

**EFFECT OF WORKING CAPITAL MANAGEMENT ON FINANCIAL
PERFORMANCE OF SUGAR COMPANIES IN WESTERN KENYA**

BY

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DECLARATION

I declare that this research proposal has not been presented anywhere for any award and that all sources of information have been acknowledged by means of references.

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APPROVAL

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I wish to sincerely acknowledgment the assistance I have got from colleagues and SBE faculty members more especially my supervisor, Dr. David Oima. His encouragement, mentorship and support inspired me to reach this far. God bless you all.

DEDICATION

This project report is dedication to my family

ABSTRACT

Globally, studies on how various working capital elements impact on the firm's profitability have focussed on listed firms and small businesses. The performance of the Kenyan sugar companies has for a long time been wanting given that they heavily rely from the Government to bail them out. Analysis of the financial statements of the local sugar companies show that even for the few that have posted profits. Studies in the past have attributed the challenges to delay of disbursement of funding from the national government. Financial management literature show that working capital management practices drive firm's financial performance. However, prior studies focus on working capital management practices in developed countries but none has been done in the Kenya Sugar Sector yet the Kenya Sugar industry strategic plan (2010-2014) confirms that this sector is a major employer and contributor to the national economy. There is no known study that has related working capital management elements to financial performance in the sugar sub-sector. Therefore the purpose of this study is to investigate the effect of working capital management on financial performance of sugar companies in Western Kenya. Specifically, the study seeks to: determine the effect of the cash conversion cycle on financial performance, establish the effect of inventory turnover period on financial performance, determine the effect of accounts receivables period on financial performance and establish the effect of accounts payables period on financial performance of sugar firms in western region. The study will be guided by Baumol, Keynesian and cash conversion theories. Correlation research design will be adopted. The population will comprise all the 12 sugar firms for the period 2012-2016 yielding 72 firm year observations. Data will be collected from secondary sources. Data analysis will be done using Pearson's correlation and multiple regression analyses. Data will be presented using tables, graphs and charts. The research findings may be significant to sugar industry working capital management policy makers in designing appropriate working capital elements and strategies that maximize the firm's value. It will also provide new empirical evidence on the working capital management practices and financial performance of sugar firms and form a basis for future research in the area.

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LIST OF ABBRIVIATION

Y= is financial performance measured in terms of return on assets

X₁ = Cash conversion cycle

X₂ = Inventory turnover period

X₃ = Accounts receivable period

X₄ = Accounts payable period

β₀ =Y intercept in the equation

β₁ =measure of effect of cash conversion cycle on return on assets

β₂=measure of effect of inventory turnover period on return on assets

β₃ = measure of effect of accounts receivable on return on assets

β₄= measure of effect of accounts payable on return on assets

ε = error term.

i= sugar firms in the sample.

t= time period of the study.

OPARATION OF TERMS

H₀₁: Cash conversion cycle has no effect on financial performance of Sugar firms in Western Kenya.

H₀₂: Inventory turnover period has no effect on financial performance of sugar firms in Western Kenya.

H₀₃: Accounts receivable period has no effect on financial performance of sugar firms in Western Kenya.

H₀₄: Accounts payable period has no effect on financial performance of sugar firms in Western Kenya.

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CHAPTER ONE

INTRODUCTION

This section includes the background information, overview of the working capital management practices, statement of the problem, objectives, hypothesis, significance justification, the scope of limitations of the study and finally, definition of the key concepts.

1.1 Background of the Study

Financial performance is the measure of results of a firm's policies and operations in monetary terms. These results are reflected in the firm's return on asset, return on equity and return on investment. Investor words defines financial performance as the level of performance of a business over a specified period of time, expressed in terms of overall profits and losses during that time. Investor words, (www.investorwords.com). One cannot discuss financial performance without touching on profitability. Mudida and Ngene (2010), defines Profit as the positive gain from an investment or business operation after subtracting all expenses. Pandey (2006), defines profit as the difference between revenues and expenses over a period of time, usually one year.

This study will be anchored under two theories namely, Baumol theory and Keynesian theory of money. The objective of the Baumol theory is to determine the optimal target cash balance under the following assumptions; The firm is able to forecast its cash requirements with certainty and receive specific amounts at regular intervals, the firm's cash payments occur uniformly over a period of time, the opportunity cost of holding cash is also known and does not change over time. The Keynesian theory of money explains three reasons why liquidity is important to an organization. This will be discussed under the motives for holding money namely; the transaction motive, the precautionary motive and the speculative motive.

Evaluating financial performance of a business allows decision-makers to judge the results of business strategies and activities in objective monetary terms. Horn and Wachowicz (2008), defined financial performance as the level of performance of a business over a specified period of time, expressed in terms of overall profits and

losses during that time. Financial performance can be measured in terms of profitability, return on assets, return on equity and return on investment. Profitability refers to the potential of a venture to be financially successful (Ejjelly, 2004). Pandey (2006), defines profit as the difference between revenues and expenses over a period of time, usually one year. However, according to him, the definition of the term profit is ambiguous since it can be used to mean short or long term profit, profit before or after tax, total profits or profit per share, total operating profit or profit accruing to shareholders. In this study profit will be taken to mean total operating net profit after tax (NOPAT).

According to Mudida and Ngene (2010), Return on assets (ROA), measures the profitability of the firm as a whole in relation to total assets employed. This ratio measures the overall effectiveness of management in generating profits with its available assets. According to Horne and Wachowicz (2008), return on equity (ROE), is the measure of net profit or income after interest and taxes to ordinary equity or ordinary shares. This ratio measures the efficiency with which shareholders' investment has been used. According to Pandey (2006), Return on investment, (ROI), is a performance measure used to evaluate the efficiency of an investment or to compare the efficiency of a number of different investments. It measures the operating efficiency, which is measured by profit margin, asset use efficiency, which is measured by total asset turnover and financial leverage, which is measured by the equity multiplier.

Working Capital refers to current assets while net working capital refers to current assets less current liabilities. Net working capital is alternatively known as net current assets. Working capital management deals with the management of current assets and current liabilities (Pandey, 2008). Brigham *et al.*, 2001 has operationalized working capital management in terms of four elements namely, accounts payables, accounts receivables, cash conversion cycle and inventory conversion.

Prior studies (Mary, John and Laurie, 2010) show that cash conversion cycle contributes to profitability of manufacturing firms. Concisely, these studies review reveal diverse outcome where most of the studies used multiple regressions analysis

and the frequent proxy for profitability is ROA, while for cash conversion cycle components are identified as inventory days; account receivables days; and account payable days. While, some studies use descriptive research or quantitative approach to study organizational factors and financial performance (Reheman *et al.* 2010; Rezazadeh and Heidarian, 2010), Others (Rimo and Panbunyuen, 2010) employ panel methodology but focus on general working capital management practices using correlational research design. Therefore, the effect of cash conversion cycle on financial performance of sugar firms is unknown.

