

**Strathmore**  
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**Effect of Working Capital Management on the Profitability of Kenyan Firms**

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## Abstract

This study seeks to provide empirical evidence about the impact of Working Capital Management (WCM) on the profitability of Kenyan listed firms. This is necessary since Working Capital Management affects both liquidity and profitability of firms and thus it is necessary for firm survival. A sample of 20 firms is chosen from five sectors of the NSE, based on market capitalization as at 2014. The study uses the fixed effects model in order to show the relationship between working capital management components and profitability and also show the effect of aggressiveness of working capital management strategies on profitability of firms listed in the Nairobi Securities Exchange. The study finds that individual working capital management components affect profitability but the effect is not significant to all sectors. Also, the relationship can either be negative or positive between different firms. Therefore, firm managers should employ proper working capital management strategies in order to yield the best results depending on what is best for them. An improvement in the firm's performance shall increase the firm value and eventually shall be of great importance to the shareholders of the company. Both the level of aggressiveness and conservativeness affect profitability of firms listed in the NSE. Therefore, firm managers should employ the best strategy for their firm in order to increase their profits.

## **List of Abbreviations**

WCM – Working Capital Management

GOP – Gross Operating Profit

GOI – Gross Operating Income

CCC – Cash Conversion Cycle

ACP – Average Collection Period

APP – Average Payment Period

ICP – Inventory Conversion Period

ROTA – Return on Total Assets

ROE – Return on Equity

NSE – Nairobi Securities Exchange

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## 1.0 CHAPTER ONE

### 1.1 Background of the study.

Every organization, whether profit oriented or not, requires a necessary amount of working capital. Working capital is the difference between current assets and current liabilities in a business. A current asset is any asset which is expected to be converted into cash within one year (Raheman & Nasr, 2007). Examples of current assets include cash, short term investments, accounts receivable, inventory, marketable securities and prepaid expenses. In the balance sheet, current assets are presented in order of liquidity, which means that the most liquid items are shown first. Current assets are important because they are used to finance day to day activities of a business. A current liability is a company's obligation that is due within one year. Examples of current liabilities include short term debt, accounts payable and accrued liabilities. It is generally assumed that if a company has excess current assets over its current liabilities, it will be able to finance its short term obligations.

Working capital management (WCM) is the management of short term investing and financing of a company. It is how current assets and current liabilities are managed in a company (García-Teruel & Martínez-Solano, 2007). The aim of working capital management is to ensure that companies have sufficient cash flow to continue with their operations and that they have sufficient funds to satisfy both maturing short-term debt and upcoming operational expenses.

WCM affects both liquidity and profitability of the firms. Therefore, effective management of working capital is very important for every organization in order to establish a tradeoff between liquidity and profitability. (Deloof, 2003), emphasized that working capital management is a key part of corporate strategy and the way it is managed can have a significant impact on the liquidity and the profitability of the company.

The most important financial objective of any organization is to earn profit. As a result, more attention is given on the profitability of the business rather than on its liquidity. This is due to the fact that a firm cannot survive for a long time if it is not making profits. Thus, the managers of a company thus lay more emphasis towards profitability, and neglect liquidity which is the ability

of a company to honor short term financial obligations. If the company is not able to honor its short-term financial obligations, it moves a step towards bankruptcy. Thus, liquidity is equally important as well.

For many businesses, the components of working capital represent the largest items on the balance sheet. Despite this, they tend not to be seen as issues demanding strategic consideration or top management attention (Deloof, 2003)

In Kenya, all the listed firms maintain a certain level of working capital which maximizes their profits as well as maintaining the right liquidity levels. Firms differ in their requirements of working capital to reflect their methods of doing business and what they are selling. Uchumi supermarket for example, will have a lot of cash sales, few credit sales and minimal trade debtors. Manufacturing companies on the other hand, maintain high levels of stock and inventory to ensure continuous operations. Thus, the managers of the firms should know the optimum level of working capital to maintain in order to increase profitability as well as maintaining the right liquidity levels.

## 1.2 Problem Statement.

Proper management of working capital is very important in the survival of any company (Padachi, 2006). According to (Smith K. V., 1973), Poor management of working capital can lead to the downfall of a business since it will not be able to honor its short term obligations. Working capital affects both liquidity and profitability of a firm. Liquidity in the context of working capital management is the ability of a company to satisfy its short-term obligations using assets that are readily convertible into cash (current assets). Excessive liquidity on one hand indicates the accumulation of idle funds that don't fetch any profits for the firm (Smith K. V., 1980) whereas insufficient liquidity might deteriorate firm's credit standings. (Raheman & Nasr, 2007), concluded that the final goal for any firm is to maximize the profitability of the firm by preserving the liquidity. However, increasing profits at the cost of liquidity might cause serious problems to the firm which might lead to the firm's insolvency. Thus, an effective working capital management would be needed to strike a balance between the two core objectives of the firm. (Smith K. V., 1980), found that a balance between both goals is important for firms to survive. This is called a trade-off. Firms focusing on maximizing profitability will most likely reduce the liquidity of the firm and conversely firms focusing on maximizing

liquidity will most likely reduce the profitability of the firm (Shin & Soenen, 1998). Therefore, the trade-off between profitability and liquidity is the key to working capital management.

### 1.3 Research Objectives

1. To determine the effect of working capital management components on profitability of firms in Kenya.
2. To examine how the level of aggressiveness in working capital affects profitability of firms in Kenya.

### 1.4 Research Questions

1. Do working capital management components affect profitability of firms in Kenya?
2. To what extent does the level of aggressiveness affect profitability of firms in Kenya?

### 1.5 Significance of Research

#### **i. To the Managers**

The study will provide a better insight to managers on how working capital components and strategies affect profitability of firms in Kenya and the measures they can take to create an optimal working capital in order to increase profitability.

#### **ii. To the Government and policy makers**

This study would also assist the Government and policy-makers to implement new set of policies regarding the working capital market to ensure continuous economic growth and increased profitability of firms. Capital Market Authority as regulator of listed firms should ensure that good corporate governance is maintained to promote the value and interest of stakeholders.

#### **iii. To the academics:**

This study will help in understanding the relevance of working capital management and provide knowledge base upon which further studies and research can be undertaken to explain phenomena and create model and theories that can adequately account for business operations in the dynamic business environment.

