RELATIONSHIP BETWEEN WORKING CAPITAL COMPONENTS AND FINANCIAL PERFORMANCE OF THE COMMERCIAL AND SERVICES FIRMS QUOTED AT THE NAIROBI SECURITY EXCHANGE

BY

MAUREEN KIMELI

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DECLARATION

I declare that this project is my original work and has not been submitted for examination in any other university.

Signed

……Date……

Maureen Kimeli

D61/76013/2009

This project has been submitted for examination with my approval as the university supervisor

Signed

……Date……

Mr. Mirie Mwangi

Supervisor

Department of Finance and Accounting

School of Business, University of Nairobi

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Finally, to my parents, relatives and friends, I thank you all for your contribution in one way or another.

DEDICATION

I wish to dedicate this project to my family and friends who gave me encouragement moral support during the study period.

ABSTRACT

The management of firm's working capital components is essential due to its effect on the firm's business strength and its liquidity. There is need for a balance to be struck between the need to achieve high profitability position and also for the firm to remain liquid in order to meet the short term obligations when they fall due. The research objective was to establish the relationship between working capital components and financial performance of the commercial and services firms quoted at the Nairobi Security Exchange. To achieve this objective, the study used secondary data obtained from the annual reports and financial statements of firms for the period 2009-2013. A regression model was determined on the relationship between the working capital components, control variables and the firm's profitability. In addition, Pearson's correlation used for the analysis and tests of significance were carried out for all variables using t-test at the 95% level of significance. The result findings showed that working capital management is an important parameter to be considered by a firm in projecting its profitability level as well as its influencing in liquidity. The results of general least squares method with cross section weights indicate the same interpretation that the working capital management affects profitability of the company and that if the firm can effectively manage its working capital, it can lead to increasing profitability. The firm size, as measured by the logarithm of total assets, is positively related to profitability. This means that larger firm report higher profits compared to smaller firms and all other factors remaining constant, the size of the firm is directly related to age of the organization. The study limited itself to only the commercial and services firms listed at the NSE and there is need to undertake a more extensive study to validate the results. The study is important for policy makers and regulators who need to motivate and encourage managers and shareholders to pay more attention on working capital through improving investors' awareness and improving transparency.

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LIST OF ABBREVIATIONS

ACP	-	Average Collection Period
APP	-	Payable Period
CBK	-	Central Bank of Kenya
CCC	-	Cash Conversion Cycle
ERM	-	Efficiency of Receivables Management
GDP	-	Gross Domestic Product
ICP	-	Inventory Conversion Period
NSE	-	Nairobi Securities Exchange
ROA	-	Return on Assets
UNCTAD	-	United Nations Conference on Trade and development
US	-	United States
WCM	-	Working Capital Management

CHAPTER ONE
INTRODUCTION

1.1 Background of the Study

Working capital components are essential for many firms because of its effect on the firm's business strength and its liquidity position means if a firm has more working capital it definitely implies more liquidity of the firm The basis and arguments for proper working management are drawn from the financial crisis experience and the recession that took place in 2008-2009 and this has brought more focus to the investment that firms make in short-term assets, and the resources used with maturities of under one year which represent the main share of items on a firm's balance sheet (Haq & Zaheer, 2011).

This has brought to the core the importance of short-term working capital management at companies all over the world and stimulates current liabilities. Liquidity or profitability and the balance between both are challenging decisions while conducting a firm day to day operation (Gitman 2005).Liquidity is a precondition to ensure that firms are able to meet their short-term obligations and their continued flow can be guaranteed from a profitable venture. The importance of cash as an indicator of continuing financial health should not be surprising in view of its crucial role within the business. This requires that business must be run both efficiently and profitably (Carpenter & Johnson 1993).

A firm's liquidity and profitability position and the balance between both are challenging decisions to a manager while conducting firm day to day operations.

Liquidity is a precondition to ensure that firms are able to meet their short-term obligations and their continued flow can be guaranteed from a profitable venture (Chakraborty, 2008).The importance of cash as an indicator of continuing financial health should not be surprising in view of its crucial role within the business. This requires that business must be run both efficiently and profitably (Chittenden, Poutziouris, Michaelas, 1998).An asset-liability mismatch may occur which may increase firm's profitability in the short run but at a risk of its insolvency (Uyar, 2009).

1.1.1 Working Capital Components

Working capital is defined as Current Assets minus Current Liabilities. This definition of working capital encompasses certain assets and liabilities that are expected to be consumed, converted into cash, or settled in cash within a one year period (Appuhami, 2008). The typical components of working capital that are aggressively managed include: Cash; accounts receivable; inventory; accounts payable; and short-term debt. In addition, it is important to understand that routine business activities either generate or consume working capital. Consequently, the main goal of working capital management is to ensure that an organization generates sufficient positive working capital (specifically in the form of Cash) from ongoing business activities to continually fund both debt payments and operating expenses (Haq & Zaheer, 2011)

Financial managers use the following ratios to assess various components of working capital: current ratio, quick ratio, inventory turnover ratio, receivables turnover ratio (RTR) and payables turnover ratio (PTR). As a result, Keown, Martin, Petty & Scott (2003) argues that current assets should be large enough to cover its current liabilities in order to ensure a reasonable margin of safety. He points that each of the current

assets must be managed efficiently in order to maintain the liquidity of the firm while not keeping too high a level of any one of them. Each of the short-term sources of financing must be continuously managed to ensure that they are obtained and used in the best possible way (Agbeyegbe, Stotsky & WoldeMariam, 2004).

In addition current liabilities contain accounts payable (A/P), notes payable, (current) accruals, as well as other current liabilities (Wilner, 2000).The). Hence, working capital is roughly the part of current assets that has to be financed with interest-bearing capital (Shin and Soenen, 1998). A lower working capital can be achieved by reducing any of the three components of current assets i.e. cash inventory or A/R and increasing current liabilities. However, optimizing these components can have a direct or indirect impact on the bottom line (Scherr, 1989).

1.1.2 Financial Performance

Financial performance measures how well a firm is generate value for the owners. It can be measured through various financial measures such as profit after tax, return on assets (ROA), return on equity (ROE), earnings per share and any market value ration that is generally accepted. Generally, the financial performance of financial institutions can been measured using a combination of financial ratios analysis, benchmarking, and measuring performance against budget or a mix of these methodologies. The financial statements of financial institutions commonly contain a variety of financial ratios designed to give an indication of the corporation's performance (Jordan, 2003).

Financial performance of a firm normally originates from the financial position and structure of the firm. This information is derived from the financial statement which is

the yard stick to evaluate and monitor performance. Business executives use financial statements to draft a comprehensive financial plan that will maximize share holders wealth and minimize possible risks that may pre exist. Financial Statements evaluate the financial position and performance of a firm. These statements are prepared and produced for external stakeholders for example: shareholders, government agencies and lenders (Svensson, 1997).

Profitability is the main factor which is measured in determining the financial performance of a firm. The objective of every business is to increase the wealth of its shareholders. The performance of a firm is measured by evaluating its profitability, increase in assets and financial stability of the business. From the information provided in the financial statements, one can evaluate the liquidity, profitability and the capital structure of a company. Return on Capital Employed (ROCE) shows the efficiency of a business (Khan, Shaem & Mahmud, 2009).

1.1.3 Working Capital Components and Financial Performance

Working capital management components are considered to be a crucial element in determining the financial performance of an organization. The primary purpose of this paper is to investigate the relationship between working capital management and financial performance of listed manufacturing firms. The components of working capital management ensure a company has sufficient cash flow in order to meet its short-term debt obligations and operating expenses. The needs of efficient working capital management must be considered in relation to other aspects of the firms' financial and non-financial performance. Efficient components of working capital management are expected to contribute to the high financial performance (Chittenden, Poutziouris & Michaelas, 2008).

The efficiency of working capital management components is determined through the cash conversion cycle. The extent the to which working capital management influences on financial performance of the trading firms show a strong significant relationship between the components of working capital management and profitability, it is assumed that the efficient working capital management has strong impact on financial performance. While working capital management components are essential to all firms operating in both developed and emerging countries, working capital management is of particular importance to the business firms operating in emerging markets. Firms in emerging markets are mostly small in size with limited access to the long-term capital markets (Deloof & Jeger, 1996).

