ANALYSIS OF WORKING CAPITAL MANAGEMENT PRACTICES ON FINANCIAL PERFORMANCE OF PUBLIC OWNED SUGAR FIRMS IN WESTERN REGION, KENYA

BY

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ABSTRACT

Working capital is a financial metric which represents operating liquidity of entity. Working capital management being the administration of accounts receivables, accounts payables, inventory and cash, enables continued operation and provision of sufficient cash flow to satisfy both maturing short term debt and recurrent operational cost. This enhances business' capital security, investment and performance. Sugar factories employ close to 60% of western region's working population and accounts for about 15% of agricultural GDP contribution. It is a dominant employer and source of livelihoods for most households in the Western Kenya. Despite working capital management practices being part of these firms' financial management, the sugar firms have continued to register less than optimum performance level as evidenced by frequent call for financial intervention by the government. No study has been carried out in Kenya to analyze the effect of working capital management practices on financial performance public owned sugar firms in Kenya, this study therefore sought to analyze working capital management practices on financial performance of public owned sugar firms in western region. The specific objectives of the study were; to establish the effect of accounts receivable(ARP), determine the effect of accounts payables period(APP), analyze the effect of Cash Conversion Cycle(CCC) and examine the effect inventory turnover period (ITO) on financial performance(ROA) of public owned sugar firms. The study anchored on pecking order theory of financing. The study used cronbach Alpha to test for internal consistency of the variables and cronbach Alpha of 0.725 was established. The population of study comprised of the four public owned sugar firms within western Kenya. The study used secondary data consisting of working capital elements extracted from audited financial reports using data schedule for a period of 10 years between 2005 and 2014.The data was analyzed using correlation and regression (OLS) analysis method using SPSS software. The study established a negative and significant effect of APP($\beta = -0.129$, P=0.000); CCC ($\beta =-0.041$, p=0.037) while ITO was negative and insignificant ($\beta =0.131$, P=0.062).ARP had positive and insignificant effect ($\beta =0.030$,P=0.293) on Return on Assets (ROA) as a measure of financial performance; implying that a unit change in APP, CCC and ITO results into a negative effect on ROA while a unit change in ARP has a positive effect on ROA. R square value was established at 0.724, showing that independent variables had a higher effect on financial performance (ROA) hence the model was found suitable for the study. The result of this study generally support most of the findings of previous studies done on this subject matter, however there is need for a comparative study on both private and state owned sugar firms in western region, Kenya The results were useful to managers for decision making and for academic purpose.

CHAPTER ONE
INTRODUCTION

1.1 Introduction

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

1.2 Background of the Study

Working capital management is a key issue in financial decision making since its overall goal 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 which directly affects the liquidity and eventual profitability of the company. It focuses on maintaining efficient levels of both components of working capital, current assets and current liabilities, in respect to each other. Working capital management ensures a company has sufficient cash flow in order to meet its short-term debt obligations and operating expenses. (Pandey, 2010).

Efficient management of working capital ensures that a company has sufficient cash flow to meet its short term debt obligation and operating expenses .inadequate working capital leads the company to bankruptcy, on the other hand too much working capital results into wastage of cash and ultimately the decrease in profitability (Chakraborty, 2008). Working capital management is concerned with problem that arises in attempting to manage the current liabilities and current assets and the interrelationship that exists between them. The goal of working capital management is to manage a current asset in such a manner so that the satisfactory level should be maintained. Working capital management that aims at maintaining an optimal balance between each of the working capital components, that is, cash, receivables, inventory and payables must form the fundamental part of the any corporate strategy aimed at value creation. Management of working capital is a financial term that aims at maintaining a *Pareto Optimality* between the variables that constitute working capital components (Dumbu and Musingafi, 2010)

Financial Performance is a measure of the results of a firm's policies and operations in monetary terms. These results are reflected in the firm's return on investment, return on assets (ROA), shareholder value, accounting profitability and its components etc. Financial Performance of an entity refers to the subjective measure of how well a firm can use assets from its primary mode of business and generate revenues (Olweny, 2014). 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 to measure financial performance, but all measures should be taken in aggregation. One way of managers controlling the financial affairs of an organization is the use of ratios. Ratios are simply relationships between two financial balances or financial calculations which establish our references so that we can understand how well an entity is performing financially. Ratios also extend the traditional way of measuring financial performance; i.e. by relying on financial statements (Saliha, 2011).The current study intended use return on Asset (ROA) as proxy for financial performance which is given by the ratio between earnings after tax and total asset of a firm in a particular period.

The sugar firm is a major contributor to the agricultural sector which is the mainstay of the economy and supports livelihoods of at least 25% of Kenyan population. The subsector accounts for about 15% of agricultural GDP, contributes to 60% employment and source of livelihoods for most households in the Western Kenya comprising Nyanza, Rift valley and Western (Central Bureau of Statistics, 2004). The industry ensures for food security, improves rural lives and provides sustainable livelihoods for millions of Kenyans but it has also suffered heavy government intervention (Kenya Sugar Board, 2010). The Kenyan sugarcane industry is a major employer and contributor to the national economy. It is one of the most important crops alongside tea, coffee, horticulture and maize. The industry directly supports approximately 250,000 small-scale farmers who supply over 92% of the cane milled by the sugar companies. An estimated six million Kenyans derive their livelihoods directly or indirectly from the industry (Kenya Sugar Board, 2010).

While a company's prime objective is to maximize shareholders wealth and profitability, there is need to obtain a balance between liquidity and profitability in carrying out daily operations to ensure its smooth running and that it is able to meet its financial obligations as they fall due (Eljelly,2004). Despite employment of working capital management practices in public owned sugar companies in western Kenya, the company's financial performance have continued to fluctuate and therefore there is need for effective working capital management in order to ensure sustainable growth and development of sugar companies in western Kenya which will in turn boost the sector's profitability.

In endeavoring to maximize shareholders wealth, entities need sufficient earnings from their operations. Earning a steady amount of profit requires successful sales activity. The entities have to invest enough of available funds in current assets for the success of the sales activity. Current assets are required because sales do not get converted into cash instantaneously as there is always a time lag involved in the conversion of sales into cash. Thus, there is always a time gap between the sale of goods and receipt of cash (Satyanarayana, 2011). The significance of working capital is felt for this period in order to sustain the level of sales activity. The time lag varies with the nature of industry. From this therefore its evident that decisions on working capital affect both liquidity and profitability. Excess of investments in working capital may result in low profitability and lower investment may result in poor liquidity. As mentioned above, it's imperative that management finds a trade-off between liquidity and profitability to maximize shareholders wealth. To understand the impact of working capital on profitability, one needs to establish the relationship between the two.