Literature (Panigrahi, 2013; Karadagli, 2012) identify inventory management practices as an important financial performance driver in manufacturing and SMEs. While, some studies focus on listed firms inventory management and profitability (Chariton *et al.*, 2012; Ali, 2011); others (Alipour, 2011; Attari and Raza, 2012) use comparative analysis and explanatory research design to study inventory management and performance of small businesses and textile firms using balanced panel but fail to focus on sugar firms using correlational research design. On the other hand (Abdulrasheed *et al.*, 2011) use exploratory approach to study inventory management practices of small businesses but no study yet on sugar firms in Kenya. Therefore, inventory management and financial performance of sugar firms has not been studied

Empirical evidence (Padachi, 2006) examines working capital components including inventory management and profitability of firms. Some studies (Falope and Ajilore, 2009; Raheman and Nasr, 2007) use balanced panel data to study quoted non-financial firms in developed economies. Others (Baveld, 2012; Gill *et al.*, 2010) study large firms on accounts receivables and profitability. On the contrary Laziridis and Tryfonidis, 2006; Mathuva, 2010; Sharma and Kumar, 2011 study listed companies but fail to focus on sugar firms. Hence, the effect of inventory management practices on financial performance of sugar firms has not been explored.

Prior studies (Reheman *et al.* 2010) shows that accounts payables contribute to performance of firms. While, some studies use descriptive research or quantitative approach to study company accounts payable characteristics (Rezazadeh and Heidarian, 2010), others (Rimo and Panbunyuen, 2010) employ panel methodology

but focus on general working capital management practices using correlational research design. Therefore, the effect of accounts payable on financial performance of sugar firms is unknown.

Agriculture in the Kenyan economy employs over 70% of the total labour force and contributes over 27.3% of the country's Gross Domestic Product (GDP) in 2014 making it one of the dominant sectors in the economy. This contribution mainly comes from tea, coffee, livestock rearing and horticulture. While sugar is not one of the leading agricultural products, its contribution to the economy remains significant as it directly and indirectly supports over 6 million Kenyans representing about 15% of the entire Kenyan population. Sugar is produced in four main sugar belts namely; Nyando, Western Kenya, South Nyanza and Coastal in twelve sugar factories on fairly flat regions. About 85% of the total cane supply is from small-scale growers whilst the remaining is from the nucleus estates of the sugar factories.

The Kenya sugar industry strategic plan (2010-2014) confirms that the Kenya sugar sector is a major employer and contributor to the national economy. The industry supports approximately 250,000 small-scale farmers who supply over 92 % of the cane milled by the sugar companies. Sugar firms play a significant role in Kenya's economy. They have generated employment to thousands of Kenyans. Corporate organizations in Kenya in which sugar firms are part of, contribute around 16.3% to GDP and employ 25 % of the labour force and this has remained largely unchanged since 2004 (Kenya Economic Development report, 2011). Sugar sub-sector is also among the largest employers in Kenya in addition to the tax opportunities it presents.

Sugarcane is one of the most important crops in the economy alongside tea, coffee, horticulture and maize. By far, the largest contribution of the sugarcane industry is its silent contribution to the fabric of communities and rural economies in the sugar belts. Farm households and rural businesses depend on the injection of cash derived from the industry. The survival of small towns and market places is also dependent on the incomes from the same. The industry is intricately weaved into the rural economies of most areas in western Kenya. Besides the socio-economic contributions, the industry

also provides raw materials for other industries such as biogases for power co-generation and molasses for a wide range of industrial products including Ethanol. Molasses is also a key ingredient in the manufacturing of various industrial products such as beverages, confectionery and pharmaceuticals (Kenya Economic Development report, 2011).

Sugar industry was chosen as a context of the since it has a great potential for impacting the overall economy of Kenya. It is one of the largest contributors to the agricultural Gross Domestic Product (GDP), (GOK, 2006). Secondly, with the substantial state holdings, the sub-sector is a key policy initiative area for the Government of Kenya. Thirdly, the sugar sub-sector is currently undergoing fundamental change occasioned by liberalization and deregulation in the operating environment, the business consequences of which are: increased competitors, saturation of key market segments, the downward price pressure, and consequent the lower levels of return on equity. In fact, there is an impending threat arising from the free trade Common Market for Eastern and Southern Africa (COMESA) arrangement which has hitherto shielded Kenya from regional competition.

There are twelve Sugar companies registered in Kenya namely; Mumias, Muhoroni, Chemelil, Miwani, Kibos, Sony, Trans Mara, Sukari, West Kenya, Butali, Soin, and Kwale International Sugar company (KSB Report, 2013). Apart from Trans Mara, Soin and Kwale international all are in the Western Kenya sugar belt i.e. these companies are highly concentrated in Western Kenya sugar belt. In recent years, Kenya's sugar industry has faced several challenges including trade liberalization under COMESA and WTO protocols, high costs of production compared to other Sugar producing countries in the region, the dilapidated state of some factories, poor governance and management, insufficient funding and inadequate research and extension services (KSI Report, 2012). These challenges have led to the development of a new national strategy for the industry which focuses on industry privatization.

1.2 Research Problem

Several studies have been conducted both locally and internationally on how various working capital elements impact on the firm's profitability. The performance of the

Kenyan sugar companies has for a long time been wanting given that they heavily rely from the Government to bail them out. Analysis of the financial statements of the local sugar companies show that even for the few that have posted profits, e.g. Mumias Sugar Company, Trans Nzoia Sugar Company Ltd and SonySugar company ltd, the debt equity ratios are still high meaning that they are highly geared. This situation forces them to satisfy their working capital needs through short term financing like bank overdrafts which are very costly in terms of interest payments. The upfront taxes, (Value Added Taxes, Sugar Development Levy and Corporate tax), escalating overhead costs and reduced production in the industry impacts negatively on the financial performance of these companies.

Financial management literature shows that working capital management practices drive firm's financial performance. However, prior studies focus on working capital management practices in developed countries but none has been done in the Kenya Sugar Sector yet the Kenya Sugar industry strategic plan (2010-2014) confirms that this sector is a major employer and contributor to the national economy. There is no known study that has related working capital management elements to financial performance in the sugar sub-sector.