These firms tend to rely more heavily on owner financing, trade credit and short-term bank loans to finance their needed investment in cash, accounts receivable and inventory. However, the failure rate among small businesses is very high compared to that of large businesses. Previous studies have shown that weak financial management particularly poor working capital management and inadequate long-term financing is a primary cause of failure among small firms (Kim, Mauer & Sherman, 1998).Significant investment in working capital and the effect of working capital policy on firm risk in most firms, working management policy choices and practices could have important implications not only for accounting profitability but also for market performance. Successful management of resources leads to corporate profitability. Management success is measured by market, argues that efficient working capital management should bring more shareholders market value (Keown, Martin, Petty & and Scott, 2003).

1.1.4 Commercial and Services Firms in Nairobi Securities Exchange

Commercial and service industry plays a significant role in growth and development of the Kenyan economy by creating employment opportunities, contribution to the gross domestic product (GDP) and foreign exchange earnings for most of the post-independence period (UNCTAD, 2008). The contribution of these two sectors to the country's economy has been even larger, with its share in total wage employment rising from about 55 per cent in 1980 to about 62 per cent by 2004 (CBK, 2013). The contribution of the services sector to the Kenyan economy is, in relative terms, even more important with respect to trade balance. Thus, for most of the period since 1980, annual export of services accounted for about 50 per cent (UNCTAD, 2008).

To increase their profitability, commercial and services firms should efficiently manage their working capital components in order to minimize costs and efficiency in their operations. Working capital management plays a significant role in overall corporate strategy in order to increase shareholder value in both commercial and services firms. Siddiquee, Khan, Shaem & Mahmud (2009) explains that by determining the composition and level of investments on current assets, the level, sources and mix of short term debts. Especially an efficient working capital management can enable commercial firms to react quickly and genuinely to unexpected changes in economic environment and gain competitive advantages over its rivals (Haq & Zaheer, 2011).

Commercial and services firms that manage the components of working capital management efficiently aims to ensure an optimum balance between profitability and risk (Saccurato, 1994). This is achieved by continuous monitoring of working capital

components such as accounts receivable, inventory and accounts payable. The success of commercial and service sector heavily depends on the effective skills of financial managers. Ensuring a proper balance between the short-term liabilities (current liabilities) and current assets is important in determining the liquidity position of commercial and services firms (Poutziouris & Michaelas, 2008).

1.2 Research Problem

The current financial crisis and the recession that took speed through 2008 have brought more focus to the investment that firms make in short-term assets, and the resources used with maturities of under one year which represent the main share of items on a firm's balance sheet. This inflamed the importance of short-term working capital management at companies all over the world and stimulates researchers' attention. Group of practitioners and researchers believed that efficient management of working capital is essential for companies during the booming economic periods and can be managed strategically to improve competitive position and profitability, others emphasized on that improving working capital management is reasonably important for companies to withstand the impacts of economic turbulence (Hutchison, Farris & Anders, 2007).

Efficient working capital management to firms in commercial and service industry is important in proper planning and controlling current assets and current liabilities in a manner that eliminates the risk of the inability of firm to pay its short term obligations when they fall due and to avoid the excessive investment in these assets on the other hand (Shin & Soenen,1998).This is because most firms in commercial and service industry manage too much working capital that reduces risk and returns, while too little working capital increases risk and return (Reason, 2008).Some managers in

commercial and service sectors spend considerable time on day to day problems that involve working capital decisions (Rehaman and Nasr, 2007). With regard to current liabilities, a firm is responsible to paying these debts on timely basis. Taken together, decisions on current assets and liabilities become frequent, repetitive and time consuming (Samiloglu & Demirgunes, 2008).

Studies have been done in relation to working capital and financial performance of firms: Deloof (2003) found that the way working capital is managed has a significant impact on the profitability of businesses. He used a sample of 1,009 large Belgian non-financial firms for the period of 1992-1996.He founds a significant negative relation between gross operating income and the number of day's accounts receivable, inventories and accounts payable. In their studies, Smith and Begemann (1997) conducted their work on the industrial firms listed on the Johannesburg Stock Exchange, the results of these studies showed a decrease in the total current liabilities divided by gross funds flow led to an improvement in return on investment and vice versa. The relationship between working capital management and performance was conducted using data from individual industry. Ghosh and Maji (2004) made an empirical study on the relationship between utilization of current assets and operating profitability in the Indian cement and tea industry. The study concluded that the degree of utilization of current assets was positively associated with the operating profitability of all the companies under study

Various studies have been done locally on how various financial elements impact on the firm's profitability. Kimani (2009) undertook a research on the relationship between firm's profitability and its size and the book to market value. The results of the study showed that growth in sales of a firm was positively related to the firm

profitability. Nganga (2009) studied the relationship between working capital and profitability of listed companies at the NSE. The study revealed that investors have a positive opinion on those firms that adopt an aggressive approach to managing their short-term liabilities. A study conducted by Mwangi (2010) found out that there was a direct link between working capital management and systematic risk management

From the above studies, little have been done in relation to between working capital components and Financial Performance of the Commercial and Services Firms quoted at the NSE. A research problem can thus be posed as: what is the relationship between working capital components and Financial Performance of the Commercial and Services Firms quoted at the NSE?

1.3 Research Objective

The objective of the study was to investigate the relationship between working capital components and financial performance of the commercial and services firms quoted at the Nairobi Securities Exchange.

1.4 Value of the Study

The study findings will be useful in helping the policy makers in designing targeted policies and programs that will actively stimulate the growth and sustainability of the Commercial and Services Firms in the country, as well as helping those policy makers to support, encourage, and promote the establishment of these firms.

This study will also be useful to Commercial and Services Firms, by offering an understanding on the importance of maintaining an optimal working capital and postulating the relationship that exist between the existing level of working capital

and the financial performance. The findings of this study hopes to shed more light in providing practical suggestions on how to improve the management of working capital in various firms in different business lines.

Finally, other researchers and scholars will benefit from the findings of this study as it is expected to open up new areas for further research. In the changing competitive environment, the study will help in highlighting the main components of working capital and their relationship with financial performance. This will aid researchers to better understand the business dynamics of Commercial and Services industry.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This chapter reviews the literature relating to working capital management and its influence on the firms performance. It will discuss the theoretical framework of the study, the determinants of financial performance, empirical studies and the summary of the literature review.

2.2 Theoretical Framework

The theoretical framework of this study will be anchored on three key theories that support the relationship between working capital components and financial performance. These theories are namely: Transaction Cost Theory, cash conversion cycle theory and working capital management theory.

2.2.1 Transaction Cost Theory

According to Khan and Hildreth (2004), transaction cost theory is a promising perspective for financial management theory for two main reasons: the ambiguity of transactions, and the widely accepted value of efficiency in this area. In principle, revenues could be collected with three different types of contracts between the revenue collecting authority and the revenue collector: wage, share and fixed-rent contracts. Wage contracts mean that the government hires revenue collection agents on fixed wages, and the revenue collection agents agree to turn over to the government all the revenues they collect.

Share contract occurs when in lieu of a wage payment, the revenue collection agent holds on to a prespecified share of the revenues collected. Fixed rent contracts occur

when the revenue collectors agree to pay a prespecified sum to the government in return for the right to the entire revenue proceeds. Before the 19th century, the fixed-rent contract was the dominant form of revenue collection. The wage contract is the dominant form of revenue collection in modernized systems, so much so that other methods of collecting revenues are seen as anomalous (Chittenden, Poutziouris & Michaelas, 2008).

Many issues in expenditure management also are contracting, expenditure management is a three stage administrative process that is determination of the policies, objectives, and resources needed, allocation of resources needed for those objects and assurance that specific tasks are carried out economically, efficiently and effectively. Transaction costs (bargaining and decision costs) are involved in determining expenditure policy because such policy is essentially an expenditure contract between elected officials (with assistance of central budgeting bureau, or CBB) and spending agencies. Therefore, what occurs in creating expenditure, a "political transaction cost" (Rabin and Mathew, 1998).