## 2.0 CHAPTER TWO: LITERATURE REVIEW

### 2.1 Introduction.

This chapter presents a review of the literature on working capital management. Many studies on working capital and firm profitability have been done from different views and in different environments leading to different results.

### 2.2 Theories of Working Capital Management.

Firms need to determine the optimal trade-off between profitability and liquidity. The type of working capital policy operated will be influenced by factors such as the growth rate of the company, its size, the nature of the industry it operates in and the risk attitude of the firm's management. The optimal policy adopted by firms should be the one which maximizes their returns and minimizes their risks.

#### *Aggressive Theory.*

An aggressive approach in working capital means that there is low investment in working capital. This means that the outcome of current assets minus current liabilities is negative. According to (Caballero & Garcia-Teruel, 2012), investing in an aggressive approach leads to high risk and conversely high returns for a business. This is because there are less idle funds in the business which do not generate return. Likewise, the unavailability current assets means that the company can fall into bankruptcy once it is unable to honor its short term obligations.

#### **Conservative Theory**

In the conservative approach, there is a high investment in current assets which can be able to support any levels of sales and production. According to (Caballero & Garcia-Teruel, 2012), a conservative working capital approach is characterized by lower risk and return. This is because the company has excess amounts of cash which do not earn much of a return, thus leading to decreased profitability. The cash should be invested in, in order to generate returns for the business. Most companies in seasonal industries such as tourism, farming or construction might adopt a conservative working capital model in order to buffer against risk.

### 2.3 Components of Working Capital Management

Previous works done in working capital management have used inventory conversion period, receivables conversion period and payables conversion period as the main components of

working capital. The three components form the cash conversion cycle which is a comprehensive measure of working capital. (Afeef, 2011).

### **Inventory Conversion Period (ICP)**

This refers to the time taken to convert inventory into sales. The longer the time taken the more cash the company has locked up in inventory. There are certain costs involved with keeping inventory. They include costs of warehousing and also insurance costs. (Deloof, 2003), found that having more inventory reduces the risk of a stock out thus ensuring a continuous production process and consequently increasing profits. (Jose, Lancaster, & Stevens, 1996) contradicted that by saying that having low inventory may cause loss of sales due to a stock out thus causing reduced profitability. Managers should thus ensure a proper level of inventory in order to maximize sales.

### **Average Collection Period (ACP)**

This refers to the time taken to collect cash from accounts receivables. Firms provide trade credit to customers in order to win customers (Lazaridis & Tryfonidis, 2006) through strengthening long term relationships with them and consequently increasing sales. On the other hand, providing trade credit to customers can lead to liquidity problems since the firm might run short of cash to honor its short term obligations.

### **Average Payment Period (APP)**

It refers to the time taken to pay firm's creditors. According to (Deloof, 2003), delaying payments to suppliers allows a firm to assess the quality of the products bought and also the firm can reserve some cash which was to be used to pay the suppliers and use it in other operations which will maximize profits. On the other hand, (Padachi, 2006) found that delaying payments to suppliers can be very costly especially if there is a trade discount for early payment and also can ruin the credit reputation for the firm in the long run.

### **Cash Conversion Cycle (CCC)**

The CCC is a comprehensive measure of WCM. It focuses on the time span between the expenditure for purchasing resources and the collection of cash for the goods sold (Eljelly, 2004). The length of the CCC determines how much money is locked up in working capital. The length can be positive and negative. A negative CCC shows that a firm already collected its

receivables before the firm pays its suppliers (Uyar, 2009) and working capital is a source of funds. A positive CCC shows that working capital is a use of funds, which needs to be financed (Caballero & Garcia-Teruel, 2012). A longer CCC can lead to higher sales and thus increase profitability, but it may also decrease profitability when the cost of holding more inventory and/or granting trade credit to customers outweigh the benefits (Raheman & Nasr, 2007) If a firm has a positive CCC of 50 days, the firm has to finance an amount equivalent to the daily cost of sales multiplied with 50 days (Eljelly, 2004).

#### 2.4 Empirical Work

The papers done on WCM have been done in different environs thus leading to different results.

##### **Working Capital and Profitability.**

Deloof (2003) tested the relationship between working capital management and corporate profitability for a sample of 1,009 large Belgium non-financial firms for the period 1992 - 1996. Profitability is measured by Gross Operating Income (GOI) which is the dependent variable. The length of a firm's CCC is measured as the independent variable. He uses Pearson correlation to regress Gross operating income against the three components of cash conversion cycle. He found a significant negative relation between GOI and the number of days accounts receivable, inventories and accounts payable of Belgian firms. These results show that managers can increase value for their shareholders by reducing the number of days receivable and inventories to a reasonable minimum.

Lazaridis & Tryfonidis (2006) investigated the relationship between corporate profitability and working capital management of 131 companies listed in the Athens Stock Exchange for the period of 2001 – 2004. Firm's profitability is measured as the dependent variable using Gross Operating Profit (GOP). The length of a firm's CCC is measured as the independent variable. Accounts receivable turnover, accounts payable turnover and inventory management were the three components of cash conversion cycle used in the study. As control variables in the regressions, Lazaridis & Tryfonidis (2006) used fixed financial assets, the natural logarithm of sales and the financial debt ratio. Using Pearson's correlation and regression, he found a highly significant negative relationship between GOP and the CCC, accounts receivable and accounts payable. The negative relationship between ICP and gross operating profit however was not

statistically significant. The results meant that a low GOP is associated with an increase of number of days payable, since firms want to take advantage of credit period granted to them by their suppliers. Likewise, the negative relationship between number of days inventory and corporate profitability suggests that a drop in sales accompanied by mismanagement of inventory will lead to tying up excess capital at the expense of profitable operations. (Lazaridis & Tryfonidis, 2006) Concluded their study by saying that managers can increase company profits by properly handling the cash conversion cycle and keeping each different component (accounts receivables, accounts payables, inventory) to an optimum level.

Raheman & Nasr (2007) tested the relationship between working capital management and profitability of 94 Pakistani firms listed in the Karachi Stock exchange in a period of six years from 1999- 2004. Using Pearson's correlation and pooled regression, the results showed negative relation between working capital management's components and profitability. This results support the finding of (Deloof, 2003) and (Lazaridis & Tryfonidis, 2006). They also found a negative relationship between liquidity and profitability of the firms and thus the firms must set a trade-off between the two objectives so that neither of the two suffers.