1.3 Research Objective

The purpose of the study is to establish the effect of working capital management on financial performance of sugar companies in Western Kenya. Specifically, the study seeks to:

- (i) Determine the effect of the cash conversion cycle on financial performance of public owned sugar firms in western region
- (ii) Establish the effect of inventory turnover period on financial performance of public owned sugar firms in western region
- (iii) Determine the effect of accounts receivables period on financial performance of public owned sugar firms within western region
- (iv) Establish the effect of accounts payables period on financial performance of public owned sugar firms within western region

1.4 Research Hypotheses

The study will be guided by the following research hypotheses:

H₀₁: Cash conversion cycle has no effect on financial performance of Sugar firms in Western Kenya.

H₀₂: Inventory turnover period has no effect on financial performance of sugar firms in Western Kenya.

H₀₃: Accounts receivable period has no effect on financial performance of sugar firms in Western Kenya.

H₀₄: Accounts payable period has no effect on financial performance of sugar firms in Western Kenya.

1.5 Justification of the Study

Previous studies have been conducted on effective working capital management in firms but no research has been done on the effect of working capital management on the financial performance of sugar companies in Western Kenya sugar belt. In view of the fact that agricultural sector is the greatest contributor towards the country's growth in GDP and the sugar industry is part of it, this study shall be of great benefit to various stakeholders. This study is expected to increase the body of knowledge to the scholars of sugar industry especially on matters of maintaining optimal working capital and the effect it has on the financial performance within the industry.

The management and shareholders in the sugar industry in Kenya will obtain guidance on the optimal level of working capital that will in turn boost their firm's financial performance. The Government can use the findings of this study to understand the factors that impact on financial performance of various sugar companies in Kenya.

1.6. Scope of the Study

In terms of the subject scope, this study is limited to the broad business fields of financial management and business performance. In terms of conceptual scope, this study looks at how working capital management affects financial performance of sugar firms. Western Kenya is the area or geographical scope of scope in this study. In

terms of time scope, this study will be a panel study and data will be collected at a point in time and across units of study.

1.7 Conceptual Framework

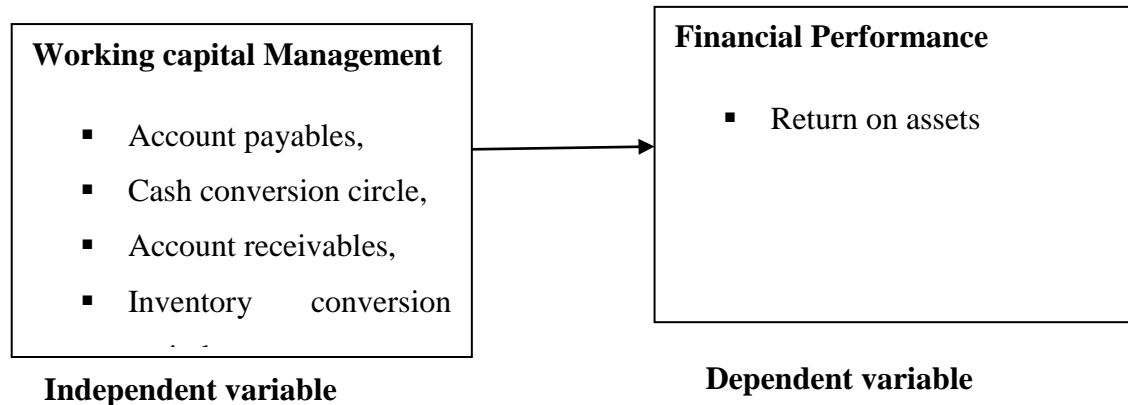


Figure 1.1: Working Capital Management and Financial Performance Relationship

Source: Biwot, 2011

In the conceptual framework above, the independent variable is working capital management while dependent variable is financial performance. Working capital management which is indicated by accounts payables, accounts receivables, cash conversion cycle and inventory conversion is expected to have effect on financial performance which is surrogated by return on assets.

CHAPTER TWO

LITERATURE REVIEW

This section covers the review of all relevant theories, empirical studies and concepts on the subject and the research gaps.

2.1 Theoretical Literature

Some of the most important theories under working capital management are discussed as under;

2.1.1 Baumol Inventory Model Theory

Baumol (1952) developed the inventory model. This model is based on the economic order quantity (EOQ). The objective of this model is to determine the optimal target cash balance under the following assumptions: The firm is able to forecast its cash requirements with certainty and receive a specific amount at regular intervals, the firm's 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 transaction costs whenever it converts securities to cash. The assumption of no cash receipts during the projected period is a major limitation of this model.

2.1.2 Keynesian Theory of Money

Keynes (1936), in his great work: "The general theory of employment, interest and money", identified 3 reasons why liquidity is important, these are the transaction motive, the precautionary motive, and the speculative motive.

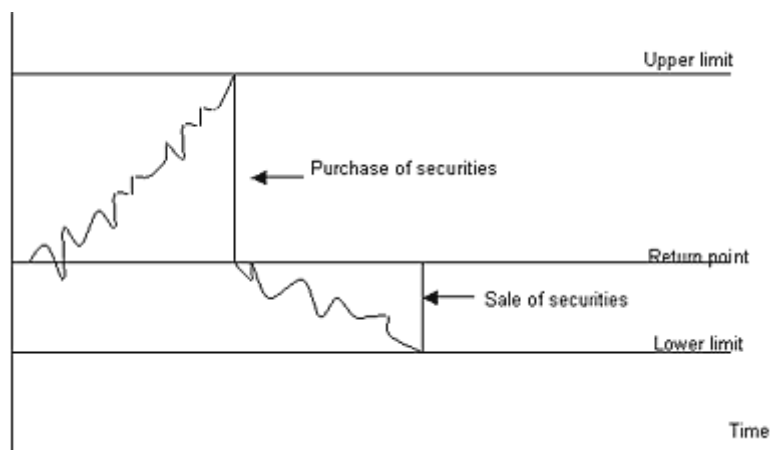
The transaction motive is the need to have cash on hand to pay bills. Transaction related needs come from collection activities of the firm. The disbursement of cash includes the payment of wages and salaries, trade debts, taxes and dividends.

The precautionary motive is the need for a safety supply to act as a financial reserve. It's noteworthy that there is precautionary motive for liquidity. However, given that the value of money market instruments is relatively certain and that instruments such as treasury bills are extremely liquid, there is no real need to hold substantial amount of cash for precautionary purpose.

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 borrowing ability and marketable securities can be used to satisfy speculative motives.