After a budget is approved, an expenditure contract exists between CBB (on behalf of elected officials) and spending agencies in which the CBB controls the policy making promises to supply funds under specific conditions, and the spending agency agrees to spend the money in ways that have been agreed upon. Both elected officials and spending agencies may behave opportunistically. Contract enforcement in this financial transaction has not been overlooked by academic scholarship: researchers from political science and public choice have produced a huge body of literature on this issue (Kriz and Kenneth, 2000).Working capital management is a significant area of financial management, and the administration of working capital may have an important impact on the profitability and liquidity of the firm (Shin and Soenen,

1998). They point that firms can choose between the relative benefits of two basic types of strategies for net working capital management: they can minimize working capital investment or they can adopt working capital policies designed to increase sales. Thus, the management of a firm has to evaluate the trade-off between expected profitability and risk before deciding the optimal level of investment in current assets.

2.2.2 Cash Conversion Cycle Theory

Cash conversion theory was propounded by Blinder and Maccini (2001), cash conversion cycle theory is the time it takes a company to convert its resource inputs into cash. It evaluates how effectively a firm is managing its working capital. In most cases, a company acquires inventory on credit, which results in accounts payable. A firm can also sell products on credit, which results in accounts receivable. Cash, therefore, is not involved until the firm pays the accounts payable and collects accounts receivable. So the cash conversion cycle measures the time between outlay of cash and cash recovery (Siddiquee, Khan & Shaem Mahmud, 2009).This cycle is essential for retailers and similar businesses. It is essential for retailers and similar businesses. This measure describes how quickly a company can convert its products into cash through sales. The shorter the cycle, the less time capital is tied up in the business processes, and thus the better for the company's bottom line (Wang (2002)

The proponents of this theory argue that a short cycle allows a business to quickly acquire cash that can be used for additional purchases or debt repayment. The lower the cash conversion cycle, the more healthy a company generally is. Businesses attempt to shorten the cash conversion cycle by speeding up payments from customers and slowing down payments to suppliers. Cash conversion cycle can even be negative; for instance, if the company has a strong market position and can dictate

purchasing terms to suppliers that is it can postpone its payments (Brennan et al., 2003)

Richards and Laughlin (1980) argued that traditional ratios such as current ratio, Quick acid test and cash ratios has not been able to provide accurate information about working capital and insisted on using ongoing liquidity measures in working capital management, where ongoing liquidity refers to the inflows and outflows of cash as a product of acquisition, production, sales, payment and collection process done over time. The firm‘s ongoing liquidity is a function of its cash conversion cycle, hence the appropriateness of evaluation by cash conversion cycle, rather than liquidity measures (Wilner, 2000)

2.2.3 Working Capital Management Theory

Working capital management theory was advanced by (Smith, 2004).). This theory is guided by two methods static and dynamic. The static method is based on the liquidity ratios. Commonly used current and quick ratios based on the data of balance sheet, measures liquidity at some point in time. The dynamic method is related to the operations of the company (Brigham & Ehrhardt, 2004).Cash conversion cycle is a dynamic measurement of the time between cash payment for raw materials and then receiving it from accounts receivable. As far as the dynamics of ongoing liquidity management is concerned cash conversion cycle combines both balance sheet and income statement data to measure liquidity with dimension of time. Working capital management theory is based on the traditional models of the CCC that was initiated by (Brennan, Maksimovic & Zechner, 2003).

It is a great measure to know that how fine a corporation is organizing its working capital. Blinder and Maccini (2001) concluded that cash conversion cycle is the most important aspect in working capital management. In fact it tells about the investment and credit decisions in the customer, inventory and suppliers, which show average number of days started from the date when the firm starts payments to its suppliers and the date when it begins to receive payments from its regulars. Bodie & Merton (2000), analyzed the trends in the WCM and its influence on business performance for small manufacturers of Mauritius. He reported that firm's needs for working capital of change over time depending on the rate of creation of money and high internal investment in inventories and receivables led to reduced profitability. There are two concepts of working capital namely quantitative and qualitative**.** According to quantitative concept, the amount of working capital refers to total of current assets. Current assets are considered to be gross working capital in this concept. The qualitative concept gives an idea regarding source of financing capital. According to qualitative concept the amount of working capital refers to "excess of current assets over current liabilities (Abuzayed, 2012).

The excess of current assets over current liabilities is termed as 'Net working capital. In this concept Net working capital represents the amount of current assets which would remain if all current liabilities were paid. Both the concepts of working capital have their own points of importance (Appuhami, 2008). If the objectives is to measure the size and extent to which current assets are being used, Gross concept is useful; whereas in evaluating the liquidity position of an undertaking 'Net concept' becomes pertinent and preferable (Hutchison, Farris & Anders, 2007).At one given time both the current assets and current liabilities exist in the business. The current

assets and current liabilities are flowing round in a business like an electric current. However, the working capital plays the same role in the business as the role of heart in human body. Working capital funds are generated and these funds are circulated in the business. As and when this circulation stops, the business becomes lifeless. It is because of this reason that he working capital is known as the circulating capital as it circulates in the business just like blood in the human body (Smith & Begemann, 1997).

2.3 Determinants of Financial Performance of Commercial and Services Firms

There various determinants of financial performance of commercial and services firms namely Growth of firms, size of the firm, risk profile of the firm, liquidity of the firm and Tax.

2.3.1 Growth of the firm

Growth of the firms is an essential determinant of the firm, growth of the firm is attributable to increase in net assets. Firms are a collection of a certain number of resources that provide the means to successfully take advantage of those opportunities and grow (Barney, 1991). Penrose (1959) there is no limit to the growth of the firms; it is the rate of growth what is limited in the short run but there is no limit to the size of the firm.

2.3.2 Size of the Firm

The other determinant of financial performance of commercial and services firm is the size of the firm. Large firms are more likely to manage their working capitals more efficiently than small firms. Most large firms enjoy economies of scale and thus are

able to minimize their costs and improve on their financial performance (Kumar, 1995).

2.3.3 Risk Profile of the Firm

Risk profile a significant determinant of financial performance of commercial and services firms. Proper management of working capital management components helps in reducing the costs of the firm this highly contributes in reducing the liquidity risk of the firm and thus mitigating any financial losses that might be attributed to lack of finances to take advantage of profitable investments (Popkin and Company, 1991).

2.3.4 Liquidity of the Firm

Liquidity of the firm is a key determinant of the firm's financial performance Liquidity risk can be measured by two main methods: liquidity gap and liquidity ratios. The liquidity gap is the difference between assets and liabilities at both present and future dates. At any date, a positive gap between assets and liabilities is equivalent to a deficit (Storey, 1994).Liquidity ratios are various balance sheet ratios which should identify main liquidity trends. These ratios reflect the fact that firm should be sure that appropriate, low cost funding is available in a short time. This might involve holding a portfolio of assets than can be easily sold cash reserves, minimum required reserves or government securities.

2.3.5 Leverage of the Firm

Leverage of the firm is a key determinant of financial performance of the firm. The firms leverage decisions centers on the allocation between debt and equity on financing a firm (Variyan and Kraybill, 1994).Leverage affects the level and variability of the firm's after tax earnings and hence, the firm's overall risk and return. The study of leverage is significant due to the following reasons (Hall, 1997).

Operating risk refers to the risk of the firm not being able to cover its fixed operating costs. Since operating leverage depends on fixed operating costs, larger fixed operating costs indicates higher degree of operating leverage and thus, higher operating risk of the firm. High operating leverage is good when sales are rising but risk when the sales are falling (Rajan and Zingales, 1998).

2.4 Empirical Studies

A study was conducted by Smith and Begemann (1997) on 65 industrial firms listed on the Johannesburg Stock Exchange, the study used a descriptive survey and data was analyzed using a regression model. The results of the analysis indicated that a decrease in the total current liabilities divided by gross funds flow led to an improvement in return on investment and vice versa.