Omesa, Maniagi, Musiega and Makori (2013) examined the relationships between Working Capital Management and Corporate Performance of manufacturing firms listed on the Nairobi securities exchange. A sample of 20 companies whose data for 5 years from 2007-2011 was selected. For analysis Principal components analysis (PCA) is used due to its simplicity and its capacity of extracting relevant information from confusing data sets. From the results using PAC and multiple regression, working capital proxies Cash Conversion Cycle (CCC), Average Collection Period (ACP) and control variables Current Liabilities (CLTA), Net Working Capital Turnover Ratio (NSCA) and Fixed

Financial Ratio (FATA) were significant at 95% confidence (p values are < 0.05) to performance as measured by Return on Equity (ROE). Further, ACP was found to be negatively related to ROE. A similar result was established in a study by Maradi, Salehi and Arianpoor (2012) who compared working capital management of two groups of listed companies in Tehran Stock Exchange (TSE), which comprised of chemical industry and medicine industry. In chemical industry, 34 companies and medicine industry, 30 companies were selected and information related to these companies was gathered over 10 years (2001-2010) and analyzed using OLS multiple regression. The results show that, in medicine industry compared to chemical industry, debt collection period negatively impacted net liquidity. Omesa et al in his study using principal component analysis established a negative relationship between accounts collection period and return on equity on manufacturing firms listed in Nairobi security exchange, this study therefore sought to establish the effect of accounts receivable period (ARP) on financial performance of public owned sugar firms within western Kenya region

Gul, Khan, Rehman, Khan and Khan (2013) investigated the influence of working capital management (WCM) on performance of small medium enterprises (SMEs) in Pakistan. The duration of the study was seven years from 2006 to 2012.The data used in this study was taken from SMEDA, Karachi Stock Exchange, tax offices, company itself and Bloom burgee business week. The dependent variable of the study was Return on Assets (ROA) which was used as a proxy for profitability. Independent variables were Number of Days Account Receivable (ACP), Number of Day's Inventory (INV), Cash Conversion Cycle (CCC) and Number of Days Account Payable (APP). In addition to these variables some other variables were used which included Firm Size (SIZE), Debit Ratio (DR) and Growth (GROWTH). Regression analysis was used to determine the relationship between WCM and performance of SMEs in Pakistan. Results indicated that APP had positive association with Profitability. This find were found to be in line Mathuvo 2010 that established a positive relationship between account payable period and profitability of manufacturing firms listed in Nairobi stock exchange. The current study therefore sought to investigate the effect of accounts payable period APP on financial performance of the public owned sugar firms in western region, Kenya.

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Nyabwanga, Ojera, Lumumba, Odondo and Otieno (2012) assessed the effect of working capital management practices on the financial performance of SSEs in Kisii South District. A sample of 113 SSEs comprising 72 trading and 41 manufacturing enterprises was used. Pearson's coefficients and multiple regression analysis techniques were used to analyze data. Consequently, the findings of the study were that, working capital management practices were low amongst SSEs as majority had not adopted formal working capital management routines and their financial performance was on a low average. The study revealed that SSE financial performance was positively related to efficiency of cash management (ECM). This was found to agree with a similar study carried by Garcia *et al* 2007 on SMEs in Ghana that established a positive effect of cash conversion cycle and profitability. However the significance of cash conversion cycle cannot be overstated in SMEs; hence the need to examine it across sectoral operations, the study therefore sought to analyses the effect of cash conversion cycle on financial performance of public owned sugar firms in western region, Kenya.

According to Pandey, 2010 he emphasizes on working capital management's great significance for all firms but it is very critical to sugar firms in western region. There is need for empirical study on the effect of working capital management practices on financial performance of public owned sugar industries in western region, a gap which the study intends to fill.

1.3 Statement of the Problem

The sugar industry is a major contributor to the agricultural sector especially the public owned sugar firms in western Kenya region, where Chemelil, Muhoroni, South Nyanza(SONY) and Mumias sugar factories are dominant players. As a mainstay of the economy which supports at least 25% of Kenyan population, the subsector accounts for about 15% of agricultural GDP, and is a dominant employer of approximately 60% of the region's population thereby serving as source of livelihood for most households in the Western Kenya region which comprises of Nyanza and Western regions counties. Working Capital Management practices are employed to improve collection and application of operational finance in a more productive or profitable manner. Despite employment of working management practices by the sugar firms in the agricultural sub sector, available information reveal continued less than optimum performance. Accounts

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Receivable being an indicator of volume of business and Accounts payable being a representation of operational obligations normally creates a balance in Cash Conversion capacity of an organization. However, the declining financial performances of the public sugar firms demonstrate a contrast or imbalance in the management and contributions of Accounts Receivables and Accounts Payables to Financial Performance of public sugar firms in western Kenya region. This situation requires intensive investigation on effect of working capital management practice son financial performance of public owned sugar industries in western region.

1.4 Objectives

The purpose of this study was to analyze the effect of working capital management practices on financial performance of public owned sugar firms in western region
The specific objectives were;

- To establish the effect of accounts receivable period on financial performance of public owned sugar firms within western region.
- To determine the effect accounts payable period on financial performance of public owned sugar firms within western region
- To analyze the effect of cash conversion cycle on financial performance of public owned sugar firms in western region
- To examine the effect of inventory turnover period on financial performance of public owned sugar firms in western region

1.5 Research Hypotheses

The following hypotheses were stated and tested for the study findings.

- H_{01}: There is no significant effect of accounts receivable period on financial performance of public owned sugar firms within western region.
- H_{02}: There is no significant effect of accounts payables period on financial performance of public owned sugar firms within western region
- H_{03}: There is no significant effect of cash conversion cycle on financial performance of public owned sugar firms in western region
- H_{04}: There is no significant effect of inventory turnover period on financial performance of public owned sugar firms in western region.
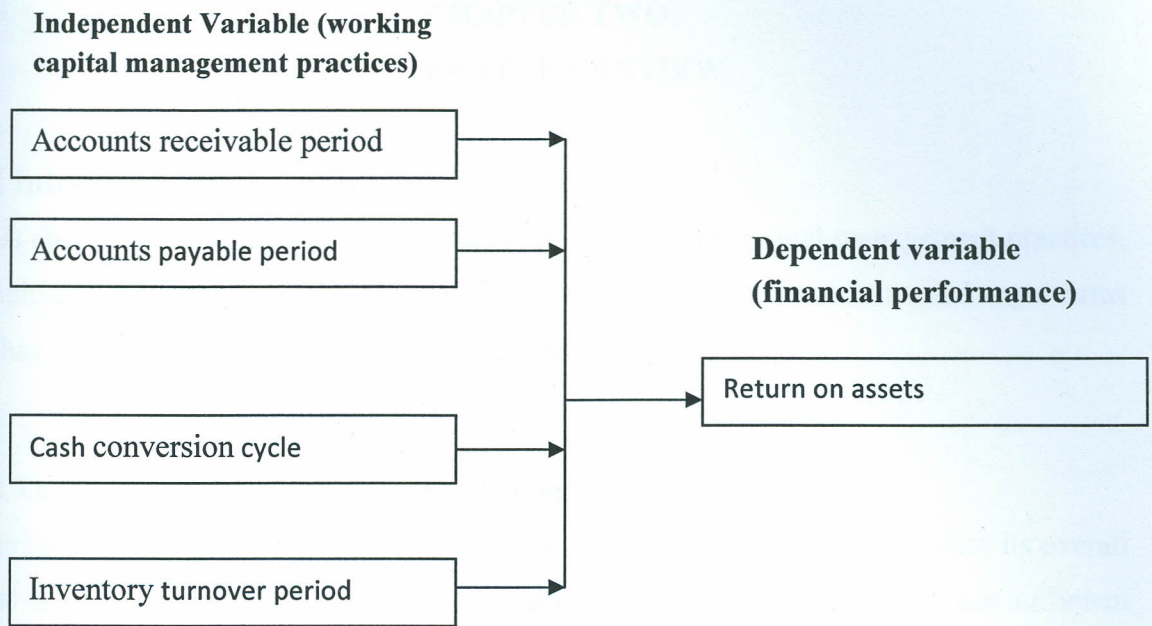
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1.6 Significance of the Study

It was hoped that the study would generate knowledge that would help financial managers in responsive and participatory planning and management As the Kenyan government seeks to fully privatize the sugar industry in readiness for competition with other sugar producing countries within the COMESA region, it is hoped that the findings of this study will be beneficial for managers as it gives them more insight when they make financial decisions, especially the decision on firm financial performance by using working capital management practices. It also gives the managers insights about how to create the firm value by employing efficient working capital management practices. Investors can also gain greatly from this research by obtaining some knowledge about how to assess a company's financial health by looking at the working capital management practices thus enabling them to make correct investment decisions. Finally, the findings of this study will benefit finance and accounting students as it will help them to have a much deeper understanding on how working capital management works and the impact of working capital management practices on firm's value in order to strike a balance between liquidity and financial performance of such firms and in making informed decisions. The findings of the study would also form a basis for further research on various aspects of working capital management practices.