2.1.3 Miller and Orr's cash management Model

Miller and Orr (1966) came up with another model of cash management. As per the Miller and Orr's model of cash Management the companies let their cash balance move within two limits the upper limit and the lower limit. The companies buy and sell the marketable securities only if the cash balance is equal to any one of these. The model rectified some of the deficiencies of the Baumol model by accommodating a fluctuating cash flow situation stream that can either be inflow or outflow. The Miller-Orr's model has an upper limit and lower limit as shown in the diagram below:



When the cash balance of a company touches the upper limit, it purchases a certain number of saleable securities that helps them to come back to the desired level. If the cash balance of the company reaches the lower level then the company trades its saleable securities and gathers enough cash to fix the problem.

It is normally assumed in such cases that the average value of the distribution of net cash flow is zero. It is understood that the distribution of net cash flows has a standard deviation. The miller and Orr's model of cash management also assumes that distribution of cash flow is normal. The Miller and Orr's cash management model is widely used by most business entities.

2.1.4. The Cash Conversion Cycle

The cash conversion cycle was proposed by Richards and Laughlin (1980) and refers to the time lag between expenditure of raw materials and the collection of sales of

finished goods. The length of the CCC is the sum of inventory conversion period, receivable conversion period. The inventory conversion period is the total time needed for producing and selling the product and basically includes the raw material conversion period, the work in progress conversion period and the finished goods conversion period.

The debtor conversion period is the time required to collect outstanding amount from the customers. The total of the inventory conversion period and debtor's conversion period is referred to as the gross operating cycle. The difference between gross operating cycle and the creditor's deferral period is the net operating cycle.

2.1.5 The Concept of Working capital management

Working Capital is considered as the lifeblood and nerve center of any business. In the present day modern industrial world, the term Working Capital refers to the short term funds required for financing the entire duration of the operating cycle of a business known as "Accounting Year". It is a trading capital not retained in the business in a particular form for more than a year. This is used for carrying out the routine or regular business operations consisting of purchase of raw materials, payment of direct and indirect expenses, carrying out production, investment in stock, etc. In short it represents the fund by which the day-to-day business is carried on.

Working Capital refers to that part of the firm's capital, which is required for financing short-term business requirements or Current Assets (CAs) such as Cash, marketable securities, debtors and inventories. Funds so invested in Current Assets keep revolving fast and are being constantly converted into Cash and this Cash turns out again in exchange for other Current Assets. Hence, it is also known as revolving or circulating or short-term capital.

2.1.6 The Concept of Financial Performance

Financial performance measurement is a subjective measure of how well a firm can use assets from its primary mode of business and generate revenues. This term is also used as a general measure of a firm's overall financial health over a given period of

time, and can be used to compare similar firms across the same industry or to compare industries or sectors in aggregation.

There are many different ways of measuring financial performance, but all measures should be taken in aggregation. Line items such as revenue from operations, operating income or cash flow from operations can be used, as well as total unit sales. Furthermore, the researcher may wish to look deeper into financial statements and seek out margin growth rates or any declining debt. Evaluating financial performance of a business allows decision makers to judge the results of business strategies and activities in objective monetary terms.

There are various ratios used to measure financial performance of a business namely the Asset ratios- The return on Assets (ROA), operating ratios- return on investment (ROI) and operating equity- Return on equity (ROE), (Ikhide, 2000).

Mudida and Ngene (2010), observed that return on assets measures the profitability of the firm as a whole in relation to total assets employed. It's computed by dividing net income by total assets. This ratio measures the overall effectiveness of management in generating profits with its available assets. The higher the firm's return on total assets the better. The effect of working capital management on financial performance of sugar companies in Western Kenya sugar belt will be analyzed through accounting measures of profitability:

ROA= Net Operating Income (NOPAT)

Book value of Total assets

Horne and Wachowicz (2008), observed that return on equity is the measure of net profit or income after interest and taxes to ordinary equity or shares. It's computed by dividing net income by common equity. This ratio measures the efficiency with which shareholders' investment has been used.

According to Pandey (2006), Return on investment is a performance measure used to evaluate the efficiency of an investment or to compare the efficiency of a number of

different investments. To calculate ROI, the benefit (return) of an investment is divided by the cost of the investment; the result is expressed as a percentage or a ratio. It measures operating efficiency, which is measured by profit margin, asset use efficiency, which is measured by total asset turnover and financial leverage, which is measured by the equity multiplier

2.2 Review of Empirical Studies

2.2.1 Cash Conversion Cycle and Financial Performance

Kamath (1989) tested empirically the hypothesis of conflicting signals between current and quick ratio analysis and cash conversion cycle analysis. He as well studied whether the net trade cycle is an excellent estimation of the cash conversion cycle in addition to the relationships between the three above liquidity measures and determinants of firm's profitability. Considering US big firms in six trade industries he found that both current and quick ratios are inversely related with the cash conversion cycle; current and quick ratios are positively correlated to the profitability; the net trade cycle gave similar result as the cash conversion cycle and; both cycles were discovered to be inversely related with the profitability determinants. He Conclude that every measure is capable of offering helpful information and ambiguous clues concerning the firm's liquidity position; he recommended the use of all the three procedures and attained good insight and efficiency of working capital management. However, the study did not cover sugar firms.

Mary, John and Laurie (2010) examined the effect of inventory on firms' profitability before and after two catastrophic supply chain disruptions of the September 11, 2001 terrorist attacks and Hurricane Katrina, with the objective of determining whether there is evidence that inventory has been used as a means of developing supply chain resiliency and the stability of any such relationship. Using separate three-year periods surrounding the disruptions, they applied univariate analysis to examine the macro-level effects on firms' profitability, selected growth measures, and inventory levels across manufacturers, wholesalers, and retailers. Utilizing regression models found the effect of inventory on firms' profitability and shows a significant decline for manufacturing in the post - September 11 period with no significant change in the post Katrina period.

Similarly Raheman, Afza, Qayyum and Bodla (2010), in their study on working capital management and corporate performance of Pakistani manufacturing sector, and using regression analytical tools, found significant negative relationship between profitability and each of inventory turnover and the cash conversion cycle. However, insignificant negative and positive relationships subsist between profitability and each of average collection and payment periods respectively.

Rezazadeh and Heidarian (2010) in their study investigated the effect of working capital management on the profitability of Iranian companies. For this purpose, samples of Iranian listed companies in Tehran Stock Exchange during the period 1997 to 2007 were studied and from these companies 1356 companies were collected and analyzed as data. The results show that management can create value for company by reducing the amount of inventory and the number of days in collection period. In addition, by making short the cash conversion cycle also can improve the profitability of the companies.

Rimo and Panbunyuen (2010) investigate the effect of company characteristics on the working capital management in Swedish listed companies by employing quantitative method. The sampled 40 companies in the large capital investment segment listed on NASDAQ OMX Stockholm Exchange with 2007 and 2008 financial data using regression analysis, their results indicate that there is a significant positive association between profitability and the cash conversion cycle. Considering the component of the cash conversion cycle, the regression result point out a significant positive relation between number of days inventory and profitability which is opposed to the studies of (Deloof, 2003; Raheman and Nasr, 2007; Samiloglu and Demirgunes, 2008; Lazaridis and Tryfonidis, 2006).