Most empirical studies relating to working capital management and profitability support the fact that aggressive working capital policies enhance profitability. Deloof (2003) also found that the way working capital is managed has a significant impact on the profitability of businesses. He used a sample of 1,009 large Belgian non-financial firms for the period of 1992-1996. However, used trade credit policy and inventory policy are measured by number of day's accounts receivable, accounts payable and inventories, and the cash conversion cycle as a comprehensive measure of working capital management. He found a significant negative relation between gross operating income and the number of day's accounts receivable, inventories and accounts payable.

The relationship between working capital management and performance has been conducted using data from individual industry. Ghosh and Maji (2004) made an

empirical study on the relationship between utilization of current assets and operating profitability in 92 Indian cement and tea industry. A cross sectional survey was carried out in each of the firms. A comparative analysis was done and it was concluded that the degree of utilization of current assets was positively associated with the operating profitability of cement and tea industries.

Garcia and Martinez (2007) used food industry in Greece to examined the cash conversion cycle as a liquidity indicator of 55 firms and attempts to determine its relationship with the current and the quick ratios, with its component variables, and investigates the implications of the cash conversion cycle in terms of profitability. A descriptive survey was used. Secondary data was analyzed using a regression model. The results of their study indicate that there is a significant positive relationship between the cash conversion cycle and the traditional liquidity measures of current and quick ratios. The cash conversion cycle also positively related to the return on assets and the net profit margin but had no linear relationship with the leverage ratios.

Chakraborty (2008) and Mallik et al. (2005) carried out a study on the relationship between working capital and profitability with reference to selected companies in the pharmaceutical industry and noticed that the joint influence of the liquidity, inventory management and credit management on the profitability were statistically very significant in nine out of 17 pharmaceutical companies selected for the study. A regression analysis was done and the results of the analysis showed that an inverse relationship between working capital and profitability of selected pharmaceutical companies.

Zariyawati et al. (2009) examined the relationship between profitability and the length of the cash conversion cycle using six different economic sectors which are listed in

Bursa Malaysia. A descriptive survey was used and data was analysis using regression model. The results of this analysis showed a strong negative significant relationship between cash conversion cycle and firm profitability.

Mutungi (2010) did an investigation on the relationship between working capital management policies among oil marketing firms in Kenya. The study highlighted what other studies found out on the three common working capital management policies namely aggressive, conservative and moderate policies. The research design was causal research trying to establish the relationship between policies applied with the profitability of the oil marketing firms. The design came up with a regression model with the dependent variable being the net operating income with independent variables including Average collection period, inventory turnover period, average payment period, current ratio, debt ratio and natural logarithm of sales. The population for the study focused on the oil marketing firms who are members of Petroleum Institute of East Africa, analyzing financial statements for the 4 years from the year 2006 to 2009. The analysis includes statistics like mean, correlation, regression analysis, ANOVA and coefficients statistics. Analysis of the questionnaire was done and the findings represented in tables, graphs and pie charts. The study found out that the identified independent variables affect the performance by 56.7%, and that the oil marketers reviewed apply aggressive working capital policy.

Odhiambo (2011), the research was a casual study. The population of interest was all the deposit-taking SACCOs licensed by SASRA in Nairobi County as at 31 December 2011. There were 15 SACCOs that were sampled in the study of which complete data for 13 of them were available and analyzed. The study incorporated data for the last four years (2008 – 2011). In order to analyze the effects of working capital

management on the firm's financial performance, interest rate on member's deposits as measure of financial performance was used as the dependent variable. The independent variable (working capital management) was measured by cash conversion cycle, current ratio, debt ratio and turnover growth. Spearman‟s Correlation analysis was used to establish the interdependence of working capital and financial performance variables. Regression analysis was used to establish the relationship between working capital management and financial performance. Findings of the study indicated that efficient working capital management leads to better financial performance of a SACCO; hence a positive relationship existed between efficient working capital management and financial performance variable.

Waithaka (2012) examined the relationship between working capital management and financial performance of agricultural entities in Kenya. The study adopted a Correlational or Prospective Research Design which attempted to explore the relationship between working capital management and financial performance to make predictions with the use of two or more variables for each. The target population consisted of the 7 agricultural companies listed at the Nairobi Securities Exchange. The data was analyzed using both descriptive and inferential statistics. The study revoked that, financial performance was positively related to efficiency of cash management (ECM), efficiency of receivables management (ERM) and efficiency of inventory management (EIM) at 0.01 significance level.

Atieno (2012) conducted study, a descriptive survey was used, the population of the study was 58 companies listed on the NSE by 31st December 2011. A sample size of firms with the exception of financial institutions was therefore selected for the study. Secondary data was collected in this study from the financial statements of the firms

from 2006 to 2011. Data was analyzed using descriptive analysis, correlation analysis and regression analysis. The regression analysis showed that logarithm of sales and current ratio had a positive and significant impact on performance at 5% level. The rest of the variables did not have a significant effect on performance. Therefore, of the working capital variables, only current ratio had a significant positive effect on performance. The study also concludes that as the current ratio rises, so does the firm performance as measured by ROA.

In his study, Kabethi (2013) employed a quantitative research design which was useful in establishing the relationship of working capital management and financial performance. In addition, the study employed a cross sectional survey to establish whether SMEs in Kenya carry out WCM practices. A sample of 100 SMEs for a period of two years, 2009 and 2010 was used. However, a total of 89 responses were received. The study relied on both primary data, collected through a questionnaire, and secondary data collected from annual reports and financial statements of SMEs in Kenya. The WCM components used for the purpose of this study were, Accounts Payable Period (APP), Inventory Conversion Period (ICP) and Average Collection Period (ACP). Return on Assets (ROA) was used as the proxy for financial performance. The study employed a regression analysis and the Pearsons' correlation analysis was used to test the significance of relationship between WCM and financial performance of SMEs in Kenya. The results of the study indicate that 62.9% of the SME's in Kenya do not have a written policy on WCM. The results further indicated there is a significant positive relationship between WCM components (APP, ACP and ICP) and financial performance of SMEs in Kenya, at 0.05 significance level.

2.5 Summary of the Literature Review

The empirical studies show that effective management of working capital components has a significant effect on financial performance of firms. Firms should ensure a proper balance between assets and liability, this is essential in enabling the firm to meet its short-term and long-term obligations as well as investing in profitable projects that promise higher returns. Empirical evidence shows that there is a positive correlation between working capital components and financial performance of firms. Researchers such as Atieno (2012) and Kabethi (2013) have concluded that there is a positive correlation between working capital management and financial performance. This has been supported by Lazaridis & Tryfonidis (2006) who have concluded that there was a significant positive relationship between the cash conversion cycle and the traditional liquidity measures of current and quick ratios. This study is geared towards establishing whether there is any relationship between working capital components and Financial Performance of the Commercial and Services Firms quoted at the NSE.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter sets to explain the research design, the population of interest, the basis of sample selection, the type of secondary data used, the sources of data, the techniques of analysis used and the data analysis.

3.2 Research Design

This study employed a descriptive survey design which is a research technique concerned with describing a population with respect to important variables with the major emphasis being on determining the frequency with which something occurs or the extent to which two variables co-vary (Kothari, 2005). This method was appropriate in showing the relationship between working capital components and financial performance of the commercial and services firms quoted at the Nairobi security exchange.

3.3 Population of the Study

The population of interest in this study was all commercial and services firms quoted at the Nairobi security exchange and have operated between 2009 and 2013. Currently, there are 6 firms listed at the NSE (Appendix I). The reason as to why this group is chosen is due to the availability and the reliability of the financial statements in that they are subject to the mandatory audit by internationally recognized audit firms as well as regulators. Since the number of the respondents is limited the study was a census survey.