### **Contradicting Results.**

Padachi (2006) examined the trends in WCM and its impact on profitability on small manufacturing firms in Mauritius. A sample of 58 small manufacturing firms is used for a period of six years (1998 – 2003). Profitability is measured by return on total assets (ROTA) and CCC is used as a comprehensive measure of working capital. (Padachi, 2006), found a negative correlation between ROTA and the individual components of the cash conversion cycle, but found a positive correlation between ROTA and the cash conversion cycle as a whole. The positive relationship can be attributed with the view that resources are blocked at the different stage of the supply chain, thus prolonging the operating cycle. This might increase profits due to increased sales, especially where the costs of tied up capital is lower than the benefits of holding more inventories and granting more trade credit to customers. The regression analysis shows that the relationship between ROTA and individual cash conversion cycle components is statistically negative except for inventory management, which is negative but not highly significant. (Padachi, 2006), conducted his research at an opportune time when Mauritius Government was

deploying resources to help the SME sector and thus, through a proper management of working capital, the SME can positively contribute to the Mauritian Economy.

Gill, Biger, & Mathur (2010) tested the relationship between working capital management and firm profitability for 88 American manufacturing firms listed on the New York Stock Exchange for a period of 3 years (2005 – 2007). Firm profitability is the dependent variable and is measured using GOP. The length of a firm's CCC and its components are used as the independent variables and firm size, financial debt ratio and fixed financial assets as the control variables. Contrary to prior research done by (Lazaridis & Tryfonidis, 2006) and (Raheman & Nasr, 2007) where they found a negative relation between number of days payable and profitability, (Gill, Biger, & Mathur, 2010) found no significant relationship between the two. They also found no significant relationship between the number of days of inventory and profitability of firms, contrary to (Lazaridis & Tryfonidis, 2006), (Raheman & Nasr, 2007) and (Padachi, 2006) who found a negative relationship between the two. Likewise, he found a positive relationship between cash conversion cycle and profitability. Thus, the higher the cash conversion cycle, the higher the profitability.

Afeef (2011) tested the impact of working capital management on the profitability of 40 Pakistan SME's listed on the Karachi Stock Exchange for a period of 6 years (2003 – 2008). (Afeef, 2011), found no significant relationship between CCC, the number of days payable and firm profitability which was measured using return on assets.

Sharma & Kumar (2011) tested the relationship between working capital management and profitability of 263 Indian non-financial firms listed on the Bombay Stock Exchange in a period of 9 years (2000 – 2008). Contrary to prior studies, (Sharma & Kumar, 2011) found a positive relationship between number of days receivable and profitability. This implies that in the Indian companies, managers can increase profitability by increasing the credit period granted to their customers. In addition to that, (Sharma & Kumar, 2011) found a positive relationship between CCC and profitability of the Indian firms. This is in contrast with the theoretical work, where cash conversion cycle and profitability of firms should be negatively related.

## **Empirical Research in Kenya**

Nzioki, Kirwa, Riwo, & Mwendu (2013) conducted a study which analyzed the effects of working capital management on the profitability of manufacturing firms listed on the Nairobi Securities Exchange. The results from the study revealed that gross operating profit was positively correlated with average collection period and average payment period but negatively correlated with cash conversion cycle. The relationship between inventory turnover in days and gross operating profit was insignificant. They recommended that managers should focus on reducing cash conversion cycles and try to collect receivables as soon as possible

Makori & Jagongo (2013) conducted a research on impact of working capital management on profitability of Kenyan firms listed on the NSE. They found that the management can create value for their shareholders by increasing the firms' inventories to a reasonable level. Also, firms should take long to pay their creditors in as far as they do not strain their relationships with these creditors. They also found that firms are capable of gaining sustainable competitive advantage by means of effective and efficient utilization of the resources of the organization through a careful reduction of the cash conversion cycle to its minimum. By doing so, the profitability of the firms is expected to increase

## **Working Capital Management Strategies.**

Weinraub & Visscher (1998) conducted a research to examine the relative relationship between aggressive/ conservative practices of ten diverse industry groups for ten years for the period between 1984 and 1993 in the US firms. Results showed that the industries had significantly different management strategies and an aggressive working capital was balanced by a relatively conservative working capital in order to hedge against risk.

Filbeck & Krueger (2005) also examined the aggressive/ conservative working capital policies using data of the companies from the CFO's magazine's annual working capital management survey. They found out that there is a significant difference in working capital policies between industries and that the working capital policy adopted by an industry changes significantly over time due to factors such as changes in interest rate and competition.

Nazir & Afza (2009) studied the impact of aggressive working capital management on firm performance of 204 non-financial Pakistan firms listed in Karachi Stock Exchange for 8 years for

the period (1998 – 2005). Secondary data was used and data included firms in 17 different sectors of the Karachi Stock Exchange. The ratio of current assets to total assets ratio was used as a measure of conservative WCM and the ratio of current liabilities to total assets was used as a measure of aggressiveness. They found that firms with more aggressive working capital provided low levels of profit which was measured by ROE and ROA. They also found that investors give weight to stocks of those firms that adopt an aggressive approach to managing short term liabilities.

## 2.5 Summary of the Findings from previous research

Author(s)	Relationship between profitability and ICP	Relationship between profitability and ACP	Relationship between profitability and APP	Relationship between profitability and CCC
(Deloof, 2003)	Negative	Negative	Negative	Negative
(Lazaridis & Tryfonidis, 2006)	Negative	Negative	Negative	Negative
(Raheman & Nasr, 2007)	Negative	Negative	Negative	Negative
(Padachi, 2006)	Negative	Negative	Negative	<b>Positive</b>
(Gill, Biger, & Mathur, 2010)	<b>Not significant</b>	Negative	<b>Not significant</b>	<b>Positive</b>
(Nzioki, Kirwa, Riwo, & Mwende, 2013)	<b>Not Significant</b>	<b>Positive</b>	<b>Positive</b>	Negative
(Afeef, 2011)	Negative	Negative	<b>Not significant</b>	<b>Not significant</b>
(Sharma & Kumar, 2011)	Negative	<b>Positive</b>	Negative	<b>Positive</b>

Table 1: Summary of Findings. Source: Author

## 2.6 Research Gap

From the above literature, it is evident that different working capital components have different effects on profitability. However, there's little research done on other firms listed in the NSE other than those in the manufacturing and construction industry. This paper will seek to study more firms listed on the NSE in order to give conclusive results. This paper will also seek to find whether the level of aggressiveness adopted by a firm has any significant impact on profitability of firms listed on NSE.