Wongthatsanekorn (2010) Study of Cash-to-Cash Cycle Management on Profitability of Private Hospital in Thailand by Regular and Panel Data Regression results show that only the independent variable payable deferral period (AP) is negatively related to Asset Turnover (AT) under the control variables. The rest of the independent variables statically reveal no relationship with AT. On the other hand, the results from panel data regression show that both receivable conversion period (AR), and AP are

negatively related with AT. They suggest that the listed firms in SET can increase corporate profitability by decreasing AR and AP.

Prior studies (Mary, John and Laurie, 2010) show that cash conversion cycle contributes to profitability of manufacturing firms. Concisely, these studies review reveal diverse outcome where most of the studies used multiple regressions analysis and the frequent proxy for profitability is ROA, while for cash conversion cycle components are identified as inventory days; account receivables days; and account payable days. While, some studies use descriptive research or quantitative approach to study organizational factors and financial performance (Reheman *et al.* 2010; Rezazadeh and Heidarian, 2010), Others (Rimo and Panbunyuen, 2010) employ panel methodology but focus on general working capital management practices using correlational research design. Therefore, the effect of cash conversion cycle on financial performance of sugar firms is unknown.

2.2.2 Inventory turnover Period and Financial Performance

Abdulrasheed, Khadijat, Sulu and Olanrewaju (2011) in Nigeria assessed inventory management in selected small businesses in Kwara State, Nigeria. Using a regression model to explain the effect of inventory value on performance proxy by profit over a period of ten years, the study revealed that a Naira change in stock would cause almost a Naira (92 Kobo) change in profitability of selected businesses. This result indicated a strong positive relationship between inventory and profitability of small businesses in Kwara State of Nigeria. They thus concluded that small businesses are likely to generate higher profit if an effective inventory management is put in place.

Ali (2011) explores the association between working capital management and the profitability of textile firms in Pakistan. Using balanced panel dataset covering 160 textile firms for the period 2000–2005 by means of estimate an ordinary least squares model and a fixed effect model. Return on assets is found to be significantly and negatively related to average days receivable, positively related to average days in inventory, and significantly and negatively related to average days payable. Also, return on assets has a significant positive correlation with the cash conversion cycle, which would suggest that a longer cash conversion cycle is more profitable in the textiles business.

Alipour (2011) in Iran studies the relationship between working capital management within time territory of 2001-2006 and sample 1063 out of 2628 companies using multiple regression and Pearson's correlation found a negative significant relation between number of days accounts receivable and profitability, a negative significant relation between Inventory turnover in days and profitability, a direct significant relation between number of day's accounts payables and profitability and there is a negative significant relation between cash conversion cycle and profitability.

Attari and Raza (2012) look into the association of the cash conversion cycle with the size and profitability of the firms in the four specific manufacturing sectors listed at Karachi Stock Exchange, 31 sample firms out of the total firms in the related sectors i.e. 143 covering the period of 2006-2010. The data analysis was conducted by using One-Way ANOVA and Pearson correlation techniques and found a negative correlation between CCC and profitability in terms of return on total assets.

Charitou, Elfani, and Lois (2012) empirically investigate the effect of working capital management on firm's financial performance in an emerging market. They used data set of firms listed in the Cyprus Stock Exchange for the period 1998-2007. Using multivariate regression analysis their results indicate that the cash conversion cycle and all its major components; namely, days in inventory, day's sales outstanding and creditors' payment period are associated with the firm's profitability. The results of this study should be of great importance to managers and major stakeholders, such as investors, creditors, and financial analysts, especially after the recent global financial crisis and the latest collapses of giant organizations worldwide.

Karadagli (2012) focuses on the effects of working capital management as measured by cash conversion cycle and net trade cycle on the firm performance for a sample of Turkish listed companies and searches for potential differences between the profitability effects of working capital management for the SMEs and for the bigger companies with an accompanying aim to examine whether net trade cycle can efficiently substitute for cash conversion cycle as a measure of working capital management employing the data for the period of 2002-2010 by using pooled panel

Regression analysis and finds that an increase in both the cash conversion cycle and the net trade cycle improves firm performance in terms of both the operating income and the stock market return for SMEs whereas for bigger companies a decrease in cash conversion cycle and net trade cycle is associated with enhanced profitability.

Napompech (2012) examined the effects of working capital management on profitability using regression analysis based on a panel sample of 255 companies listed on the Stock Exchange of Thailand from 2007 through 2009. The results revealed a negative relationship between the gross operating profits and inventory conversion period and the receivables collection period. Therefore, suggesting managers can increase the profitability of their firms by shortening the cash conversion cycle, inventory conversion period, and receivables collection period. However, they cannot increase profitability by lengthening the payables deferral period.

Majeed, Makki, Saleem, and Aziz (2013) examine the impact of Cash conversion cycle on the performance of Pakistani manufacturing firms. The study used the sample of 32 companies selected randomly from three manufacturing sectors i.e. chemical, automobiles and construction and material for the period of five years ranging from 2006 to 2010. The correlation and regression analyses were used and the study found that the average collection period of accounts receivables, inventory conversion period and Cash conversion cycle (CCC) have negative relationship with firm's performance. Regarding the average days of accounts payable, previous studies reported negative correlation of this variable and the profitability of the firm.

Panigrahi (2013) attempt to study in depth the inventory management practices of Indian cement companies and its impact on working capital efficiency for a sample of five top Indian cement companies over a period of ten years from 2001-2010. This study employs Regression analysis and found that there is a significant negative linear relationship between inventory conversion period and profitability.

Pouraghajan, Rekabdarkolaei, and Shafie (2013) investigate the effects of working capital management and capital structure on profitability and return on assets in Iran

by sampling listed automotive companies in the Tehran Stock Exchange covering 2006 to 2010 using regression analysis showed that inventory turnover and cash conversion cycle have significant and negative effect on the returns on assets.

Shah and Chaudhry (2013) attempt to investigate the relationship between Cash Conversion Cycle and Profitability in Pakistani textile sector using data from 20 listed firms in Karachi stock exchange for the period of 2001-2011 using the techniques of correlation coefficient and regression analysis have found a significant relationship between net operating profitability and the average collection period, average payment period and cash conversion cycle.