3.4 Data Collection

Data was collected from annual reports submitted to the NSE and Capital Markets Authority. From the financial statements, the researcher collected information on the Inventory holding period calculated by dividing inventory by cost of sales multiplied by 365 days, The average number of days the firm takes to collect receivables from customers, The average number of days it takes a firm to pay trade creditors, The average number of days it takes a firm to pay trade creditors, The CCC is calculated as (INV + AR - AP), which represents the average timing difference between when a firm pays for its suppliers and the time it takes to recoup amount invested in debtors and In addition, in order to obtain a representative sample from the population, a number of filters was applied that include firms that were continuously operated over the period 2009 to 2013 were considered in the study.

3.5 Data Analysis

Multiple regression analysis was applied to the data to examine the effect of the various aspects of working capital and its components on the performance of the listed firms. The statement of financial position as well as the statement of financial performance and their notes were studied to get the data for the variables mentioned in the model

The regression is adapted from the one used by Tauringana & Adjapong (2012) when he did a similar research on UK firms.

3.5.1 Analytical Model

The model specifically took the form;

$ROA = \beta o + \beta_1 CCC + \beta_2\ INV/CA + \beta_3 CA/TA + \beta_4 FA/TA + \beta_5,\ LEV + \beta_6\ TALOG + \acute{\varepsilon}$

Where :

ROA	=	EBIT/total assets
CCC	=	The CCC is calculated as (INV þ AR 2 AP), which represents the average timing difference between when a firm pays for its suppliers and the time it takes to recoup amount invested in debtors and inventory
INV/CA	=	Inventory to current assets calculated by dividing inventory by current assets
CA/TA	=	Current asset to total asset is calculated by dividing current assets by total assets
FA/TA	=	Fixed assets to total assets is calculated by dividing fixed assets by total assets
LEV	=	Leverage is calculated by dividing total debt by total assets
TALOG	=	Logarithm of total assets is calculated by taking the logarithm of the total assets figure
$\acute{\varepsilon}$	=	Random error term

3.5.2 Test of Significance

The F- test was used to determine the significance of the regression while the coefficient of determination, $R^{2,}$ was used to determine how much variation in dependent variable is explained by independent variables. This was done at 5%

significance level and correlation analysis was carried out to find the direction of the relationship between ROA and the independent variables. The Statistical Package for Social Sciences (SPSS) was used to analyze the data.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the results and findings of the study based on the research objectives. The results are presented in the form of summary tables. In addition a regression analysis is used to analyze the data to answer the research objective and to establish the strength of the relationship between the variables under consideration, correlation analysis is performed.

4.2 Response Rate

To achieve the objective of the study which was to determine the effect of working capital components and financial performance of commercial and services firms quoted at the Nairobi Securities Exchange, the researcher obtained data from financial statements of all the six sampled firms at Nairobi Securities Exchange.

4.3 Descriptive Statistics

Table 4.1 below summarizes the descriptive statistics of the variables included in the regression models as presented. It represents the variables of the 6 commercial and services firms operating in the Kenya in the financial years 2009-2013.Below are the results of the findings:

Table 4.1: Summary Statistics

	ROA	CCC	INV/ CA	CA/TA	FA/TA	LEV/TA	TA Log
Mean	.1153	38	.1135	.4179	.5823	.3797	4.8177
Median	.1245		.1125	.3115	.5678	.2889	.9972
Minimum	.0606	29	.0564	.2342	.7821	1458	3.6951
Maximum	.1525	53	.2850	.5429	.4602	.5470	6.7823
Std. Deviation	0.1925	46	.1490	.3461	.4763	.4280	2.3425

Source: Calculations based on Annual reports of firms from 2009-2013

Notes: ROA – Return on Assets; CCC- Cash Conversion Cycle; INV/CA; Inventory / current Assets; CA/TA – Current Assets / Total Assets; FA/TA – Fixed assets /total assets; Lev/TA – Leverage / Total Assets; TA Log – Logarithm of total Assets

The mean value of the return on assets is 11.53% of the total assets and the standard deviation is 19.25%. To get the cash conversion cycle, the average number of days it in takes to turn over inventory is 43 days while on average it takes the firms to receive their cash from credit sales 32 days. At the same time it takes the firm's 37 days to pay their trade creditors, with a median of 27.2 days. The difference in the accounts receivable and payable days means that the SMEs are likely to suffer from cash flow problems, since they pay their creditors in less time than it takes their debtors to pay them. The average CCC of 38 days which indicates that the commercial and services sector firms take around one and half months from the outlay of cash to buy inventory until they receive payment from their debtors. The descriptive statistics of the control variables indicate that on average the inventory constitutes 11.35 per cent of the current assets (INV/CA). The average current assets to total assets ratio is 0.49:1. The average fixed assets to total assets ratio is 0.58:1. For quantitative analysis the study used correlation analysis and regressions model. This model was used to identify the effects of working capital components on

financial performance of the firms. The determinants of working capital were estimated using pooled least squares and general least squares method with cross section weights. As pointed out by Raheman and Nasr (2007), when using pooled data and cross sections there may be a problem of hetroskedasticity (changing variation after short period of time) and to counter this problem, the general least square with cross section weights approach was adopted.

4.4 Correlation Analysis

Table 4.2 below shows the Pearson correlation coefficient generated from the data. Consistent with Shin and Soenen (1998), Pearson's Correlation analysis is used for data to see the relationship between variables such as those between working capital components and profitability. If efficient working capital management exists, then I expect increases in profitability and if the working capital component leads to a decrease in profitability, then a negative relationship between the measures of working capital and profitability variable will occur. There is a negative relationship between gross profitability on the one hand and certain measures of working capital management on the other hand.

Table 4. 1: Pearson Correlation Coefficient

ROA	ROA	CCC	INV/CA	CA/TA	FA/ TA	UV/TA	TA Log
ROA	1						
CCC	-.088	1					
INV/ CA	.655**	.446*	1				
CA/TA	.618**	.068	.565**	1			
FA/TA	-.515**	-.104	-.474*	-.833**	1		
UV/TA	-.200	-.155	-.206	-.173	.178	1	
TA Log	.273	.433*	-.038	-.476*	.239	.-.149	1

Source: Calculations based on Annual reports of firms from 2009-2013

The correlation results in Table 4.2 indicate significant negative correlations between CCC and profitability of the firm. This result is expected because if a firm has lower cash conversion cycle, then it is expected that it will receive the cash sooner which can be invested to earn more return. On the other hand the negative relationship between ROA and CCC is consistent with the view that the time lag between the expenditure for the purchases of raw materials and the collection of sales of finished goods can be too long and that decreasing this time lag increases profitability (Deloof, 2003). A negative relationship exists between the FA/TA and profitability ($p<0.05$). This result means that firms can improve their profitability by reducing the ratio of fixed assets outstanding. Thus it implies that as firms expand, the fixed assets should not increase disproportionately compared to current assets because what generates returns more is current assets or generally the working capital. This result therefore implies that managers can improve their firms' profitability by reducing the level of fixed assets as compared to current assets. This finding of the will be in tandem with

that of Lazaridis and Tryfomdis (2006) as well as that of Mathuva (2010). The correlations among the remainder of the independent variables suggest that multicollinearity should not be a problem in multiple regression analysis since the coefficient values are low. Field (2005) suggested that multicollinearity becomes a problem only when the correlation coefficient exceeds 0.80 or 0.90.

The firm size, as measured by the logarithm of total assets, is positively related to profitability and this is significant at 5%. This means that larger firm report higher profits compared to smaller firms and all other factors remaining constant, the size of the firm is directly related to age of the organization. This may be due to larger firm's ability to exploit their economies of scale. The use of leverage is negatively related implying that the firms are not able to generate more through borrowing if the cost of borrowing is lower than the opportunity cost of using internal financing or sourcing additional equity capital.

4.5 Regression Analysis and Hypothesis Testing

To achieve the objective of the study, the researcher used regression analysis to determine the relationship between working capital components and financial performance of listed firms. Below are the results of the findings:

4.5.1 Model Summary

Table 4.4 below shows the summary of the model generated. The value of R^2 is 0.659; revealing 65.9% of variability in profit for the firms is accounted for by the prudent management of working capital components. The adjusted R^2 is an improved estimation of R^2 in the population. The value of adjusted R^2 is 0.562. This adjusted measure provides a revised estimate, i.e. 56.2 per cent of the variability in profitability of firms due to the fitted model.

