSINESS

APPENDIX II: DATA COLLECTION SHEET

SUGAR COMPANY ……..							
YEAR		2008	2009	2010	2011	2012	2013
NET PROFIT (SURPLUS)							
SALES							
COST OF SALES							
TOTAL ASSETS							
CURRENT ASSETS							
TOTAL LIABILITIES							
CURRENT LIABILITIES							
CREDITORS							
DEBTORS							
INVENTORY							

APPENDIX III: AVERAGE DATA

Current Ratio	Creditors	Debtors	Debt Ratio	Inventory	Stockholding Period	Debtors collection period	Creditors Payment Period	Cash Conversion Cycle	Inventory Turnover	Average Payment Period	
1.346	1838272.000	2603991.000	0.240	1086254.000	51.569	33.123	87.270	-2.578	51.569	152.260	
1.356	2509110.000	3262935.000	0.215	796096.000	34.480	24.642	108.674	-49.552	34.480	89.053	
1.999	2567492.000	3327244.000	0.177	955078.000	32.631	22.321	87.722	-32.769	32.631	104.772	
2.199	2024399.000	3863595.000	0.128	1191114.000	42.037	27.524	71.446	-1.884	42.037	112.526	
1.254	2928017.000	4584048.000	0.209	1676088.000	55.311	39.361	96.624	-1.953	55.311	133.457	
0.838	4844672.000	3765866.000	0.308	2463064.000	86.479	75.182	170.098	-8.437	86.479	238.728	
0.451	1241616.000	175253.000	0.721	568200.000	99.693	81.451	217.847	-36.702	99.693	1183.392	
0.950	950632.000	169070.000	0.685	413033.000	57.334	46.635	131.958	-27.990	57.334	891.684	
1.174	1038524.000	222349.000	0.675	498506.000	70.749	52.506	147.389	-24.134	70.749	818.329	
1.172	1025455.000	136556.000	0.515	529288.000	55.838	39.353	108.182	-12.991	55.838	1414.732	
1.601	1214645.000	135411.000	0.511	646939.000	60.654	40.781	113.879	-12.444	60.654	1743.822	
1.019	1265017.000	168282.000	0.525	520170.000	54.377	45.528	132.240	-32.336	54.377	1128.237	
0.053	22000000.000	300000.000	2.365	500000.000	62.931	57.031	2768.966	-2649.003	62.931	608.333	
0.052	23500000.000	350000.000	2.800	300000.000	37.759	33.182	2957.759	-2886.818	37.759	312.857	
0.052	25000000.000	310000.000	3.230	650000.000	79.083	65.903	3041.667	-2896.681	79.083	765.323	

0.052	26000000.000	320000.000	3.272	400000.000	48.667	37.436	3163.333	-3077.231	48.667	456.250	
0.047	25000000.000	390000.000	3.774	500000.000	57.031	48.026	2851.563	-2746.505	57.031	467.949	
0.040	24000000.000	400000.000	5.011	530000.000	60.453	50.908	2737.500	-2626.139	60.453	483.625	
0.192	3563072.136	262886.598	1.022	438144.330	62.931	57.031	511.767	-391.805	62.931	608.333	
0.217	3782597.832	306701.031	1.025	262886.598	37.759	33.182	543.298	-472.357	37.759	312.857	
0.197	4503990.348	271649.485	1.262	569587.629	79.083	65.903	625.348	-480.362	79.083	765.323	
0.197	4856103.252	280412.371	1.287	350515.464	48.667	37.436	674.237	-588.134	48.667	456.250	
0.186	5502627.936	341752.577	1.443	438144.330	57.031	48.026	716.252	-611.194	57.031	467.949	
0.175	5859649.692	350515.464	1.588	464432.990	60.453	50.908	762.724	-651.363	60.453	483.625	
1.346	245102.933	347198.800	0.240	144833.867	51.569	33.123	87.270	-2.578	51.569	152.260	
1.356	334548.000	435058.000	0.215	106146.133	34.480	24.642	108.674	-49.552	34.480	89.053	
1.999	342332.267	443632.533	0.177	127343.733	32.631	22.321	87.722	-32.769	32.631	104.772	
2.199	269919.867	515146.000	0.128	158815.200	42.037	27.524	71.446	-1.884	42.037	112.526	
1.254	522860.179	818580.000	0.209	299301.429	55.311	39.361	96.624	-1.953	55.311	133.457	
0.838	865120.000	672476.071	0.308	439832.857	86.479	75.182	170.098	-8.437	86.479	238.728	
1.346	91913.600	130199.550	0.240	54312.700	51.569	33.123	87.270	-2.578	51.569	152.260	
1.356	125455.500	163146.750	0.215	39804.800	34.480	24.642	108.674	-49.552	34.480	89.053	
1.999	128374.600	166362.200	0.177	47753.900	32.631	22.321	87.722	-32.769	32.631	104.772	
2.199	101219.950	193179.750	0.128	59555.700	42.037	27.524	71.446	-1.884	42.037	112.526	

1.254	156858.054	245574.000	0.209	89790.429	55.311	39.361	96.624	-1.953	55.311	133.457	
0.838	259536.000	201742.821	0.308	131949.857	86.479	75.182	170.098	-8.437	86.479	238.728	
1.346	82722.240	117179.595	0.240	48881.430	51.569	36.429	87.270	0.728	51.569	152.260	
1.356	112909.950	146832.075	0.215	35824.320	34.480	27.921	108.674	-46.273	34.480	89.053	
1.999	115537.140	149725.980	0.177	42978.510	32.631	23.310	87.722	-31.780	32.631	104.772	
2.199	91097.955	173861.775	0.128	53600.130	42.037	27.537	71.446	-1.872	42.037	112.526	
1.254	176465.310	276270.750	0.209	101014.232	55.311	47.126	96.624	5.813	55.311	133.457	
0.838	291978.000	226960.674	0.308	148443.589	86.479	76.048	170.098	-7.571	86.479	238.728	
0.451	1142286.720	161232.760	0.721	522744.000	99.693	81.451	217.847	-36.702	99.693	1183.392	
0.950	874581.440	155544.400	0.685	379990.360	57.334	46.635	131.958	-27.990	57.334	891.684	
1.174	955442.080	204561.080	0.675	458625.520	70.749	52.506	147.389	-24.134	70.749	818.329	
1.172	943418.600	125631.520	0.515	486944.960	55.838	39.353	108.182	-12.991	55.838	1414.732	
1.601	1117473.400	124578.120	0.511	595183.880	60.654	40.781	113.879	-12.444	60.654	1743.822	
1.019	1163815.640	154819.440	0.525	478556.400	54.377	45.528	132.240	-32.336	54.377	1128.237	