Takon (2013) investigate the impact of Cash Conversion Cycle on Return on Assets (ROA) of selected Nigerian 46 quoted firms for the period, 2000-2009. Multiple regression technique was used in analyzing the models for testing the hypothesis. The results showed that cash conversion cycle had a significant negative relationship with profitability (ROA). Based on the findings, the study recommends that firms try to always reduce the number of days in cash conversion cycle in order to increase profitability as to create value for shareholders.

Warnes (2013) examined the impact of working capital management on the profitability over the period of five years from 2007-2011 by utilizing the data of cement manufacturing firms listed at Karachi stock exchange (KSE). Multiple regression models are applied and the findings of the study validated a negative relationship between determinants of working capital management and profitability of cement manufacturing firms. Number of days inventory (DINV) significantly and positively impacted on Return on Asset (ROA). Cash conversion cycle (CCC) also has positive and significant impact on Return on Asset (ROA) that means reduction in cash conversion cycle (CCC) will lead to increase the profit of the firms. Return on Asset (ROA) regression model shows that Account payable in days (DAP) has significant and negative impact on Return on Asset (ROA) of the firms. Results suggest that by reducing the period of cash conversion cycle at a certain level, profitability of cement manufacturing firms can be increased.

Literature (Panigrahi, 2013; Karadagli, 2012) identify inventory management practices as an important financial performance driver in manufacturing and SMEs. While, some studies focus on listed firms inventory management and profitability (Chariton et al., 2012; Ali, 2011); others (Alipour, 2011; Attari and Raza, 2012) use comparative analysis and explanatory research design to study inventory management and performance of small businesses and textile firms using balanced panel but fail to focus on sugar firms using correlational research design. On the other hand (Abdulrasheed et al., 2011) use exploratory approach to study inventory management practices of small businesses but no study yet on sugar firms in Kenya. Therefore, inventory management and financial performance of sugar firms has not been studied.

2.2.3 Accounts Receivables Period and Financial Performance

Padachi (2006) in his study on relationship between working capital management and corporate profitability investigated a sample of 58 manufacturing firms, using panel data analysis for the period 1998-2003, using key variables of accounts receivable, inventories turnover, accounts payable days and cash conversion cycle, the regression result indicated that high investment in accounts receivable and inventories was associated with lower profitability.

A study by Lazaridis and Tryfonidis (2006) investigated the relationship between corporate profitability and working capital management using listed companies on the Athens Stock Exchange. They discovered a statistically significant relationship existed between profitability and the cash conversion cycle and concluded that business create profits for their companies by handling correctly and keeping each component of the cash conversion cycle (accounts receivable, accounts payable and inventory) to an optimal level.

Deloof (2003) as cited by (Abuzayed, 2012) in his study of 1009 large Belgian non-financial firms for the period 1992-1996 found that the way working capital is managed had a significant impact on the profitability of businesses. Deloof (2003) study used accounts receivable, accounts payable, inventories and the cash conversion cycle as a comprehensive measure of working capital management and found a significant negative relation between operating income and the number of days

accounts receivable, inventories and accounts payable. Deloof (2003) based on the study findings recommended that managers can increase corporate profitability by reducing the number of days accounts receivable and inventories turnover. The credit risk theory state that investors risk of loss, financial or otherwise, arise from a borrower who does not pay his or her dues as agreed in the contractual terms. Accounts receivable are credit in the provision of goods or services to a person or entity on agreed terms and conditions where payments are to be made later with or without interest. When the debtor does not pay on due date, the lender is exposed to credit risk which may in turn lead to default and bad debts (Nyunja, 2011).

Mathuva (2009) examined the influence of working capital management components on corporate profitability by using a sample of 30 listed firms on the Nairobi Stock Exchange for the period 1993-2008. The findings of the study were that there exists a highly significant negative relationship between the time it takes for firms to collect cash from their customers and a highly significant positive relationship between the period taken to convert inventories into sales.

Empirical evidence (Padachi, 2006) examines working capital components including inventory management and profitability of firms. Some studies (Falope and Ajilore, 2009; Raheman and Nasr, 2007) use balanced panel data to study quoted non-financial firms in developed economies. Others (Baveld, 2012; Gill et al., 2010) study large firms on accounts receivables and profitability. On the contrary Laziridis and Tryfonidis, 2006; Mathuva, 2010; Sharma and Kumar, 2011 study listed companies but fail to focus on sugar firms. Hence, the effect of inventory management practices on financial performance of sugar firms has not been explored.

2.2.4 Accounts Payables Period and Financial Performance

Grzegoz (2008) in his study a portfolio management approach in accounts receivable management, used portfolio management theory to determine the level of accounts receivable in a firm he paid out that there was an increase in level of accounts receivable in a firm increase both net working capital and cost of holding and managing account receivables.

Similarly Raheman, Afza, Qayyum and Bodla (2010), in their study on working capital management and corporate performance of Pakistani manufacturing sector, and using regression analytical tools, found significant negative relationship between profitability and each of inventory turnover and the cash conversion cycle. However, insignificant negative and positive relationships subsist between profitability and each of average collection and payment periods respectively.

Rezazadeh and Heidarian (2010) in their study investigated the effect of working capital management on the profitability of Iranian companies. For this purpose, samples of Iranian listed companies in Tehran Stock Exchange during the period 1997 to 2007 were studied and from these companies 1356 companies were collected and analyzed as data. The results show that management can create value for company by reducing the amount of inventory and the number of days in collection period. In addition, by making short the cash conversion cycle also can improve the profitability of the companies.

Rimo and Panbunyuen (2010) investigate the effect of company characteristics on the working capital management in Swedish listed companies by employing quantitative method. The sampled 40 companies in the large capital investment segment listed on NASDAQ OMX Stockholm Exchange with 2007 and 2008 financial data using regression analysis, their results indicate that there is a significant positive association between profitability and the cash conversion cycle. Considering the component of the cash conversion cycle, the regression result point out a significant positive relation between number of days inventory and profitability which is opposed to the studies of (Deloof, 2003; Raheman and Nasr, 2007; Samiloglu and Demirgunes, 2008; Lazaridis and Tryfonidis, 2006).

Wongthatsanekorn (2010) Study of Cash-to-Cash Cycle Management on Profitability of Private Hospital in Thailand by Regular and Panel Data Regression results show that only the independent variable payable deferral period (AP) is negatively related to Asset Turnover (AT) under the control variables. The rest of the independent variables statically reveal no relationship with AT. On the other hand, the results from panel data regression show that both receivable conversion period (AR), and AP are

negatively related with AT. They suggest that the listed firms in SET can increase corporate profitability by decreasing AR and AP.