Table 4. 3: Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.812[a]	.659	.562	.0678110
a. Predictors: (Constant), TA Log, INV/ CA, UV/TA, FA/TA, CCC, CA/TA				

Source: Calculations based on Annual reports of firms from 2009-2013

From the above findings in table 4.4 above, the variations between the variables has been explained by 66% of the model. Similarly, the results of the findings showed that the variables contributed 81% on the relationship between the independent and the dependent variables.

4.5.2 Analysis of Variance

To ascertain the extent of difference in the working capital components across the firms, ANOVA Test was applied. ANOVA is carried out for each working capital component versus the firms performance at F=0.05.

Table 4. 4: Anova Table

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.187	6	.031	6.772	.000[b]
	Residual	.097	21	.005		
	Total	.283	27			
a. Dependent Variable: ROA						
b. Predictors: (Constant), TA Log, INV/ CA, UV/TA, FA/TA, CCC, CA/TA						

Source: Calculations based on Annual reports of firms from 2009-2013

It is observed from Table 4.5 that the calculated *F*-value is more than the table value (F value =2.61 at 5% significance level). This means that there is significance difference in the working capital components among the firms under investigation.

The estimates of the regression coefficients, t-statistics, standard errors of the estimates and p-values are shown in 4.3 below.

The coefficient column gives estimated regression coefficients. It can be estimated that there would be 49.3 per cent positive change in the future profitability of the firms as a result of a unit change in inventory as a ratio of total assets. The t-statistic for this coefficient is 3.84, i.e. significant. From the findings it can be deduced that as the firms inventory level increases, it is going to invest the stock to generate more income which will increase the firms future profitability, a finding that contradicts the finding of Diamond and Rajan, (2001) as well as Kumar (2008).

4.5.3 Tests of Coefficients

The study examined the tests of coefficients to determine whether the variables were significant or insignificant at 95% confidence level. Below are the results of the findings:

Table 4. 5: Results of General Least Square

Coefficients								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.032	.173		.182	.857		
	CCC	-.002	.001	-.457	-2.765	.012	.594	1.684
	INV/ CA	.491	.128	.687	3.84	.001	.507	1.971
	CA/TA	-.138	.158	.268	-.874	.392	.173	5.774
	FA/TA	-.010	.127	-.019	-.077	.939	.270	3.697

	LEV/TA	-.009	.017	-.069	-.512	.614	.897	1.114
	TA Log	.005	.014	.073	.393	.699	.469	2.134
a. Dependent Variable: ROA								

Source: Calculations based on Annual reports of firms from 2009-2013

The resultant regression will be as follows:

$ROA = 0.032 - 0.020X_1 - 0.491X_2 - 0.138\ X_3 - 0.\ 010\ X_4 + .009\ X_5 + .005\ X_6$

The results in Table 4.3 show that none of the correlations between independent variables exceeds the threshold values. However, according to Myers (1990), a certain degree of multicollinearity can still exist even when none of the correlation coefficients are very large. In addition, a variance inflate on factors (VIFs) in the model is used to further test for multicollinearity. The highest VIFs were well below the threshold value of 10 suggested by Field (2005) indicating that multicollinearity does not pose a problem to the regressions.

The results in respect of CCC, which suggest an insignificant association with profitability, are contrary to most of the previous finding by Nobanee (2009). The finding that CA/TA and FA/TA are negatively and significantly associated with profitability is an indication that the firms with a higher proportion of current assets to total assets and fixed assets to total assets are less profitable. High leveraged firms may be less profitable due to high interest charges they pay on their borrowings as indicated by the significant negative relationship between LEV and profitability. Finally, the results which indicate a positive and significant association between TA_LOG and profitability suggest that larger firms tend to be more profitable.

4.6 Discussion of Research Findings

According to the findings, the correlation analysis revealed that none of the correlations between independent variables exceeds the threshold values. However, according to Myers (1990), a certain degree of multicollinearity can still exist even when none of the correlation coefficients are very large. In addition, a variance inflate on factors (VIFs) in the model is used to further test for multicollinearity. The highest VIFs were well below the threshold value of 10 suggested by Field (2005) indicating that multicollinearity does not pose a problem to the regressions. In a study conducted by Kabethi (2013) employed a quantitative research design which was useful in establishing the relationship of working capital management and financial performance. In addition, the study employed a cross sectional survey to establish whether SMEs in Kenya carry out WCM practices. A sample of 100 SMEs for a period of two years, 2009 and 2010 was used. However, a total of 89 responses were received. The study relied on both primary data, collected through a questionnaire, and secondary data collected from annual reports and financial statements of SMEs in Kenya.

The WCM components used for the purpose of this study were, Accounts Payable Period (APP), Inventory Conversion Period (ICP) and Average Collection Period (ACP). Return on Assets (ROA) was used as the proxy for financial performance. The study employed a regression analysis and the Pearsons' correlation analysis was used to test the significance of relationship between WCM and financial performance of SMEs in Kenya. The results of the study indicate that 62.9% of the SME's in Kenya do not have a written policy on WCM. The results further indicated there is a significant positive relationship between WCM components (APP, ACP and ICP) and financial performance of SMEs in Kenya, at 0.05 significance level.

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The results of the regression analysis reveals that the value of R^2 is 0.659; revealing 65.9% of variability in profit for the firms is accounted for by the prudent management of working capital components. The adjusted R^2 is an improved estimation of R^2 in the population. The value of adjusted R^2 is 0.562. This adjusted measure provides a revised estimate, i.e. 56.2 per cent of the variability in profitability of firms due to the fitted model. These findings are consistent with the following studies: Waithaka (2012) examined the relationship between working capital management and financial performance of agricultural entities in Kenya.

The study adopted a Correlational or Prospective Research Design which attempted to explore the relationship between working capital management and financial performance to make predictions with the use of two or more variables for each. The target population consisted of the 7 agricultural companies listed at the Nairobi Securities Exchange. The data was analyzed using both descriptive and inferential statistics. The study revoked that, financial performance was positively related to

efficiency of cash management (ECM), efficiency of receivables management (ERM) and efficiency of inventory management (EIM) at 0.01 significance level.

In another study by Atieno (2012) conducted study, a descriptive survey was used, the population of the study was 58 companies listed on the NSE by 31st December 2011. A sample size of firms with the exception of financial institutions was therefore selected for the study. Secondary data was collected in this study from the financial statements of the firms from 2006 to 2011. Data was analyzed using descriptive analysis, correlation analysis and regression analysis. The regression analysis showed that logarithm of sales and current ratio had a positive and significant impact on performance at 5% level. The rest of the variables did not have a significant effect on performance. Therefore, of the working capital variables, only current ratio had a significant positive effect on performance. The study also concludes that as the current ratio rises, so does the firm performance as measured by ROA.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a summary of the key findings of the study as well as the conclusions, limitations of the study, and recommendations for further research.

5.2 Summary of the Findings

The objective of the study was to investigate the relative importance of WCM, measured by cash conversion cycle (CCC) and its components (INV, AR, AP) to the profitability of commercial and services sector listed at the NSE. The study was based on a panel data regression analysis of the financial data of 6 firms over a five year period (2009-2013). The results from the panel data regression analysis suggest that CCC is important for the profitability of firms. Working capital management came out as an important parameter to be considered by a firm in projecting its profitability level as well as its influencing in liquidity.

There should be a tradeoff between maximizing a firm's profitability and the need to have adequate liquidity level. this is because decisions that tend to maximize profitability tend to minimize the chances of adequate liquidity while at the same time, focusing almost entirely on liquidity will tend to reduce the potential profitability of the firm. In general, the results of general least squares method with cross section weights indicate the same interpretation that the working capital management affects profitability of the company and that if the firm can effectively manage its working capital, it can lead to increasing profitability.