1.7 Basic Assumptions of the Study.

The study assumed that working capital management practices affects financial performance of sugar firms. It was also assumed that participants in the study will be willing to participate freely and give honest opinion and that the audited financial statement will be up to date and that they will be made available in order to enable the study to archive its objective.

1.8 Conceptual Framework

Figure 1.1 below presents schematic conceptual framework of the relationship between working capital management practices and financial performance (ROA) of public owned sugar factories in western region, Kenya.

Independent Variable (working capital management practices)

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┌─────────────────────────────┐
│ Accounts receivable period  │ ─────────┐
└─────────────────────────────┘          │
                                         │
┌─────────────────────────────┐          │
│ Accounts payable period     │ ─────┐   │      **Dependent variable**
└─────────────────────────────┘      │   │      **(financial performance)**
                                     │   │
                                     │   │   ┌──────────────────────────────┐
                                     │   └──▶│ Return on assets             │
                                     │       └──────────────────────────────┘
┌─────────────────────────────┐      │
│ Cash conversion cycle       │ ─────┤
└─────────────────────────────┘      │
                                     │
┌─────────────────────────────┐      │
│ Inventory turnover period   │ ─────┘
└─────────────────────────────┘
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Source; Self-conceptualized framework

Fig.1.1: Effect of working capital management practices on Financial Performance

1.8.1 Dependent Variable

Gross operating profitability (GOP) that is a measure of profitability of firm is used as dependent variable. It is defined as sales minus cost of goods sold, and divided by total assets minus financial assets. The dependent variable profitability is measured by the return on capital employed (ROCE). According to Greeley (1995), ROCE also known as return on assets (ROA) has been found to give consistency between subjective and objective approaches to measuring performance.

1.8.2 Independent Variables

The independent variables in the study include accounts receivable period, accounts payable period, cash conversion cycle and the inventory turnover period.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This chapter provides a theoretical framework on working capital management practices, empirical study reviews and discusses the research gaps in the public owned sugar firms as has been understood and identified by the researcher.

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2.2 The Concept of Working Capital Management Practices.

Working capital management is a key issue in financial decision making since its overall goal 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 which directly affects the liquidity and eventual profitability of the company (Owiti, 2014).There are two concepts of working capital, gross and net. Gross working capital refers to the firm's investment in current assets. Current assets are assets which can be converted into cash within an accounting year and include cash, short term securities, debtors, bills receivables and stocks (Pandey, 2010). Working capital management refers to the administration of all components of working capital - cash, marketable securities, debtors, stock and creditors Pandey (2010), he emphasizes on working capital management having great significance for all firms but it is very critical for public owned sugar firms in western region

The concept of working capital management addresses companies managing of their short term capital and the goal of the management of working capital is to promote a satisfying liquidity, profitability and shareholders' value (Waithaka, 2013). It is the ability to control effectively and efficiently the current assets and current liabilities in a manner that provides the firm with return on its assets and maximize payment for its liabilities. Working capital management thus aims at maintaining an optimal balance between each of the working capital components, that, cash, receivables, inventory and payables must form the fundamental part of any corporate strategy aimed at value creation. Management of working capital is a financial term that aims at maintaining Pareto optimality between

the variables that constitutes working capital management components (Dumbu and Musingafi, 2010).

In any business, the ability to exploit every opportunity and to continually seek for more practical business tools and techniques that aims to improve the financial performance of a firm is of importance (Mathuva, 2010). Accounting reports will therefore provide different measures of a firm's financial performance like net income, return on asset or return on equity and although not all business activities are for profit, business needs resources to support all its activities. Good business practice dictates that business resources should be managed efficiently. Working capital, for most firms, constitutes a big part of their investment. 'Tying up cash in working capital is as much as an investment as is tying up cash in plant and equipment', Louderback et al, (2000). Business managers cannot therefore overlook working capital management and its effect on profitability of the firm. Working capital management is the administration of the whole aspects of both current assets and current liabilities Smith (1980).

Cash maintenance at acceptable levels is critical for the purposes of settling liabilities on maturity and using the investment opportunities that are indicative of the flexibility of the economic entity, thus the availability of material needed for production in order to enable the firm to meet the needs of its customers indicates the importance of working capital, previous research findings on working capital. Every business needs investment to procure fixed assets, which remain in use for a longer period. Money invested in these assets is called 'Long term Funds' or 'Fixed Capital' also needs funds for short-term purposes to finance current operations. Investment in short term assets like cash, inventories, debtors etc., is called 'Short-term Funds' or 'Working Capital'. The 'Working Capital' can be categorized, as funds needed for carrying out day-to-day operations of the business smoothly. The management of the working capital is equally important as the management of long-term financial investment. Every running business needs working capital Omesa *et al.* (2003).

Even a business which is fully equipped with all types of fixed assets required is bound to collapse without adequate supply of raw materials for processing; cash to pay for wages,

power and other costs; creating a stock of finished goods to feed the market demand regularly; and the ability to grant credit to its customers. All these require working capital. Working capital is thus like the lifeblood of a business. The business will not be able to carry on day-to-day activities without the availability of adequate working capital. Working capital cycle involves conversions and rotation of various constituents/ components of the working capital. Initially 'cash' is converted into raw materials. Subsequently, with the usage of fixed assets resulting in value additions, the raw materials get converted into work in process and then into finished goods. When sold on credit, the finished goods assume the form of debtors who give the business cash on due date. Thus 'cash' assumes its original form again at the end of one such working capital cycle but in the course it passes through various other forms of current assets too. This is how various components of current assets keep on changing their forms due to value addition. As a result, they rotate and business operations continue. Thus, the working capital cycle involves rotation of various constituents of the working capital.

While managing the working capital, two characteristics of current assets should be kept in mind viz. short life span, and swift transformation into other form of current asset. Each constituent of current asset has comparatively very short life span. Investment remains in a particular form of current asset for a short period. The life span of current assets depends upon the time required in the activities of procurement; production, sales and collection and degree of synchronization among them. A very short life span of current assets results into swift transformation into other form of current assets for a running business.

2.2.1 Working Capital Management Practices

There exists a significant relationship between CCC and profitability. Gill et al (2010). Cash management refers to optimizing the benefit and cost associated with holding cash. The objective of cash management is best achieved by speeding up the WC cycle, particularly the collection process and investing surplus cash in short term assets in most profitable avenues. Cash management is the process of planning and controlling cash flows into and out of the business, cash flows within the business, and cash balances held by a business at a point in time (Pandey, 2004). Efficient cash management involves the

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determination of the optimal cash to hold by considering the trade-off between the opportunity cost of holding too much cash and the trading cost of holding too little (Ross *et al.*, 2008).