## 2.7 Conceptual Framework.

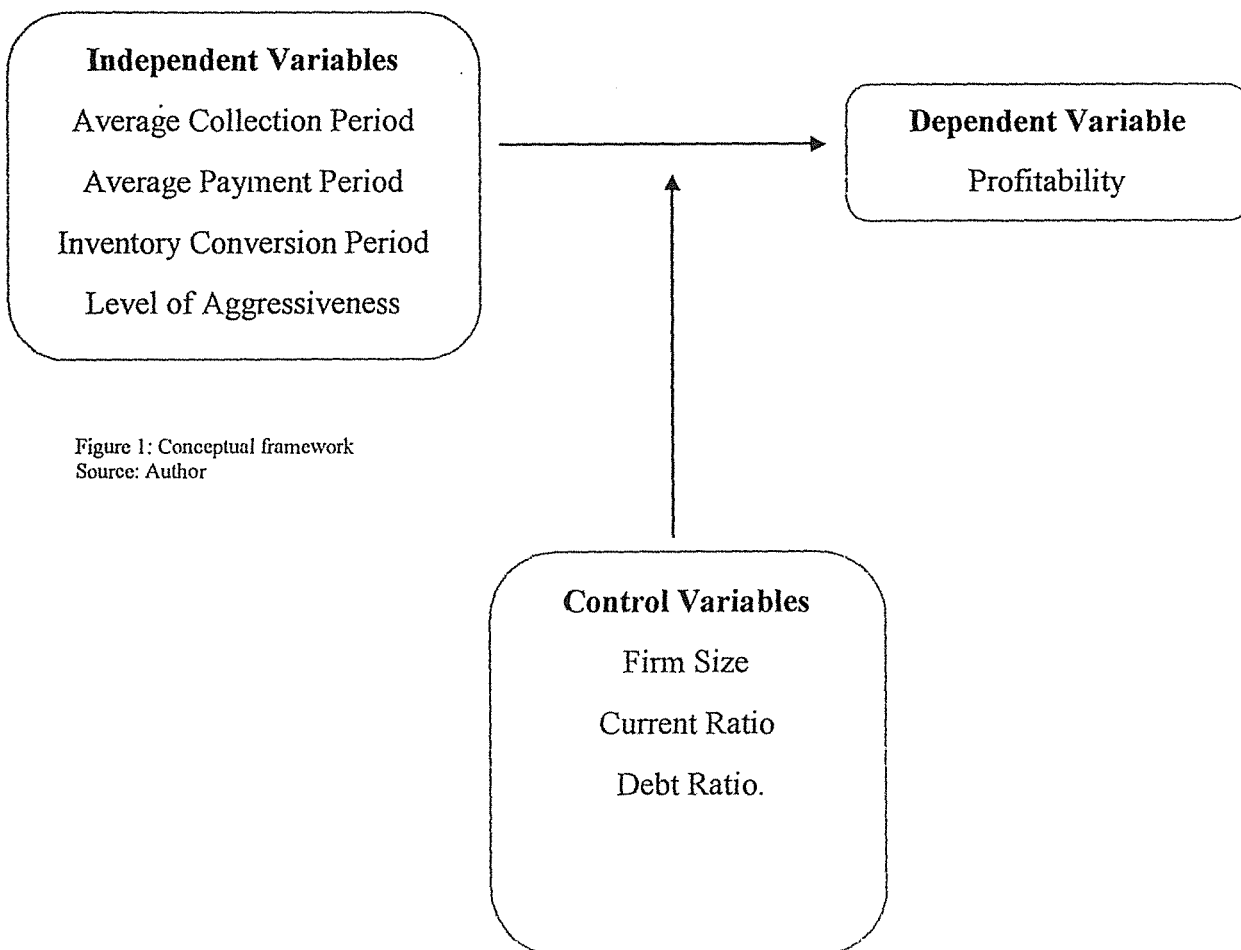


Figure 1: Conceptual framework  
Source: Author

### 3.0 RESEARCH METHODOLOGY

#### 3.1 Introduction.

This chapter describes the research methodology of the study. It describes the research design, sampling design, target population, data collection procedures regression models and analysis.

#### 3.2 Research Design.

The study adopts an explanatory research design in order to show the relationship between working capital management components and profitability and also show the effect of aggressiveness of working capital management strategies on profitability of firms across the different firms listed in the Nairobi Securities Exchange (NSE)

Explanatory research attempts to connect ideas, in order to understand cause and effect between the independent variables and the dependent variables.

#### 3.3 Population and Sample size.

A population is the target group, from which the researcher wishes to take their sample from. The population in this study comprises of all the companies in Kenya. The sample size shall consist of companies listed in the NSE, except for firms listed in the banking, investment, Automobile and insurance sectors.

The remaining sectors include; Agricultural, Construction, Energy and Petroleum, manufacturing and commercial and service industries. (Appendix 4). A total of 20 companies is used.

#### 3.4 Data Collection.

Due to the nature of this study, the data to be used is secondary. The data shall be obtained from the financial statements of the companies. The duration will be of 9 years for the period 2006 – 2014 so as to reflect the latest data and draw conclusive results.