The firm size, as measured by the logarithm of total assets, is positively related to profitability. This means that larger firm report higher profits compared to smaller firms and all other factors remaining constant, the size of the firm is directly related to age of the organization. This may be due to larger firm's ability to exploit their economies of scale. The use of leverage is negatively related implying that the firms are not able to generate more through borrowing if the cost of borrowing is lower than the opportunity cost of using internal financing or sourcing additional equity capital.

5.3 Conclusion

Working capital management is important in the case of commercial and services firm's since most of these companies' assets are in the form of current assets. Also, current liabilities are one of their main sources of external finance. The results confirm the important role of working capital management in value generation in commercial and services firms. There is a significant negative relation between the firm's profitability and the number of day's accounts receivable and days of inventory which will tend to lengthen the cash conversion cycle. Hence the firms should be concerned with working capital management because it can also create value by reducing their cash conversion cycle to a minimum, as far as that is reasonable.

On the basis of the above analysis it can further be concluded that these results can be strengthened if the firms manage their working capital and leverage in more efficient ways. Management of working capital means "management of current assets and current liabilities, and financing these current assets using cheap sources of finance. If these firms properly manage their cash, accounts receivables and inventories in a proper way, this will ultimately increase profitability of these companies.

It is found that significant statistical evidence exists to support the objective that the working capital management is positively associated to the profitability (ROA). When the working capital management efficiency is improved by decreasing days of working capital, there is improvement in profitability of the sampled firms namely: access Kenya Group, car and General (Kenya) Limited, CMC Holdings Limited, Express Kenya Limited Kenya Airways Limited and Marshalls (East Africa) Limited in terms of ROA. This enables firms to invest in profitable ventures through diversification in order to increase their market share.

The study concludes that there exists a strong positive relationship between components of working capital and financial performance though the results were insignificant at 5% level. Commercial firms in Kenya wishing to revamp their companies and improve financial performance should put more emphasis in the area of efficient working capital management. It is without a doubt that the efficiency in working capital management practices as measured by efficiency in cash management, efficiency in receivables management and efficiency in inventory management has an influence on the growth rate of businesses' sales, market share, profits and total assets and consequently plays a huge role in the financial performance of a company.

5.4 Recommendations

In spite of the limitations, taken overall, these results have implications for both commercial firms and future research on the relative importance of WCM and its components on profitability. The relative importance of WCM and its components to profitability is potentially useful for the management of business units who have limited resources and may wish to prioritise the management of those WCM

components that are more important to the firms' profitability. The above study is important for policy makers and regulators who need to motivate and encourage managers and shareholders to pay more attention on working capital through improving investors' awareness and improving transparency.

Second, the conflicting findings in respect of the relative importance of AR and AP suggest that there is a need for further research to establish which of the two components is relatively more important for a firm's profitability. Although the results are inconclusive as to whether AR or AP is relatively more important, the findings that both are relatively more important than either INV or CCC leads to the conclusion that given the commercial and services firms in developing countries have limited resources, they need to prioritise their WCM by focusing on AR and AP to improve profitability.

The working capital meets the short-term financial requirements of a business enterprise. It is the investment required for running day-to-day business. It is the result of the time lag between the expenditure for the purchase of raw materials and the collection for the sales of finished products. The components of working capital are inventories, accounts to be paid to suppliers, and payments to be received from customers after sales. Financing is needed for
receivables and inventories net of payables.

The proportions of these components in the working capital change from time to time during the trade cycle. The working capital requirements decide the liquidity and profitability of a firm and hence affect the financing and investing decisions. Lesser

requirement of working capital leads to less need for financing and less cost of capital and hence availability of more cash for shareholders. However the lesser working capital may lead to lost sales and thus may affect the profitability

5.5 Limitations of the Study

In interpreting the results, however, some limitations need to be noted. First, the study is limited to the 6 firms listed at the NSE and therefore the findings cannot be generalized to all firms. Moreover, the study places more emphasis on financial measures of performance despite the fact that non-financial measures represent some of the major goals of world class firms since it also affects their performance.

The study focuses on sampled firms in the Nairobi securities Exchange. The results are therefore applicable only a few groups of firms listed in the Nairobi Securities Exchange and any attempt to generalize the findings to other firms outside this scope should be approached with care. The analysis only covered the following listed firmsaccess Kenya Group, car and General (Kenya) Limited, CMC Holdings Limited, Express Kenya Limited Kenya Airways Limited and Marshalls (East Africa) in the NSE and this may limit the fair findings that could have been if the non quoted firms were included and covered. The sample size could also have affected the results and thus the findings should not be generalized with certainty.

The other limitation was lack of sufficient time for the amount of detail and analysis the study involved. It is important to note that detailed tests could be conducted to determine whether the same conclusion could be derived when more variables are in question. It is important to conduct a study with a wider scope then comparisons can be made based on the findings.

5.6 Suggestions for Further Research

By large and large, the study was successful. However, there were inherent limitations arising from the collection and analysis of the available data. There is need for more research to be done in the area of what affects the working capital of financial institutions. Probably other variables other than the ones studied here could explain the variation in working capital of firms of listed firms.

Due to the unavailability of data for previous years, there is need to carry out further research in the near future, so as to capture more data, and thus strengthen the position on the relationship between working capital management policies and profitability of the listed firms in the Nairobi Securities Exchange.

Only several components of working capital were analyzed. Other components of working capital such as cash, securities held. In the financial statements of the listed firms can also be analyzed for their effects on profitability and thus broaden the knowledge base of finance managers on critical areas of working capital that contribute to profitability of these unique Firms.

The time taken to carry out the study was in no means sufficient for the amount of detail and analysis for the study involved. With more time, detailed tests could be conducted to determine whether the same conclusion could be derived when more variables are in question. There are other factors that may affect financial performance; WCM should therefore not be applied in isolation. More studies with blends of other factors affecting financial perfomance together with WCM would be more objective and helpful to the management of listed firms in the Nairobi Securities Exchange in Kenya

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APPENDIX I: LIST OF THE SAMPLED COMMERCIAL AND SERVICES FIRMS

1. Access kenya Group
2. Car and General (Kenya) Limited
3. CMC Holdings Limited
4. Express Kenya Limited
5. Kenya Airways Limited
6. Marshalls (East Africa) Limited

APPENDIX II: SECONDARY DATA FOR THE SAMPLED COMMERCIAL AND SERVICES FIRMS

EXPRESS

Year	ROA	CCC	$\frac{INC}{CA}$	$\frac{CA}{TA}$	$\frac{FA}{TA}$	$\frac{UV}{TA}$	TA_{log}
2013	$\frac{24,090,240}{495,609,240}$	68	$\frac{29,480}{280,410}$	$\frac{280,410}{495,609,240}$	$\frac{215,199}{495,609,240}$	$\frac{318,240}{495,609,240}$	Log 495,609,240
2012	$\frac{13,027,575}{(63,985,964 + 431,623,276)}$	48	$\frac{21,910}{210,640}$	$\frac{63,985}{495,609}$	$\frac{137,662,041}{495,609,240}$	$\frac{(431,491,112)}{495,609,240}$	Log 495,609,240
2011	$\frac{-229,088,113}{1,582,614,260}$	39	$\frac{10,210}{495,609,240}$	$\frac{431,623}{1,582,614}$	$\frac{629,135,064}{1,582,614}$	$\frac{(409,478,913 + 202,142,642)}{xxxxxxxxx}$	Log 1,582,614
2010	$\frac{-28,091}{1,341,699}$	41	$\frac{2,418}{179,082}$	$\frac{179,082}{1,341,699}$	$\frac{1,162,617}{1,341,699}$	$\frac{(397,398 + 559,941)}{1,341,699}$	Log (1,341,699)
2009	$\frac{15,070}{1,304,116}$	45	$\frac{8,872}{153,785}$	$\frac{153,785}{1,304,116}$	$\frac{1,150,331}{1,304,116}$	$\frac{(389,913 + 501,750)}{1,304,116}$	Log 1,304,116