Firms rather prefer to sell for cash than on credit, but competitive pressures force most firms to offer credit. Today the use of credit in the purchase of goods and services is so common that it is taken for granted. Selling goods or providing services on credit basis leads to accounts receivable. When consumers expect credit, business units in turn expect credit from their suppliers to match their investment in credit extended to consumers. The granting of credit from one business firm to another for purchase of goods and services is popularly known as trade credit. Waithaka (2013) conducted a study on the relationship between working capital management on profitability of agricultural firms listed the stock exchange, the study revealed a positive relationship between accounts receivable period and the firm's profitability and therefore the current study seeks to analyze the effect of accounts receivable period on financial performance of the sugar industry in western region.

Three things will come to your mind when you think of an agricultural unit - machines, men and crops (stock). Men using machines and tools convert the materials into finished goods. The success of any business unit depends on the extent to which these are efficiently managed. Inventory is an asset to the organization like other components of current assets. Inventory constitutes a very significant part of working capital or current assets in an organization. It is essential to control inventories (physical/quantity control and value control) as these are significant elements in the costing process constituting sometimes more than 60% of the current assets.

Inventory holding is desirable because it meets several objectives and needs but an excessive inventory is undesirable because it costs a lot to firms. Kimeli (2012) analyzed the effect of working capital management on profitability of manufacturing companies listed in Nairobi stock exchange, used diagnostic research design of 6 listed manufacturing firms he obtained data from document and analyzed the consolidated financial reports, multiple regression and correlation analysis were carried out to

determine the relationship. The study established that gross operating profit was positively correlated with Average collection period and Average payment period but negatively correlated to with cash conversion cycle and that the relationship between inventory turnover and gross operating profit was insignificant. The current study intended to analyze the effect of Accounts receivable period, Accounts payable period, cash conversion cycle and inventory turnover on financial performance but with respect to the sugar industry within western region Kenya.

2.3 Theory of Working Capital Management

2.3.1 Pecking Order Theory

The pecking order theory is popularized by Myers and Majluf (1984) when they argue that equity is a less preferred means to raise capital because when managers who are assumed to know better about true condition of the firm than investors issue new equity, investors believe that managers think that the firm is overvalued and managers are taking advantage of this over-valuation. As a result, investors will place a lower value to the new equity issuance.

Pecking order theory was first suggested by Donaldson in 1961 and it was modified by Stewart C. Myers and Nicolas Majluf in 1984 It states that companies prioritize their sources of financing (from internal financing to equity) thus the need for investment in accounts payable, accounts receivables, stock and cash which forms the basic component of working capital and that the sugar firms should adopt best practices that would enable improvement of the firm's financial performance. According to the cost of financing preferring to raise equity as a financing means of last resort. Hence, internal funds are used first, and when that is depleted, debt is issued, and when it is not sensible to issue any more debt, equity is issued

Pecking order theory starts with asymmetric information as managers know more about their company's prospects, risks and value than outside investors. Asymmetric information affects the choice between internal and external financing and between the issue of debt or equity. There therefore exists a pecking order for the financing of new projects. Asymmetric information favors the issue of debt over equity as the issue of debt

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signals the board's confidence that an investment is profitable and that the current stock price is undervalued (were stock price over-valued, the issue of equity would be favored). The issue of equity would signal a lack of confidence in the board and that they feel the share price is over-valued. An issue of equity would therefore lead to a drop in share price. This does not however apply to high-tech industries where the issue of equity is preferable due to the high cost of debt issue as assets are intangible. Tests of the pecking order theory have not been able to show that it is of first-order importance in determining a firm's capital structure. However, several authors have found that there are instances where it is a good approximation of reality. On the one hand, Fama and French and also Myers and Shyam-Sunder find that some features of the data are better explained by the Pecking Order than by the trade-off theory. Goyal and Frank show among other things, that Pecking Order theory fails where it should hold, namely for small firms where information asymmetry is presumably an important problem.

2.3.2 Trade off Theory

Under perfect certainty, the assets holding would be at minimum level. A large investment in current assets under certainty means a low rate on investment for the firm as excess investment in current assets will not earn enough return Pandey (2010). A small investment in current assets on the other hand would mean interrupted production and sales, became of frequent stock outs and inability to pay to creditors in the time due to restrictive policy. Different policies such as aggressive or conservative policy means lower return and risk while an aggressive policy produces higher return and risk. To be solvent a firm must be very liquid, which means a larger current assets holdings conservative .if a firm maintains a relatively large investment in current assets it will have no difficulty in paying claims of creditors when they fall due and will be able to fill all sales orders and ensure smooth production. Thus a liquid firm has less risk of insolvency; it will never experience cash shortage or stock outs. However there is a cost associated with maintaining a sound liquid position as a considerable amount will be tied up current assets and to the extent this investment is idle the firms' profitability will suffer leading to decline in performance level Waithaka (2013).

2.4 Empirical Studies

Almazari (2013) investigated the relationship between the working capital management (WCM) and the firms' profitability for the Saudi cement manufacturing companies. The sample included 8Saudi cement manufacturing companies listed in the Saudi Stock Exchange for the period of 5 year 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.

Gakure, Cheluget, Onyango and Keraro (2012) analyzed the relationship between working capital management and performance of 15 manufacturing firms listed at the Nairobi NSE from 2006 to2010 and for a total 75 firms year observations. They used secondary data from a sample of 18 companies at the NSE. A regression model was used to establish the relationship between the dependent variable and the independent variables. Pearson's correlation and regression analysis were used for the analysis. The results indicated that there is a strong negative relationship between firm's performance and liquidity of the firm. The study found that there is a negative coefficient relationship between accounts collection period, average payment period, inventory holding period and profitability while the cash conversion cycle was found to be positively correlated with profitability. However, the effects of the independent variables except the average payment period were no statistically significant though the overall model was statistically significant.

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

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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 of raw material and products. Finally, the study established that there exists a highly 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.

Sharma and Kumar (2011) examined the effect of working capital on profitability of Indian firms. They collected data about a sample of 263 non-financial BSE 500 firms listed at the Bombay Stock (BSE) from 2000 to 2008 and evaluated the data using OLS multiple regression. The results revealed that working capital management and profitability is positively correlated in Indian companies. The study further reveals that inventory of number of days and numbers of day's accounts payable are negatively correlated with a firm's profitability, whereas number of days accounts receivables and cash conversion period exhibit a positive relationship with corporate profitability.

Gakure *et al* 2012in the study of analysis of relationship between working capital management on performance of manufacturing firms listed at Nairobi stock exchange established a strong but negative coefficient relationship between accounts receivable period and performance. This study finding is in line with that of Mathuva 2010 that also established a negative relationship between accounts receivable period and profitability manufacturing firms listed in NSE. However these finding were found to contradict that of Sharma and Kumar 2011 that established a positive and significant relationship between accounts receivable period and corporate profitability of Indian firms. The current study sought to determine the effect of accounts receivable period on financial performance of public owned sugar firm within western region and to establish the magnitude.

In a study conducted to determine the effect of working capital management on profitability of Indian firms, Sharma and Kumar (2011) used a sample of 263 non-

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financial firms listed on the Bombay Stock Exchange during 2002 to 2008. Data were analysed using OLS multiple regression. The study found that account payable period is negatively related to ROA. This was in line with the result finding of Nyabwanga *et al* 2013 but contradicts other studies (Ogundipe, Idowu & Ogundipe, 2012; Dong, 2010; Mathuva 2009) that established a positive significant relationship between accounts payable period and profitability. The current study therefore sought to examine the effect of accounts payable period on financial firms of public owned sugar firms within western Kenya region.