### 3.5 Choice of Variables.

The choice of variables is affected by prior research done on working capital management as seen in the literature review. The independent variable of working capital management is the cause, while the dependent variable for firm profitability is the effect

Variables	Description
<b>Dependent variables</b>	
ROA	It is a good measure since it relates a firm's profitability to its asset base.  $ROA = \frac{\text{Net Income}}{\text{Total Assets}}$
<b>Independent variables</b>	
Average Collection Period (ACP)	It shows the time taken to collect cash from debtors.  $ACP = \frac{\text{Debtors}}{\text{Sales}} * 365 \text{ days}$
Average Payment Period (APP)	It shows the time taken to pay firm's creditors.  $APP = \frac{\text{Creditors}}{\text{Cost of Sales}} * 365 \text{ days}$
Inventory Conversion Period (ICP)	It shows the time taken to convert inventory to sales.  $ICP = \frac{\text{Inventory}}{\text{Cost of Sales}} * 365 \text{ days.}$
Cash Conversion Cycle	It shows the time span between the expenditure for purchasing resources and the collection of cash for the goods sold.  $CCC = \frac{(\text{Debtors} + \text{Inventory}) - \text{Creditors}}{\text{Sales}} * 365$

Level of Aggressiveness	A high ratio indicates a high level of aggressive working capital management. $\text{Agg} = \frac{\text{Current Liabilities}}{\text{Total Assets}}$
Level of Conservativeness	A high ratio indicates a high conservative approach used $\text{Cons} = \frac{\text{Current Assets}}{\text{Total Assets}}$
<b>Control Variables</b>	
Firm Size	Measured by logarithm of sales. Ln (sales)
Current Ratio	Measures the ability of firms to honor their short term obligations. $\text{CR} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$
Debt Ratio	Measures firm leverage. $\text{DR} = \frac{\text{Total Liabilities}}{\text{Total Assets}}$

Table 2: Variables description  
Source: Author

### 3.6 Research Model.

The research model adopts an OLS regression equation which is written as:

Profitability = f(working capital management components, firm characteristics)

Profitability = f(level of aggressiveness)

#### Model 1

$$\text{ROA} = \alpha + \beta_1(\text{ACP}) + \beta_2(\text{APP}) + \beta_3(\text{ICP}) + \beta_4(\text{CCC}) + \beta_5(\text{S}) + \beta_6(\text{CR}) + \beta_7(\text{DR}) + \varepsilon$$

## Model 2

$$\text{ROA} = \alpha + \beta_1(\text{CA/TA}) + \beta_2(\text{CL/TA}) + \beta_5(\text{S}) + \beta_6(\text{CR}) + \beta_7(\text{DR}) + \varepsilon$$

The first model will answer the first objective of the research by finding the relationship between working capital components and profitability of firms in the NSE.

The second model will show how the level of aggressiveness of working capital affects profitability of the firms listed in the NSE.

### 3.7 Data Analysis.

The study will first start by conducting a descriptive analysis of the variables being used. Descriptive statistics are used to describe and discuss characteristics of a data set more generally and orderly than using raw data alone. They are often used where there is a significant amount of qualitative and quantitative data. In order to get the relationship between WCM and profitability and also the relationship between the financing theory and profitability, the models are run in STATA. STATA software is picked since it is the best for analyzing panel data. The first step is to conduct both the fixed effects and Random Effects models in order to get the association between the explanatory variables and profitability. In order to choose the best model between the two, a Hausman Test is performed. The test gives you the most appropriate model for your analysis. Based on the model picked, the working capital management components are regressed independently against ROA. Likewise, the level of aggressiveness and conservativeness are regressed against ROA in order to answer the second objective of the study.

## 4.0 DATA ANALYSIS, RESULTS AND DISCUSSION

### 4.1 Introduction.

The chapter presents the empirical findings of this study. Each section is based on the tests that were carried out towards achieving the research objectives of the study. A fixed effects model was used to run the tests for the study after conducting a Hausman test

### 4.2 Descriptive Analysis

The table provides the mean average of the collected variables of 20 Kenyan Listed firms in five sectors from the year 2006 to 2014.

SECTOR	ACP	APP	ICP	CCC	DR	CR	LN	AGG	CONS
							SALES		
Agriculture	65.58	75.73	77.68	63.16	0.408	2.889	14.44	0.134	0.278
Construction	66.79	90.11	96.795	70.25	0.525	1.61	15.90	0.252	0.367
Manufacturing	53.60	94.73	96.53	59.48	0.5	1.58	16.10	0.35	0.522
Services	67.27	179.8	68.04	23.96	0.547	1.33	15.60	0.345	0.403
Energy	56.18	87.12	45.45	24.83	1.36	0.63	17.69	0.41	0.48

Table 3: Mean average of the variables

### Interpretation of the Results

The credit period that firms grant their customers range between 53 and 67 days for the firms listed in the Nairobi Securities exchange. Generally, the services sector gives a longer credit period of 67 days whereas the manufacturing sector gives the shortest period of 53 days.

The services sector takes the longest number of days to pay their bills while the agriculture sector takes the shortest time to pay their bills. A longer number of days imply that the firms prefer to postpone their payments to their creditors.

The manufacturing and construction sectors have the highest number of days inventory, that is, 96 days. This means that the firms in this sector, on average keep their raw materials, work in progress and/or finished goods for a period of 96 days in stock.

All the sectors of the NSE have a positive CCC, which means that most of the firms in the sample do not finance themselves with the trade credit provided by their suppliers but provide trade credit to their customers and take the risk of keeping the inventory.

The energy sector has the highest debt ratio of 1.36 which means that firms in this sector prefer financing their total assets with liabilities and not equity.

The agriculture sector has the highest current ratio of 2.889. The firms in this sector have current assets which are 288.9% of their current liabilities. This means that the firms are able to pay off their short term debts in time.

The energy sector uses a more aggressive approach whereas the manufacturing sector uses a more conservative approach of working capital management.

#### 4.3 Regression Analysis.

In order to investigate the impact of working capital management on the profitability of firms, a multivariate regression analysis is used. Both the fixed effects(Appendix 1) and random effects model(Appendix 2) were carried out and the fixed effects model was chosen after carrying out the Hausman test. The P value of the fixed effects model was less than 0.05 thus making it appropriate for data analysis. (Appendix 3)

#### 4.4 Sector-wise Regression

Five regression models were run per sector in order to meet the objectives of this study by establishing the relationship between working capital management components and profitability and also by finding out whether the aggressive or conservative approaches of working capital affect profitability of the firms. Doing a sector-wise regression will yield better results.