KQ

Year	ROA	CCC	$\frac{INC}{CA}$	$\frac{CA}{TA}$	$\frac{FA}{TA}$	$\frac{UV}{TA}$	TA_{log}
2013	$\frac{7,864}{126,278}$	32	$\frac{2,532}{32,409}$	$\frac{32,409}{126,278}$	$\frac{93,869}{126,278}$	$\frac{97,928}{126,278}$	Log
2012	$\frac{1,660}{80,569}$	46	$\frac{2,683}{21,833}$	$\frac{25,108}{80,569}$	$\frac{55,461}{80,569}$	$\frac{60,266}{80,569}$	Log
2011	$\frac{3,538}{78,743}$	30	$\frac{1,907}{23,622}$	$\frac{23,622}{78,743}$	$\frac{55,121}{78,743}$	$\frac{(33,386 + 22,214)}{78,743}$	Log
2010	$\frac{2,035}{73,263}$	26	$\frac{1,543}{17,860}$	$\frac{17,860}{73,263}$	$\frac{55,403}{73,263}$	$\frac{(327,110 + 20,580)}{73,263}$	Log
2009	$\frac{-4,083}{75,979}$	20	$\frac{1,474}{19,709}$	$\frac{19,709}{75,979}$	$\frac{56,270}{75,979}$	$\frac{(37,081 + 21,722)}{75,979}$	Log

SGL

Year	ROA	CCC	$\frac{INC}{CA}$	$\frac{CA}{TA}$	$\frac{FA}{TA}$	$\frac{UV}{TA}$	TA_{log}
2013	$\frac{1,384,960}{3,840,245}$	18	$\frac{405,675}{1,462,910}$	$\frac{1,496,210}{3,840,245}$	$\frac{2,377,335}{3,840,245}$	$\frac{2,108,476}{3,840,245}$	$Log\ (3,840,245)$
2012	$\frac{882,640}{3,948,400}$	15	$\frac{296,740}{1,384,705}$	$\frac{1,384,705}{3,948,400}$	$\frac{2,563,695}{3,948,400}$	$\frac{2,001,910}{3,948,400}$	$Log\ (3,948,400)$
2011	$\frac{310,948}{3,512,252}$	22	$\frac{310,190}{1,287,683}$	$\frac{1,287,683}{3,512,252}$	$\frac{2,224,574}{3,512,252}$	$\frac{(663,672 + 1,194,519)}{3,512,252}$	Log
2010	$\frac{279,784}{3,306,000}$	24	$\frac{347,197}{1,369,287}$	$\frac{1,369,287}{3,306,000}$	$\frac{1,936,713}{3,306,000}$	$\frac{(734,550 + 1,035,672)}{3,306,000}$	Log
2009	$\frac{263,384}{3,003,966}$	37	$\frac{163,783}{1,081,798}$	$\frac{1,081,798}{3,003,966}$	$\frac{1,922,168}{3,003,966}$	$\frac{(850,966 + 877,572)}{3,003,966}$	Log

TPS

Year	ROA	CCC	$\frac{INC}{CA}$	$\frac{CA}{TA}$	$\frac{FA}{TA}$	$\frac{UV}{TA}$	TA_{log}
2013	$\frac{668,530}{1,6239,878}$	49	$\frac{506,857}{2,374,820}$	$\frac{2,374,820}{16,239,878}$	$\frac{13,865,058}{16,239,878}$	$\frac{2,961,910 + 2,245,691}{16,239,878}$	$Log\ 16,239,878$ *Type equation here.*
2012	$\frac{493,588}{13,484,076}$	64	$\frac{369,306}{2,070,277}$	$\frac{2,070,277}{13,484,076}$	$\frac{11,413,799}{13,484,076}$	$\frac{(3,256,705 + 2,045,961)}{13,484,076}$	$Log\ 13,484,076$
2011	$\frac{615,891}{13,131,840}$	51	$\frac{375,588}{2,414,929}$	$\frac{2,414,929}{13,131,840}$	$\frac{10,716,911}{13,131,840}$	$\frac{(3,469,720 + 1,615,296)}{13,131,840}$	$Log\ 13,131,840$
2010	$\frac{516,384}{(9,587,155 + 2,335,982)}$	59	$\frac{299,776}{2,335,982}$	$\frac{2,335,982}{11,923,137}$	$\frac{9,587,155}{11,923,137}$	$\frac{(2,768,787 + 1,657,965)}{11,923,137}$	$Log\ 11,923,137$
2009	$\frac{380,362}{(5,498,108 + 1,522,281)}$	61	$\frac{226,901}{1,522,281}$	$\frac{1,522,281}{7,020,389}$	$\frac{5,498,108}{7,020,389}$	$\frac{(988,035 + 1,943,771)}{7,020,389}$	$Log\ 7,020,389$

UCHUMI

Year	ROA	CCC	$\frac{INC}{CA}$	$\frac{CA}{TA}$	$\frac{FA}{TA}$	$\frac{UV}{TA}$	TA_{log}
2013	$\frac{485,496}{4,248,000}$	68	$\frac{946,750}{2,984,400}$	$\frac{2,984,400}{4,248,000}$	$\frac{1,264,000}{4,248,000}$	$\frac{(96,390+1,746,250)}{4,248,000}$	$Log 4,248,000$
2012	$\frac{273,977}{3,815,556}$	64	$\frac{802,063}{1,731,936}$	$\frac{1,731,936}{3,815,556}$	$\frac{2,083,620}{3,815,556}$	$\frac{(80,309+1,576,932)}{3,815,556}$	$Log 3,815,556$
2011	$\frac{390,425}{3,374,932}$	75	$\frac{758,002}{1,530,060}$	$\frac{1,530,060}{3,374,932}$	$\frac{1,844,872}{3,374,932}$	$\frac{(183,368+1,408,818)}{3,374,932}$	$Log 3,374,932$
2010	$\frac{865,099}{2,688,112}$	68	$\frac{635,443}{1,125,721}$	$\frac{1,125,721}{2,688,112}$	$\frac{1,562,391}{2,688,112}$	$\frac{(320,140+1,174,012)}{2,688,112}$	$Log 2,688,112$
2009	$\frac{420,630}{2,170,879}$	89	$\frac{546,742}{1,183,056}$	$\frac{1,183,056}{2,170,879}$	$\frac{989,823}{2,170,879}$	$\frac{(820,089+1,735,205)}{2,170,879}$	$Log 2,170,879$

NMG

Year	ROA	CCC	$\frac{INC}{CA}$	$\frac{CA}{TA}$	$\frac{FA}{TA}$	$\frac{UV}{TA}$	TA_{log}
2013	$\frac{2,533.2}{(3,589+7,854.2)}$	48	$\frac{1,094.8}{3,589.9}$	$\frac{7,854.4}{11,443.2}$	$\frac{3,589.9}{11,443.2}$	$\frac{(3,116.4+84.4)}{11,443.2}$	$Log\ (11,443.2)$
2012	$\frac{2,510.3}{(3,429.2+7,248.2)}$	36	$\frac{1,015.2}{3,429.2}$	$\frac{7,248.2}{10,677.4}$	$\frac{3,429.2}{10,677.4}$	$\frac{(3,216.7+137.2)}{10,677.4}$	$Log\ (10,677.3)$
2011	$\frac{2,006.8}{(2,961.2+5,855.1)}$	35	$\frac{1,034.3}{2,961.2}$	$\frac{5,855.1}{8,816.3}$	$\frac{2,961.2}{8,816.3}$	$\frac{(2,530.9+2,961.2)}{8,816.3}$	$Log(8,816.3)$
2010	$\frac{1,538.4}{(2,898.4+5,076.8)}$	28	$\frac{676}{2,898.4}$	$\frac{5,855.1}{7,975.2}$	$\frac{2,898.4}{7,975.2}$	$\frac{2,553}{7,975.2}$	$Log\ (7,979.2)$
2009	$\frac{1,119.2}{(2,806.8+3,765.6)}$	30	$\frac{611.3}{2,806.8}$	$\frac{3,765.6}{6,572.4}$	$\frac{2,866.8}{6,572.4}$	$\frac{(1,769.4+89.3)}{6,572.4}$	$Log\ (6,572.4)$