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 a 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.

Although the study carried out by Akoto *et al* 2013 revealed that cash conversion cycle had significant positive influence on profitability and that it concurred with the finding of Sharma and Kumar 2011, these studies were carried out on manufacturing firms in economies outside Kenya thus the current study attempted to determine the effect of cash conversion cycle on financial performance public sugar companies within western Kenya region.

Omesa, Maniagi, Musiega and Makori (2013) examined the relationships between Working Capital Management and Corporate Performance of manufacturing firms listed on the Nairobi securities exchange. A sample of 20 companies whose data for 5 years

from 2007-2011 was selected. For analysis Principal components analysis (PCA) is used due to its simplicity and its capacity of extracting relevant information from confusing data sets. From the results using PAC and multiple regression, working capital proxies Cash Conversion Cycle (CCC), Average Collection Period (ACP) and control variables Current Liabilities (CLTA), Net Working Capital Turnover Ratio (NSCA) and Fixed Financial Ratio (FATA) were significant at 95% confidence (p values are < 0.05) to performance as measured by Return on Equity (ROE). Further, ACP was found to be negatively related to ROE while CCC, CLATA, NSCA and FATA were positively related.

Maradi, Salehi and Arianpoor (2012) compared working capital management of two groups of listed companies in Tehran Stock Exchange (TSE), which comprised of chemical industry and medicine industry. In chemical industry, 34 companies and medicine industry, 30 companies were selected and information related to these companies was gathered over 10 years (2001-2010) and analyzed using OLS multiple regression. The results show that, in medicine industry compared to chemical industry, debt ratio makes more impact on reduction of net liquidity. But examination of impact of LEV over WCR indicate that, in chemical industry, debt ratio makes more impact on reduction of working capital requirements, compared to medicine industry.

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. The study recommended that effective policies must be formulated for the individual components of working capital.

Raheman and Mohamed (2007) carried out a study to analyse the impact of working capital management on firm's performance in Pakistan. The results of their study

established inventory turnover in days had a significant positive effect on the performance of the firms. This concurred with Raheman *et al* (2010) but contrast Sharma and Kumar 2011 that examined a negative and insignificant relationship between inventory turnover in days and profitability of non financial firms listed in Bombay stock exchange (BSE)

Gill, Biger and Mathur (2010) analyzed the relationship between working capital management and profitability of 88 American firms listed on New York Stock Exchange for a period of 3 years from 2005 to 2007 was selected. The data was analyzed using Pearson Bivariate Correlation Analysis and Weighted Least Squares (WLS) Regression techniques. They found statistically significant relationship between the cash conversion cycle and profitability, measured through gross operating profit. It followed that managers can create profits for their companies by handling correctly the cash conversion cycle and by keeping accounts receivables at an optimal level.

Although studies on working capital management have been carried out by various scholars, it is instructive to note that there is still ambiguity regarding the appropriate variables that might serve as proxies for working capital management. These studies do not provide clear-cut direction of the effect of working capital management practices on firm's financial performance. Further examination of these studies revealed that there is little empirical evidence on the effect of working capital management practices on the financial performance public owned sugar firms within western region Kenya especially during the period 2005 and 2014 where the firms are experiencing liquidity problem and are at the verge of collapse due to in adequate cash to meet its operating expenses (Kenya sugar board 2010). Therefore, the present study is an attempt to fill this gap and analyze the effect of working capital management on financial performance of public owned sugar firms within western region.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This section describes the procedure that will be followed in conducting the study. It begins with research design, target population, sample size, sampling techniques and data collection instruments. It also presents data collection procedures, data analysis techniques and ethical issues in research.

3.2 Research Design

This study used correlation research design to find out the association between the independent variable (working capital management practices) on the dependent variable financial performance (ROA).ordinary least square regression (OLS) was used to determine the magnitude effect of independent variable on the dependent variable. It aimed at identifying the effect the Average collection period (ACP); Inventory turnover in days (ITO); Average payment period (APP) and Cash conversion cycle (CCC) on financial performance. The design enabled the researcher to identify the effect of the independent variables on the dependent variable.

3.2.1 Empirical Model

To find the effect of working capital management practices on financial performance of public owned sugar firms, regression model was developed using empirical framework used by Padachi (2006) and Deloof (2003). The regression analysis was of the form:

$$ROA = \beta_0 + \beta_1 ARP + \beta_2 APP + \beta_3 CCC + \beta_4 ITP + \varepsilon \ (3.1)$$

Where;

ROA : Is financial performance indicator - EBIT/Total assets. This is the value of the dependent variable that is being predicted or explained.

ACP : No of days accounts receivable is (A/R x 365)/sales. No of days accounts receivable is included as a component of working capital management.

ITP : Inventory turnover period (inventory x 365)/cost of goods sold. Firms will have different optimal level of investing in working capital.

APP   :   No of days accounts payable is (A/P x 365)/purchases. Delayed payments means a firm will enjoy more liquidity but may also miss out on the discounts offered by the suppliers for making prompt payment, a phenomenon that might have some effect on the profitability of the firm.

CCC   :   Cash conversion cycle is (ACP + ITO – APP)

β_0 :   Beta; this is the constant where the regression line intercepts the y- axis. It is the value of the dependent variable when the value of all other independent variable = 0.

$\beta_1 : \beta_4$:   Represents the co-efficient of the variables i.e. the slope of the regression line. How much ROA/ROE changes for each one-unit change in the independent variable?

ε :   Represents the error term i.e. the error in predicting the value of dependent variable, given the value of independent variable.

3.3 Study Area

The study area involved all the public owned sugar factories in Western region comprising of Nyanza, and Western Kenya counties, the four public owned sugar firms in western Kenya region were Mumias Sugar Company, Muhoroni Sugar Company, South Nyanza (SONY) Sugar Company and Chemelil Sugar Company Ltd. Muhoroni and Chemelil sugar factories are found within Kisumu town $0^0 10`S$ and longitude $34^0 15`E$ of Kenya while Mumias sugar factory are found within 0030`N, 34030`E of Kenya.

3.4 Target Population

The target population for this study consisted of the 4 sugar firms within western region's audited financial statement for a period of 10years from 2005 to 2014 financial year, this period was of significance due to the fact that it was the period that the firm experienced liquidity challenges.

3.5 Data Collection Procedure

In order to collect data from the targeted respondents, the researcher obtained an introductory letter from the Maseno University. Secondary data collected for this study was mainly from the finance offices of the public owned sugar companies within western

region. Together data on working capital management practices and financial performance, it was also necessary to perform structured documentary review. Accordingly, to achieve the study objective, company's audited financial statement especially balance sheet, income statement and cash flow statements were reviewed. The choice of secondary data was informed because data from such a source is free from bias, accurate and provides opportunity for replication. The data collection has been limited to only ten year period covering the company's financialyears2005throughto2014. Data was collected in a balanced panel dataset where by each firm contributed ten years of figures. The panel data methodology used has certain benefits like using the assumption that companies are homogenous, more variability, less co-linearity between variables, more informative data, greater degree of freedom and more efficiency (Baltagi, 2001).

The different accounting variables needed for the study was extracted from each financial year of the company. The data set included yearly data on sales, cost of goods sold, accounts receivable, accounts payable, inventories, current assets, total assets, financial assets,currentliabilities,andtotaldebt.Thisdatawasthenusedtocalculatethe desired ratios and accounts collection period, the inventory turnover in days, the accounts payables period and the cash conversion cycle.