## 1. The Agriculture Sector

### Relationship between ROA and APP

<b>Fixed Effects Model</b>			
Group variable: Company 1			
<b>R squared</b>	Within = 0.8605		
	Between = 0.4085		
	Overall = 0.7665		
Number of Obs = 36			
Prob > f = 0.0000			
<b>ROA</b>	<b>Coeff</b>	<b>Std Err</b>	<b>p&gt; t </b>
APP	0.0023	0.0006	0.003
LN SALES	0.015	0.035	0.671
CR	0.0197	0.007	0.01
DR	0.347	0.027	0

### Relationship between ROA and ACP

<b>Fixed Effects Model</b>			
Group variable: Company 1			
<b>R squared</b>	Within = 0.8063		
	Between = 0.8654		
	Overall = 0.7966		
Number of Obs = 36			
Prob > f = 0.0000			
<b>ROA</b>	<b>Coeff</b>	<b>Std Err</b>	<b>P&gt; t </b>
ACP	-0.000047	0.0009	0.961
LN SALES	0.055	0.038	0.166
CR	0.00622	0.006	0.377
DR	0.348	0.032	0.00

### Relationship between ROA and ICP

<b>Fixed Effects Model</b>			
Group variable: Company 1			
<b>R squared</b>	Within = 0.8522		
	Between = 0.6109		
	Overall = 0.7564		
Number of Obs = 36			
Prob > f = 0.0000			
<b>ROA</b>	<b>Coeff</b>	<b>Std Err</b>	<b>P&gt; t </b>
ICP	0.00178	0.0006	0.006

LN SALES	0.045	0.034	0.196
CR	0.0086	0.006	0.166
DR	0.3359	0.0287	0.00

### Relationship between CCC and ROA

Fixed Effects Model			
Group variable: Company 1			
R squared	Within = 0.8066		
	Between = 0.8560		
	Overall = 0.7969		
Number of Obs = 36			
Prob > f = 0.0000			
ROA	Coeff	Std Err	P> t
CCC	0.00019	0.0008	0.82
LN SALES	0.057	0.039	0.159
CR	0.005	0.007	0.44
DR	0.348	0.03	0.00

### Objective 2: Aggressive or Conservative?

Fixed Effects Model			
Group variable: Company 1			
R squared	Within = 0.8139		
	Between = 0.8207		
	Overall = 0.7963		
Number of Obs = 36			
Prob > f = 0.0000			
ROA	Coeff	Std Err	P> t
CONS	0.20	0.42	0.528
AGG	-0.44	0.32	0.306
LN SALES	0.04	0.04	0.342
CR	-0.005	0.01	0.690
DR	0.38	0.07	0.000

## 2. The Energy and Petroleum Sector

### Relationship between ROA and APP

Fixed Effects Model			
Group variable: Company 1			
R squared	Within = 0.1190		
	Between = 0.0101		
	Overall = 0.0375		
Number of Obs = 36			
Prob > f = 0.0000			
ROA	Coeff	Std Err	P> t
APP	-0.0000277	0.0002	0.913
LN SALES	-0.0304	0.016	0.077
CR	0.0028	0.01	0.854
DR	0.008	0.032	0.803

### Relationship between ROA and ACP

Fixed Effects Model			
Group variable: Company 1			
R squared	Within = 0.1333		
	Between = 0.0013		
	Overall = 0.0367		
Number of Obs = 36			
Prob > f = 0.0000			
ROA	Coeff	Std Err	P> t
ACP	-0.00017	0.0002	0.496
LN SALES	-0.0323	0.016	0.060
CR	0.00612	0.01	0.671
DR	0.01	0.034	0.631

### Relationship between ROA and ICP

Fixed Effects Model			
Group variable: Company 1			
R squared	Within = 0.1187		
	Between = 0.0138		
	Overall = 0.0361		
Number of Obs = 36			
Prob > f = 0.0000			
ROA	Coeff	Std Err	P> t
ICP	-0.0000233	0.0004	0.958
LN SALES	-0.03000	0.016	0.076

CR	0.003	0.01	0.795
DR	0.007	0.032	0.813

### Relationship between ROA and CCC

Fixed Effects Model			
Group variable: Company 1			
R squared	Within = 0.1254		
	Between = 0.0150		
	Overall = 0.0342		
Number of Obs = 36			
Prob > f = 0.0000			
ROA	Coeff	Std Err	P> t
CCC	-0.0001	0.0002	0.644
LN SALES	-0.029	0.016	0.081
CR	0.007	0.016	0.648
DR	0.011	0.033	0.728

### Objective 2: Aggressive or Conservative?

Fixed Effects Model			
Group variable: Company 1			
R squared	Within = 0.1254		
	Between = 0.0150		
	Overall = 0.0342		
Number of Obs = 36			
Prob > f = 0.0000			
ROA	Coeff	Std Err	P> t
CONS	0.3817	0.1285	0.006
AGG	-0.45	0.161	0.009
LN SALES	-0.03	0.015	0.059
CR	-0.02	0.014	0.158
DR	0.05	0.07	0.415

### 3. The Manufacturing Sector

#### Relationship between ROA and ICP

<b>Fixed Effects Model</b>			
Group variable: Company 1			
<b>R squared</b>	Within = 0.5202		
	Between = 0.3871		
	Overall = 0.3064		
<b>Number of Obs = 36</b>			
<b>Prob &gt; f = 0.0000</b>			
<b>ROA</b>	<b>Coeff</b>	<b>Std Err</b>	<b>P&gt; t </b>
ICP	-0.0006	0.0004	0.106
LN SALES	0.119	0.04	0.02
CR	0.03	0.02	0.07
DR	-0.32	0.09	0.003

#### Relationship between ROA and ACP

<b>Fixed Effects Model</b>			
Group variable: Company 1			
<b>R squared</b>	Within = 0.5689		
	Between = 0.5719		
	Overall = 0.4314		
<b>Number of Obs = 36</b>			
<b>Prob &gt; f = 0.0000</b>			
<b>ROA</b>	<b>Coeff</b>	<b>Std Err</b>	<b>P&gt; t </b>
ACP	-0.002	0.0008	0.018
LN SALES	0.137	0.043	0.003
CR	0.02	0.01	0.175
DR	-0.289	0.092	0.004

#### Relationship between ROA and APP

<b>Fixed Effects Model</b>			
Group variable: Company 1			
<b>R squared</b>	Within = 0.5144		
	Between = 0.3290		
	Overall = 0.2905		
<b>Number of Obs = 36</b>			
<b>Prob &gt; f = 0.0000</b>			
<b>ROA</b>	<b>Coeff</b>	<b>Std Err</b>	<b>P&gt; t </b>
APP	-0.0006	0.0004	0.13
LN SALES	0.129	0.04	0.01