Prior studies (Reheman *et al.* 2010;) show that accounts payables contribute to performance of firms. While, some studies use descriptive research or quantitative approach to study company accounts payable characteristics (Rezazadeh and Heidarian, 2010), Others (Rimo and Panbunyuen, 2010) employ panel methodology but focus on general working capital management practices using correlational research design. Therefore, the effect of accounts payable on financial performance of sugar firms is unknown.

CHAPTER ONE

RESEARCH METHODOLOGY

This section describes the methods and procedures used to address the objectives of the study. It discusses research design, population of the study, data collection and data analysis tools.

3.1 Research Design

The study will employ a correlation research design which involves relating two or more variables and allows predictions of outcomes based on causative relationships between the variables (Cooper and Schindler, 2003). According to Mugenda and Mugenda (2003), correlational research explores the relationship between variables, that is, the effect of one thing on another and more specifically, the effect of one variable on another. Mugenda and Mugenda (2003) contend that correlational research has the advantage of being relatively cheap and it is used for the current study so as to assess the relationships between study variables.

3.2 Study Area

The study will be on sugar firms in Western Kenya. The study will be conducted in Western Kenya; Kenya. This area is chosen since it is the main sugar belt zone and it is located 0.28 latitude and 34.75 longitudes and it is situated at elevation 1,563 meters above sea level. It covers an area of 7,400.4 km² with a total population of 4,334,202 (KNBS, 2009). It is bordering Uganda and it is on the west of Eastern Rift Valley.

3.3 Population of Study

The target population of study will be all sugar companies in western Kenya sugar belt who have been in existence for at least 5 years with a market share above 3%. The source of population will be the Kenya sugar board (KSB) where a list of all Companies will be found and the study period will be the last five financial years i.e. 2012-2016. Secondary data shall be collected from the financial statements of these sugar companies. The information obtained from the financial statements will be summarized using tables and the analysis will be done by quantitative approaches.

3.4 Data Collection

For the purpose of this study, secondary data will be the main source of data collection. Data on the profitability of the company as well as on the total number of current assets, total number of current liabilities, inventory levels and equity will be sourced from the company's audited financial statements for the years 2012 to 2016.

3.5 Data Analysis

To determine the working capital management practices adopted by the sugar companies and their effects on their financial performance, the data shall be analyzed through the use of multiple regression and correlation analyses.

3.5.1 Model Specification

In order to exhibit the effect of working capital management on financial performance, the estimation procedure used by Biwot (2011) will be adapted as:

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + e_{it} \quad (3.1)$$

Where:

Y = is financial performance measured in terms of return on assets

X₁ = Cash conversion cycle

X₂ = Inventory turnover period

X₃ = Accounts receivable period

X₄ = Accounts payable period

β₀ = Y intercept in the equation

β₁ = measure of effect of cash conversion cycle on return on assets

β₂ = measure of effect of inventory turnover period on return on assets

β₃ = measure of effect of accounts receivable on return on assets

β₄ = measure of effect of accounts payable on return on assets

ε = error term.

i = sugar firms in the sample.

t = time period of the study.

CHAPTER FOUR

RESULTS AND DISCUSSIONS

This chapter presents the finding of the study that has been analyzed using the descriptive statistics, and Pearson's correlation coefficient analysis.

4.1: Descriptive Statistics on the Working capital Elements

Descriptive statistics for the elements of working capital management namely stockholding period (SP), debtors' collection period (DP), and creditor's payment periods (CP) were computed and summarized in the Table 4.1.1.

Table 4.1.1: Summary of Descriptive Statistics for the Working Capital Management Elements

Working Capital Elements	N	Minimum	Maximum	Mean	Std. Deviation
Debtor's Collection Period(DP)	60	17	179	74.974	36.37
Creditor's Collection Period(CP)	60	11	565	107.817	86.543
Stock Holding Period(SP)	60	8	601	110.913	105.623
Valid N (Listwise)	60				

Source: Research data, 2017

As shown in the Table 4.1.1 above, the average debtor's collection period (DP) is 74.97 and the sugar firms on average take a minimum of 17 days to collect their receivables from the purchasers but take a maximum of 179 days to collect their receivables. In addition, the firms take about 8 days to sell their entire inventories, as minimum and 601 days as maximum. The mean days to sell the inventory are 110.913 with standard deviation of 105.623 days.

About the average payment period (CP), the sugar firms have a minimum time 11 days to pay its purchases on account and 565 days as a maximum time. It takes an average 107.817 days to pay its credit purchases. These findings are supported by the theoretical predictions by Warnes (2013) who argued that the length of the CCC is the sum of inventory conversion period, receivable conversion period. The inventory

conversion period is the total time needed for producing and selling the product and basically includes the raw material conversion period, the work in progress conversion period and the finished goods conversion period. The difference between gross operating cycle and the creditor's deferral period is the net operating cycle. Padachi, 2006 and Takon, 2013 suggested that cash conversion cycle management is important because of its effects on the firm's profitability and risk, and consequently its value and that the longer the time lag, the larger the investment in working capital.

4.2: The Association between stockholding period and performance of sugar firms

To address the specific objective number one, bivariate correlation analysis was conducted and the results are summarized in the Table 4.1.1 below.

Table 4.1.2: Bivariate Correlation Analysis on stock holding period and Performance of Sugar firms

	ROA	SP
ROA	1.00	-.596** (0.000)
SP		1.00

Source: Research data, 2017

As shown in the table 4.1.2 above, the stock holding period (SP) relates negatively with ROA with a coefficient ($r = -0.596$, $p = 0.000$) and is significant. This implies that if a firm decreases the length of time required to convert raw materials into finished goods it may enhance profits. The results of correlation analysis depicted and validated reject the null hypothesis (H_{01}), that stockholding period has no association with the performance of sugar firms in western Kenya. The results are consistent with previous studies for example Warnes, 2013 and Ali, 2010 who report a negative association between inventory holding period and performance of manufacturing firms. On the contrary, the findings are at variance with findings of Takon, 2013; Padachi, 2006 and Panigrahi, 2013 who document a positive relationship between stockholding period and profitability of firms.

4.3: The Association between debtors collection period and performance of Sugar firms

To address the specific objective number two, bivariate correlation analysis was conducted and the results are summarized in the Table 4.1.3 below.

Table 4.1.3: Bivariate Correlation Analysis on Debtors collection period and Performance of sugar firms

	ROA	DP
ROA	1.00	-.702** (0.000)
DP		1.00

Source: Research Data, 2017

The correlation between the debtors collection period (DP) and ROA is negative and significant with a coefficient $r = -0.702$ ($p = 0.000$). Holding other factors constant, it means that if a firm decreases the length of time between sales and collection, it will increase its profitability as measured in terms of ROA. The null hypothesis (H_{02}) that there is no association between debtors' collection period and performance of sugar firms in Western Kenya is therefore rejected. The results are in tandem with previous studies (Deloof, 2003 and Mathuva, 2009 used a sample of listed firms and found that a shorter debtors collection period would lead to a better firm's operating performance. On the other hand, the results are at variance with those of Padachi, 2006 who found that the firms can reduce value by reducing the days the debtors' collection period, thus leading to the reduction in profitability.