3.6 Data Processing and Analysis

Correlation analysis and regression analysis was used to analyze the data based on a panel data set of 10 years audited financial statement from the period 2005 to 2014 obtained from secondary data of audited financial report. A correlation analysis attempted to determine the degree and direction of relationship between two variables under study. In a bivariate distribution, if the variables have the cause and effect relationship, they have high degree of correlation between them. Regression analysis was used to understand which among the independent variables are related to the dependent variable, and to explore the forms of these relationships. Regression analysis was done on the operationalized data to show the relationships of variables in the study thereby enabling the researcher to draw conclusions.
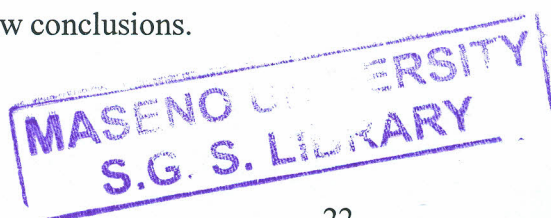
The analysis was carried out using SPSS data analysis tool. The results were presented in tables and charts.

3.7 Validity and Reliability

The study used cronbach Alpha to test for internal consistency of the variables under study for social sciences; the typical benchmark for assessing this coefficient is .70. Results indicated that the reliabilities of all manifest indicators were adequate. As shown in Table below, Cronbach's alpha coefficient of 0.725 was obtained.

Reliability Statistics

Cronbach's Alpha	N of Items
.725	40

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND DISCUSSION

4.1 Introduction

This chapter presents the key findings of the research based on the methodology as identified in chapter three. The chapter is structured into data analysis, presentation and interpretation of descriptive statistics, correlation matrix and regression model.

The purpose of this study was to analyze the effect of working capital management practices on financial performance of public owned sugar firms in western region. The purpose of this Chapter therefore is to test the null hypotheses defined in Chapter one. The chapter begins by testing the correlations between the variables under study. To analyze the effect of working capital management on financial performance, the following regression models was been made.

$$ROA = \beta_0 + \beta_1 ARP + \beta_2 APP + \beta_3 CCC + \beta_4 ITP + \varepsilon_i$$

Table 4.1 Operationalization and measurement of study variables

Category	Variable	Operationalization	Measurement	Hypothesized Direction
Dependent variable	Financial performance	Return on asset (ROA) the profit generated	EBIT/Total assets	Positive/negative
Independent variable	Working capital management practices	Accounts receivable period (ARP)	Receivables *365 / sales	Positive/negative
		Accounts payable period (APP)	Payables/purchases *365	Positive/negative
		Inventory turnover period (ITP)	Inventory/cost of sales *365	Positive /negative
		Cash conversion cycle (CCC)	ARP+ITP-APP	Positive/negative

Source: Researcher (2015)
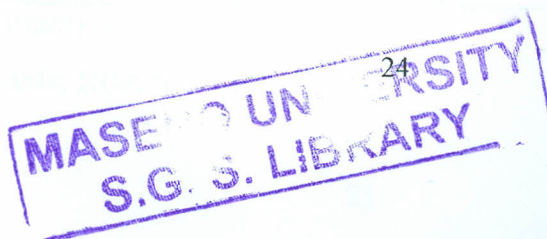
4.2 Descriptive Analysis

Table 4.2 presentsthedescriptivestatisticsandthedistributionofthevariablesconsidered in this research: Return on assets, Accounts receivable period (ARP), Accounts payable period (APP), inventory turnover in days (ITO) and cash conversion cycle (CCC). The descriptive statistic considered were mean and standard deviation and the following results were obtained from the Public owned sugar companies that were studied.

Table 4.2Descriptive Statistics

	Mean	Std. Deviation	N
ROA%	-4.9663	11.72141	40
ARP	39.3995	37.07818	40
APP	202.60	98.675	40
CCC	-87.8960	127.61783	40
ITO	68.85	19.197	40

Table 4.2 shows that return on asset had a mean of - 4.9663 and standard deviation of 11.7214. The a table also reveal that it took on average 39.39 day to collect receivables from customers with a standard deviation of 37.08,the Mean value of accounts payable period was 202.6 which denotes that it averagely took the public owned sugar companies 202 days to pay up their financial obligations with a standard deviation of 98.675.On inventory turnover in days, the sugar companies took on average 68days to sell their sugar denoting it averagely took the firms approximately 2 months to sell the produce. The cash conversion cycle had a mean of 87days meaning it took the companies on average 87 day to convert their sales into cash with a standard deviation of 127.61.

Table 4.3 Analysis of Variance Result
ANOVA[b]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	4143.984	4	1035.996	29.861	.000[a]
	Residual	1214.285	35	34.694		
	Total	5358.269	39			

a. Predictors: (Constant), ITO, ARP, APP, CCC

b. Dependent Variable: ROA%

Analysis of Variance's (ANOVA) f – test was used to make simultaneous comparisons between two or more means; thus, testing whether a significant relationship existed between the study variables (dependent and independent variables); helping in bringing out the significance of the regression model. Since the valueswerebelow0.05, it can be concluded that the regression models were significant.

4.3 Correlation Analysis

The study sought to analyze the effect of working capital management practices on financial performance of public owned sugar companies in western region, Pearson Correlation analysis was used to achieve this end at 95% confidence levels (5% level of significance).The correlation analysis enabled the testing of study's hypothesis that working capital management practices have no significant effect on public owned sugar companies' financial performance.

Table 4.4 *Correlation Matrix*

	ROA	ARP	APP	CCC	ITO
ROA	1.000				
ARP	0. 336*	1.000			
	(0.017)				
APP	-0.847*	-0.285*	1.000		
	(0.000)	(0.037)			
CCC	0. 723*	0.340*	-0.913*	1.000	
	(0.000)	(0.016)	(0.000)		
ITO	-0.654*	-0.385*	0.641*	-0.662*	1.000
	(0.000)	(0.007)	(0.000)	(0.000)	

Note. Values in parentheses () are p-values, * denotes significance at 5% level of

Significance (p-value < 0.05)

Table4.3shows the correlation result between the study variables. The result revealed that there is significant positive but lower effect of accounts receivable period on financial performance measured by return on asset (ROA) of public owned sugar companies accounts receivable period, ARP (r = 0.336, p =.017); significant negative relationship between accounts payable period (APP) (r =- 0.847, p =.000) on ROA; and significantly positive relationship between cash conversion cycle (r = 0.723, p =.038) on ROA and significant negative relationship between inventory turnover period in days (ITP) (r = -0.654, p =.000) on ROA.

4.3.1 Effect of Accounts Collection Period on Financial Performance

The first objective of this study was to establish the effect of accounts receivable period on financial performance of public owned sugar company. This objective was tested using the first hypothesis H_{01} which stated that there is no significant effect of accounts receivable period on financial performance of public owned sugar firms The study established a relatively lower positive significant correlation between accounts receivable period and financial performance at 5% level of significance with (r=0.336,p=0.017). This necessitated the rejection of the null hypothesis of insignificant effect and acceptance of the alternative at 5% level of significance. This study concurs with the result by Kimeli (2012) who found a significant positive relationship between average collection period and gross operating profit of manufacturing companies listed in Nairobi stock exchange however the result contradict that of Gakure *et al* 2012 that established a negative but insignificant relationship between accounts receivable period and profitability of manufacturing firms listed in NSE.