CR	0.02	0.02	0.22
DR	-0.32	0.09	0.003

#### Relationship between ROA and CCC

Fixed Effects Model			
Group variable: Company 1			
R squared	Within = 0.1190		
	Between = 0.0101		
	Overall = 0.0375		
Number of Obs = 36			
Prob > f = 0.0000			
ROA	Coeff	Std Err	P> t
CCC	-0.00046	0.0004	0.350
LN SALES	0.142	0.04	0.005
CR	0.03	0.221	0.089
DR	-0.314	0.100	0.004

#### Objective 2: Aggressive or Conservative?

Fixed Effects Model			
Group variable: Company 1			
R squared	Within = 0.6021		
	Between = 0.4478		
	Overall = 0.3796		
Number of Obs = 36			
Prob > f = 0.0000			
ROA	Coeff	Std Err	P> t
CONS	0.26	0.30	0.212
AGG	-0.82	0.20	0.011
LN SALES	0.10	0.04	0.003
CR	-0.06	0.05	0.261
DR	-0.15	0.10	0.167

#### 4. The Services Sector

##### Relationship between ROA and APP

Fixed Effects Model	
Group variable: Company 1	
R squared	Within = 0.1190
	Between = 0.0101
	Overall = 0.0375

<b>Number of Obs = 36</b>			
<b>Prob &gt; f = 0.0000</b>			
<b>ROA</b>	<b>Coeff</b>	<b>Std Err</b>	<b>P&gt; t </b>
APP	-0.00045	0.0004	0.333
LN SALES	0.122	0.07	0.099
CR	0.168	0.08	0.057
DR	-0.062	0.089	0.492

**Relationship between ROA and ACP**

<b>Fixed Effects Model</b>			
Group variable: Company 1			
<b>R squared</b>	Within = 0.4199		
	Between = 0.8376		
	Overall = 0.4724		
<b>Number of Obs = 36</b>			
<b>Prob &gt; f = 0.0000</b>			
<b>ROA</b>	<b>Coeff</b>	<b>Std Err</b>	<b>P&gt; t </b>
ACP	-0.0003	0.0017	0.858
LN SALES	0.12	0.07	0.109
CR	0.18	0.08	0.035
DR	-0.07	0.09	0.392

**Relationship between ROA and ICP**

<b>Fixed Effects Model</b>			
Group variable: Company 1			
<b>R squared</b>	Within = 0.4192		
	Between = 0.8740		
	Overall = 0.4830		
<b>Number of Obs = 36</b>			
<b>Prob &gt; f = 0.0000</b>			
<b>ROA</b>	<b>Coeff</b>	<b>Std Err</b>	<b>P&gt; t </b>
ICP	0.000006	0.0008	0.996
LN SALES	0.12	0.073	0.110
CR	0.188	0.083	0.032
DR	-0.077	0.090	0.399

**Relationship between ROA and CCC**

<b>Fixed Effects Model</b>			
Group variable: Company 1			
<b>R squared</b>	Within = 0.5204		
	Between = 0.7872		
	Overall = 0.4724		
Number of Obs = 36			
Prob > f = 0.0000			
ROA	Coeff	Std Err	P> t
CCC	0.0024	0.0009	0.022
LN SALES	0.08	0.06	0.241
CR	0.132	0.07	0.106
DR	-0.05	0.08	0.40

**Objective 2: Aggressive or Conservative?**

<b>Fixed Effects Model</b>			
Group variable: Company 1			
<b>R squared</b>	Within = 0.7477		
	Between = 0.9663		
	Overall = 0.6112		
Number of Obs = 36			
Prob > f = 0.0000			
ROA	Coeff	Std Err	P> t
CONS	1.55	0.244	0.006
AGG	-0.72	0.266	0.000
LN SALES	0.03	0.05	0.476
CR	-0.12	0.07	0.129
DR	0.15	0.1	0.178

**5. The Construction Sector**

**Relationship between ROA and APP**

<b>Fixed Effects Model</b>			
Group variable: Company 1			
<b>R squared</b>	Within = 0.8251		
	Between = 1.000		
	Overall = 0.8240		
Number of Obs = 36			
Prob > f = 0.0000			

ROA	Coeff	Std Err	P> t
APP	-0.001	0.004	0.031
LN SALES	-0.03	0.03	0.358
CR	-0.02	0.4	0.517
DR	-0.36	0.27	0.2

#### Relationship between ROA and ACP

Fixed Effects Model			
Group variable: Company 1			
R squared	Within = 0.7438		
	Between = 1.00		
	Overall = 0.5244		
Number of Obs = 36			
Prob > f = 0.0000			
ROA	Coeff	Std Err	P> t
ACP	-0.000466	0.0009	0.615
LN SALES	-0.0254	0.44	0.579
CR	-0.018	0.49	0.716
DR	-0.536	0.342	0.143

#### Relationship between ROA and ICP

Fixed Effects Model			
Group variable: Company 1			
R squared	Within = 0.7471		
	Between = 1.00		
	Overall = 0.5197		
Number of Obs = 36			
Prob > f = 0.0000			
ROA	Coeff	Std Err	P> t
ICP	-0.0003	0.0004	0.525
LN SALES	-0.02	0.04	0.578
CR	-0.015	0.04	0.758
DR	-0.5	0.3	0.084

### Relationship between ROA and CCC

<b>Fixed Effects Model</b>			
Group variable: Company 1			
<b>R squared</b>	Within = 0.7485		
	Between = 1.00		
	Overall = 0.4936		
Number of Obs = 36			
Prob > f = 0.0000			
ROA	Coeff	Std Err	P> t
CCC	0.000525	0.0007	0.495
LN SALES	-0.008	0.04	0.85
CR	-0.019	0.04	0.69
DR	-0.67	0.3	0.053