4.3: The Association between creditors' repayment period on performance of Sugar firms

To address the specific objective number three, bivariate correlation analysis was conducted and the results are summarized in the table 4.1.4 below.

Table 4.3.1: Bivariate Correlation Analysis on creditors' repayment period and Performance of sugar firms

	ROA	CP
ROA	1	0.68 (0.076)
CP		1

Source: Research Data, 2017

The relationship between the average payment period (CP) and ROA is positive and insignificant with a coefficient $r = 0.68$ ($p = 0.076$). It means, if the firm increases the length of time between purchase of goods and payments for the value of the goods, it will lead to an increase in profitability. The results of correlation analysis depicted and validated null hypothesis (H_{03}) that there is no relationship between creditors' repayment period and performance of sugar firms whose results indicate that the cash conversion cycle and all its major components; namely, days in inventory, days in sales outstanding and creditor's payment period are associated with the firm's profitability. The results are contradicted by the findings of Raheman *et al*, 2010 and Wongthatsanekorn, 2010 who report a negative association between creditors' collection period and performance.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

This chapter summarizes the findings of the analysis of the relationship between cash cycle management and firms' performance. The chapter also draws conclusions and gives recommendations based on the findings. It highlights the limitations of the study and makes suggestions for further research in future.

5.1 Summary of Findings

The first objective was to determine the association between stockholding period and performance of sugar firms in western Kenya. To address this objective, bivariate correlation analysis was conducted. The results revealed that the stock holding period (SP) relates negatively with ROA with a coefficient of 0.596 and is significant. This implies that if a firm decreases the length of time required to convert raw materials into finished goods it may enhance profits. However, the stock holding period relates positively with cash conversion cycle with a coefficient of 0.712 and is significant.

The second objective was to establish the association between creditors' repayment period on performance of sugar firms in western Kenya. To address this objective, bivariate correlation analysis was conducted. The findings of the study revealed that the association between the average payment period (CP) and ROA was positive and insignificant with a coefficient 0.68. This implies that, if a firm increases the length of time between purchase of goods and payments for the value of the goods, it will lead to an increase in profitability.

The last objective was to establish the association between debtors collection period on performance of sugar firms in western Kenya. To address this objective, bivariate correlation analysis was conducted. The study findings revealed that the correlation between the debtors collection period (DP) and ROA is negative and significant with a coefficient of - 0.702. Holding other factors constant, it means that if a firm decreases the length of time between sales and collection, it will increase its profitability as measured in terms of ROA.

5.2 Conclusion of the Study

Based on objective one, the study concludes that the decrease in the length of time required to convert raw materials into finished goods it may enhance profits. However, the stock holding period relates positively with cash conversion cycle with a coefficient of 0.712 and is significant.

Based on second objective the study concludes that if a firm increases the length of time between purchase of goods and payments for the value of the goods, it will lead to an increase in profitability.

Lastly, based on objective three, the study concludes that the association between debtors collection period on performance of sugar firms in western Kenya. To address this objective, bivariate correlation analysis was conducted. Holding other factors constant, it means that if a firm decreases the length of time between sales and collection, it will increase its profitability as measured in terms of ROA.

5.3 Recommendations of the Study

The study recommends that sugar firms in western Kenya should decrease in the length of time required to convert raw materials into finished goods it may enhance profits.

Based on second objective the study recommends that sugar firms in western Kenya should increase the length of time between purchase of goods and payments for the value of the goods, it will lead to an increase in profitability.

Lastly, based on objective three, the study recommends that sugar firms should continue reducing the length of time between sales and collection; it will increase its profitability as measured in terms of ROA.

5.4 Limitations of the Study

The analysis only covered the sugar firms in western Kenya. Further most of the sugar firms are mature and large and this may limit the fair findings that could have been found if the non- sugar firms including small and medium sized were not covered. The measures of firm's performance and working capital management

utilized in the study are historical. Since it relates to the past it may not have much meaning to managers and shareholders who are concerned about the current and the future.

There are many factors that affect firm's performance other than working capital management which were not utilized in the study. Because of time and financial constraints the study covered a short period of five years between 2012 and 2012. The results could be more meaningful if the period of study was relatively longer. The study relied on secondary data, which was not subjected to further tests of accuracy and reliability.

5.6 Suggestions for Further Research

The studies on working capital management and firms' performance have not been exhaustively done in Kenya. There are several measures of firm's performance such as Return on Equity and market based measures like the Tobin's Q and Marris ratio. Equally there are several measure of working capital management such as liquidity ratios. To have a broader understanding there is need to capture all these in future studies. More elaborate studies should be carried out to include non- sugar firms, small and medium sized and from different sectors and industries. Also comparative studies across countries, industries and sectors should be done.

The study covered a relatively short period of five years from 2012 to 2016. Similar studies should be carried out covering a relatively longer period. Many factors impact on the performance of a firm. Future studies incorporating factors such as employee motivation, employee skill pool, political risk, age of the firm should be carried out. To improve on the findings of the study the data used should be subjected to tests of accuracy and reliability.

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APPENDICES

APPENDIX I: LIST OF SUGAR COMPANIES REGISTERED IN KENYA

COMPANY	YEAR INCORPORATED
1. Butali Sugar Company Ltd	2005
2. Chemelil Sugar Company Ltd	1969
3. Kwale International Sugar Co. Ltd (Ramisi)	1981
4. Miwani Sugar Company Ltd	1927
5. Muhoroni Sugar Company Ltd	1968
6. Mumias Sugar Company Ltd	1973
7. Sony Sugar Company Ltd	1979
8. Soin Company Ltd	1999
9. Sukari Industries Ltd	2012
10. Trans Mara Sugar Company Ltd.	2012
11. Trans Nzoia Sugar Company Ltd	1978
12. West Kenya Company Ltd	1979

Source: KSB Report, (2014).

APPENDIX III: DATA COLLECTION FORM

Name of the Company.....

DESCRIPTION	2011	2012	2013	2014	2015
	SH “000”	SH “000”	SH “000”	SH “000”	SH “000”
Sales					
Total assets					
Non-current assets					
Total receivables					
Total Payables					
Current assets					
Current Liabilities					
Debts					
Total Liabilities					
Equity					
Net Income (NOPAT)					