4.3.2 Effect of Accounts Payable Period on Financial Performance

The second objective of this study was to determine the effect of accounts payable period on financial performance of public owned sugar firms in western region. This objective was tested using the second hypothesis H_{02} which stated that there is no significant effect of accounts payable period on financial performance of public owned sugar firms. The study established a significant higher negative coefficient (r = - 0.847, p = 0.000 between accounts payable period (APP) and financial performance (ROA). Because sales and purchase are continuing function of a business, a firm can only increase its volume of sales depending on increased acquisition of goods and services. Thus, the null hypothesis is rejected and alternative hypothesis of significant relationship accepted. This implies that an increase in accounts payable period would reduce the firm's financial performance measured by ROA thus companies that takes longer time before settling their bills tends to experience lower financial performance and therefore firms should strive to reduce their payment period in order to improve their Return on asset (ROA).
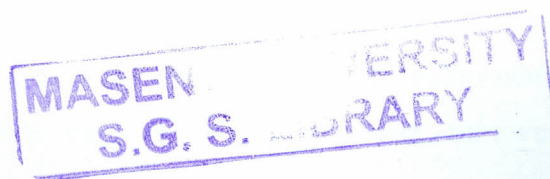
4.3.3 Effect of Cash Conversion Cycle on Financial Performance

The third objective sought to analyze the effect of cash conversion cycle on financial performance of public owned sugar firms the third hypothesis H_{03} was tested. H_{03} stated that there is no significant effect of cash conversion cycle on financial performance of public owned sugar firms. The study established a positive higher coefficient but significant relationship (r = 0.723, p = 0.000), $p < 0.05$.Thus,the null hypothesis is also rejected and the alternative of significant effect is accepted .Whereas this study finding are in line with that of Gul *et al*.(2013) that established a significant positive relationship between cash conversion period and profitability of SMEs in Pakistan, it differs with that of Kimeli (2012) that determined a negative but insignificant relationship between cash conversion cycle and gross operating profit of manufacturing firms listed in Nairobi stock exchange. This implies that if the public owned sugar companies are able to increase their cash conversion cycle, it can improve its financial performance.

4.3.4 Effect of Inventory Turnover in days on Financial Performance

The last objective of the study was to examine the effect of inventory turnover period on financial performance of public owned sugar companies; this was tested by the fourth hypothesis. H_{o4} stated that there is no significant effect of inventory turnover period on financial performance of public owned sugar firms. The study established a significant but higher negative coefficient between inventory turnover period in days and financial performance(r = 0.654, p = .000), p <0.05.The null hypothesis thus rejected and alternative hypothesis of significant relationship accepted. This suggests sugar companies that hold much inventory experience poor financial performance. That is, when the time span during which inventories remain within the sugar companies increases too much capital is tied up in stock leading to poor financial performance. This study finding differs with that of Akoto *et al* (2013) that examined a positive relationship between cash conversion cycle and profitability of manufacturing firms listed in Ghana but are in line with that of Omesa *et al* (2013).

4.4 Regression Analysis

Regression analysis was used to measure the effect of independent variables (accounts collection period, accounts payable period, Inventory turnover in days and cash

conversion cycle) and dependent variable (financial performance). To analyze the effect of working capital management practices on financial performance of public owned sugar firms, regression model was developed using empirical framework used by Padachi (2006) and Deloof (2003).The following regression coefficients were obtained

Table 4.5 Regression Coefficient Results

Coefficients

Model		B	Std. Error	Beta	t	Sig.	Toleranc e	VIF
		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
1	(Constant	25.513	5.362		4.758	.000		
	ARP	.030	.028	.094	1.069	.293	.831	1.203
	APP	-.129	.024	-1.090	-5.471	.000	.163	6.133
	CCC	-.041	.019	-.446	-2.173	.037	.154	6.509
	ITO	-.131	.068	-.215	-1.929	.062	.523	1.911

$$ROA = 25.513 + \underset{(0.000)}{} \underset{(0.293)}{0.030} ARP - \underset{(0.000)}{0.129} APP - \underset{(0.037)}{0.041} CCC - \underset{(0.062)}{0.131} ITP \qquad (4.1)$$

Table 4.4 shows the regression coefficients results of independent variables on dependent variables. According to model (3.1) after estimation being represented as model (4.1) with values in parentheses (), representing p-values.

4.4.1 Effect of Accounts Receivable Period on Financial Performance

The first objective of this study was to establish the effect of accounts receivable period on financial performance of public owned sugar company. This objective was tested using the first hypothesis H_{01} which stated that there is no significant effect of accounts receivable period on financial performance of public owned sugar firms. Based on model (4.1) results, the effect is established by obtaining the derivative of ROA with respect to ARP such that;

$$\frac{\Delta ROA}{\Delta ARP} = 0.03 \qquad (4.2)$$

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return on asset (ROA) since the p - value of 0.293 > 0.05. The study therefore basing on regression analysis results does not reject the null hypothesis that there is no significant effect of ARP on ROA. These results though contradict with Mathuva (2010) they conform to the findings of Gakure *et al* 2012 that established a negative but insignificant relationship between accounts receivable period and profitability of manufacturing firms listed in NSE. This depicts that public sugar firms that are not efficient in collecting debts from sales experience lower return on Assets (ROA) hence financial performance.

4.4.2 Effect of Accounts Payable Period on Financial Performance

The objective of this study was to determine the effect of accounts payable period on financial performance of public owned sugar firms in western region. This objective was tested using the second hypothesis H_{02} which stated that there is no significant effect of accounts payable period on financial performance of public owned sugar firms. This depicts that companies that takes longer time before settling their bills tends to experience lower financial performance.

Based on model (4.1) results, the effect is established by obtaining the derivative of ROA with respect to APP such that;

$$\frac{\Delta ROA}{\Delta APP} = -0.129$$

$$(4.3)$$

This regression analysis results indicate that accounts payable period (APP) has an significant effect at 5% level of significance on financial performance measured by return on asset (ROA) since the p-value of 0.000<0.05.

The results imply that 1% increase (decrease) in accounts payable period (APP) decreases (increases) financial performance measured by return on asset (ROA) by 0.129%. This necessitated the rejection of the null hypothesis of insignificant effect and acceptance of the alternative at 5% level of significance. This study concurs with the result by Kimeli (2012) who found a negative and significant relationship between accounts payable period gross operating profit of manufacturing companies listed in Nairobi stock exchange however the result contradict that of Waithaka 2010 that established a negative

but insignificant relationship between accounts receivable period and profitability of manufacturing firms listed in NSE.

4.4.3 Effect of Cash Conversion Cycle on Financial Performance

The third objective sought to analyze the effect of cash conversion cycle on financial performance of public owned sugar firms this was tested using the third hypothesis H_{03} that stated there is no significant effect of cash conversion cycle on financial performance of public owned sugar firms.

Based on model (4.1) results, the effect is established by obtaining the derivative of ROA with respect to CCC such that;

$$\frac{\Delta ROA}{\Delta CCC} = -0.041 \tag{4.4}$$

This regression analysis results indicate that Cash conversion cycle (CCC) has significant effect at 5% level of significance on financial performance measured by return on asset (ROA) since the p-value of 0.037<0.05. The results imply that 1% increase (decrease) in Cash conversion cycle (CCC) decreases (increases) financial performance measured by return on asset (ROA) by 0.041%. The study therefore rejects the null hypothesis and accepts the alternative. Although the study contradict that of Raheman *et al* 2010 who determined a positive but insignificant relationship between cash conversion cycle and ROE of 15 manufacturing firms listed in NSE, it conforms to the study by Omesa *et al* 2013.This implies that if the public owned sugar companies are able to reduce their cash conversion cycle, it can improve its financial performance.

4.4.4 Effect of Inventory Turnover in days on Financial Performance

The last objective of the study was to examine the effect of inventory turnover period on financial performance of public owned sugar companies and was tested by the fourth hypothesis. H_{04} stated that there is no significant effect of inventory turnover period on financial performance of public owned sugar firms.

Based on model (4.1) results, the effect is established by obtaining the derivative of ROA with respect to ITP such that;

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$$\frac{\Delta ROA}{\Delta ITP} = -0.131$$

(4.5)

This regression analysis results indicate that Inventory turnover period (ITP) has an insignificant effect at 5% level of significance on financial performance measured by return on asset (ROA) since the p-value of $0.062 > 0.05$. the result implies that 1% increase (decrease) in inventory turnover period (ITP) decreases (increases) financial performance measured by return on asset (ROA) by 0.131%. The study therefore accepts the null hypothesis and rejects the alternative. This suggests sugar companies that hold much inventory experience poor financial performance. That is, when the time span during which inventories remain within the sugar companies increases too much capital is tied up in stock leading to poor financial performance. The companies should therefore reduce the period they take to sell the produce in order to increase or improve their financial performance This study findings differs with that of Akoto *et al* (2013) that examined a positive but significant relationship between inventory turnover period and profitability of manufacturing firms listed in Ghana but are in line with that of Omesa *et al* (2013).

4.5 MultiCollinearity Diagnostic Result

The study also conducted a multicollinearity test to test for validity of the model, and to determine if two or more predictor (independent) variables in the regression model are highly correlated. The study used tolerance and variance inflation factor (VIF) values for the predictors as a check for multicollinearity. Tolerance indicates the percent of variance in the independent variable that cannot be accounted for by the other independent variable while VIF is the inverse of tolerance. A value of 10 has been recommended as the maximum level of VIF (Hair, Anderson, Tatham,&Black,1995).Since tolerance values established were above 0.1and with the corresponding VIF values being below10, this implies that there was no problem of autocorrelation and multicollinearity in the model.

Table 4.6 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.851[a]	.724	.504	2.967

a. Predictors: (Constant), ITO-M, CCC-M, APP-M, ARP-M

R value in Table 4.5 explains the correlation coefficient between dependent and independent variables in the public owned sugar companies within western region; that is, if there is a linear relationship and the nature of the relationship if at all exists. Coefficient value 0.851was established using the model. This illustrates a high linear relationship between financial performance and working capital management practices in public owned sugar companies.

R-square values present the strength of the relationship between financial performance and independent variables and this was obtained 0.724, this value indicated that reliance on this model will account for 72.4% of the variations in the dependent variable return on asset. From the adjusted determination coefficients, generally moderately strong linear relationships were established between dependent and independent variables. Adjusted R- square value of 0.504 was established. This depicts that the regression analysis explained about 50% of the changes in public owned sugar firm's financial performance measured by the return on asset. Thus, working capital management practices have a high explanatory power of the model in the public owned sugar companies studied.

CHAPTER FIVE
SUMMARY, CONCLUSIONS AND RECOMMENDATION

5.1 Introduction

This chapter presents summary discussions of the key findings presented in chapter four, conclusions drawn based on such findings and recommendations.

5.2 Summary

Whereas it is observed that on average, most of the sugar firms took between 39 days to collect receivables. The positive relationship found between the public owned sugar firms' financial performance and accounts receivable period indicates that firms will experience reduction in financial performance if they increase account receivables period. Public owned Sugar firms must therefore seek to adopt a neither liberal credit nor conservative policy so as to minimize bad debts and maximize sales in order to increase firms' financial performance.

Though it was established that the public owned sugar companies took on average 202 days, they were found to have longer accounts payable period, this caused a negative and significant effect on return on asset (ROA), it is not always in the best interest of the firms as this negatively affect the performance. Public owned Sugar companies should therefore undertake to settle all their debts and bills on time to avoid losing goodwill with their creditors including cane suppliers and financiers in the long run.

Cash conversion cycle is used as measure of efficiency of working capital management practices, managers must appreciate the fact that, should cash conversion cycle gets prolonged, performance gets negatively affected. Hence, the researcher recommends that sugar firm managers should strive to improve their financial performance by reducing the cash conversion cycle to a reasonable level. They should also improve financial performance of their companies by employing effective cash management practices.

On inventory turnover in days, the public owned sugar companies took, on average, 68 days to sell their sugar. The study found negative relationship between inventory turnover in days and
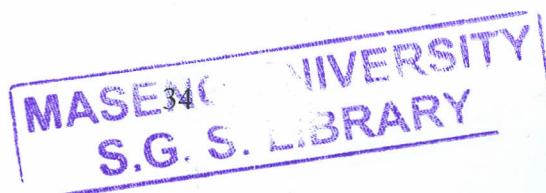
companies financial performance. It can be noted that in as much as maintaining higher inventory ensures firm has sufficient stock that might result in more sales, the practice also attracts other costs related to overstocking like storage, carrying, spoilages, insurance, and opportunity cost as result of too much capital being tied up in stock. On the other hand keeping low inventory may result in high liquidity. Therefore sugar firm managers should adapt proper inventory control techniques such as economic order quantity (EOQ), depending on the nature of inventory they hold. Furthermore, the firms must create stronger linkage between stores, purchasing manufacturing and marketing departments that enhances communications thereby providing each other with the relevant information that positively helps the firm in managing its inventory operations and minimizing costs.

From the results, a lower average collection period is seen by the public owned sugar factory as optimal, since this means that it does not take them very long to turn its receivables into cash. This owes to the fact that the sugar companies need cash to pay off its own expenses (such as operating and administrative expenses) including farmers who sell sugar cane to them. They also tend to have a longer accounts payable period so as to maintain a high current ratio and avoid operating in the red. Monitoring the working capital is important for the sugar companies' cash flow and its ability to meet its obligations when they fall due. However, they optimize this to ensure that their credit worthiness is not tainted, take advantage of discounts including avoiding accruing interest rates unnecessarily.

In conclusion, the findings from this study suggest that companies can improve their financial performance by reducing their cash conversion cycle and by properly managing each of the components of working capital management. These findings are generally in line with many previous studies done on working capital management such as those of Raheman and Nasr (2007), Deloof (2003), and Mathuva (2010).

5.3 Recommendations

Based on the findings and results from the analysis of the study, the study recommends that public owned sugar firms should adopt efficient and effective working capital management practices to keep financial performance at optimal level. It looks like working capital

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management has not been effective and efficient for the sugar firms in western region. A general recommendation/would be for the sugar firms to seriously rethink their corporate financial management practices in order to boost their growth and financial performance.

5.4 Limitation of the Study

This study was limited to the public owned sugar firms in western region, Kenya only and is subject to the review of the sugar firm's operations for period of ten financial years between the years 2005-2014. The finding of this study can only apply to the public owned sugar firms within western region, Kenya.

5.5 Recommendation for Further Research

A study should be undertaken to compare the effect of working capital management practices of private owned sugar firms and state owned sugar firms in Kenya in order to analyze the comparative effect of these practices on financial performance. In addition, future studies could be extended to analyze working capital management practices and their effect on financial performance across the sugar manufacturing countries especially those within East African community.

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