### Objective 2: Aggressive or Conservative?

<b>Fixed Effects Model</b>			
Group variable: Company 1			
<b>R squared</b>	Within = 0.7943		
	Between = 1.000		
	Overall = 0.4722		
Number of Obs = 36			
Prob > f = 0.0000			
ROA	Coeff	Std Err	P> t
CONS	0.601	0.367	0.130
AGG	-0.097	0.31	0.758
LN SALES	-0.002	0.04	0.951
CR	-0.57	0.074	0.440
DR	0.365	0.306	0.089

#### 4.4.5 Regression Interpretation.

### Relationship between ROA and APP

A negative relationship exists between ROA and APP for all the sectors in the study other than the agricultural sector, which has a positive relationship. The results are however only significant for firms in the agriculture sector since the P value (0.003) is below 0.005. The significance results suggest that the APP is a critical factor to consider when taking decision to improve profitability of firms in the agriculture sector. The positive relationship suggests that an increase in number of days payable by 1 day leads to an increase in profitability of the firms. This

positive relationship can be explained by the fact that firms in the agriculture sector take longer to pay their suppliers so as to take advantage of the funds in order to meet their working capital needs. Also, this relationship can be interpreted as; a firm which takes longer to settle its bills has a higher level of working capital reserves which it uses to increase its profitability. However, these firms should be careful not to spoil the business-supplier relationship when they delay these payments.

The negative relationship between ROA and APP means that an increase in number of days payable will reduce profitability of the firms. This can be interpreted as, firms that take a longer period to pay their suppliers fail to take advantage of early trade discounts given to them and thus end up depleting their working capital reserves thus leading to a lower profit.

### **Relationship between ROA and ACP**

There exists a negative relationship between ACP and firm profitability in all the five sectors in study. However, this relationship is only significant to the manufacturing companies ( $P = 0.018$ ). The significance suggests that the ACP is a critical factor to consider when taking decision to improve profitability of firms in the manufacturing sector.

The negative relationship is consistent with findings from (Deloof, 2003), (Raheman & Nasr, 2007) and (García-Teruel & Martínez-Solano, 2007). The negative co-efficient of the ACP implies that an increase in the number of days of accounts receivable by 1 day is associated with a decline in financial performance of the firms listed in the NSE.

These results suggest that firms can improve their profitability by reducing the number of days accounts receivable. This means that the less time it takes for debtors to pay their bills, the more cash is available to replenish inventory thus leading to more sales and eventually increased profitability.

The implication of these results is that managers can increase firm profitability by reducing the trade credit period granted to their customers. A more restrictive credit policy should be adopted by firm managers in order to increase their profitability.

### **Relationship between ROA and ICP**

The relationship between ICP and ROA is positive for both the agriculture and the services sector and negative for the manufacturing, energy and construction section. However, this relationship is only significant in the agriculture sector since it has a p value of 0.003, that is (<0.05). For both the agriculture and services sectors, maintaining high levels of inventory reduces the cost of possible interruptions in the production process and the loss of business due to scarcity of products. Maintaining high levels of inventory is a form of hedging against price fluctuations due to adverse macroeconomic factors.

For the manufacturing, energy and construction sectors, the relationship is negative but not significant. The negative relationship can be interpreted as; an increase in the number of days inventory by 1 day will decrease profitability of the firms.

### **Relationship between ROA and CCC**

There exists a positive relationship between CCC and ROA of firms in the agriculture, services and construction sectors and a negative relationship exists between CCC and ROA of firms in the energy and manufacturing sectors. The results are however significant for firms in the services sector alone, which has a P value of 0.02. A positive relationship means that a longer cash conversion cycle leads to increased profits. An explanation for this can be the fact that firms in this sector have a high level of accounts receivables due to their generous trade credit policy.

The negative relationship between CCC and ROA means that firms with a shorter cash conversion cycle have a higher profitability. The negative relationship between the CCC and firm profitability can be explained by the fact that reducing the investment in current assets can help in increasing profits. This ensures that liquid cash is not kept in the business for too long but instead it is used to generate more income for the firm.

### **Aggressive Financing**

All the sectors in the study had a negative relationship between aggressiveness and profitability. The results are however significant for firms in the energy (P value 0.009), manufacturing (P value 0.011) and the services sector (P value 0.000).

An aggressive approach in working capital means that there is low investment in working capital. The negative relationship between aggressiveness and profitability of firms means that the more the firm engages in risky activities, the lower the profitability. This is because the firms have low levels of current assets which mean that the companies can fall into bankruptcy when they are unable to honor their short term debts.

### **Conservative Financing**

The relationship between level of conservativeness and profitability of all the firms in the study is positive. This relationship is only significant to firms in the energy (P value 0.006) and services sectors (P value 0.006).

The positive association between the level of conservativeness and profitability can be explained by the fact the firms have a high level of investment in current assets which can be able to support any levels of sales and production. This in turn ensures there is a continuous production process and thus increased profitability. In theory, however, this approach is characterized by low risk and return since the firms have excess amounts of cash which do not earn much of a return, thus leading to decreased profitability. The cash should be invested in, in order to generate returns for the business.

## 5.0 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

### 5.1 Introduction

This chapter presents the summary of the study, the conclusion, the limitations of the study, the recommendations and suggestions for further research.

### 5.2 Summary

The purpose of this study was to determine the relationship between working capital management components and profitability and also to determine whether the level of conservativeness or aggressiveness affects financial performance of firms listed in the Nairobi Securities Exchange.

In order to address the above objectives, panel data was collected for four companies from five sectors of the economy for a period of 9 years between 2006 and 2014. The justification of the four companies was based on firm market capitalization as at 2014. The big four companies in each sector were thus selected. The population comprised 20 listed companies from the Agriculture, Energy, Services, Manufacturing and Construction sectors.

The study used the fixed effects model for data analysis after carrying out a Hausman Test. The working capital management components are run independently in the model in order to give the relationship. Likewise, the approaches to financing are also run differently in order to answer the second objective of the study. The results showed a negative relationship between the number of days receivable and profitability of all the firms in the study. These results were however significant for the manufacturing sector. For the inventory conversion period, the energy, manufacturing and construction sectors had a negative relationship with profitability whereas the agriculture and services sectors had a positive relationship with profitability. These results were only significant for firms in the agriculture sector. For the average payables period, all the firms other than firms in the agriculture sector have a negative relationship with profitability. These results were only significant to firms in the agriculture and construction sectors. For the cash conversion cycle, a negative association is present for firms in the energy and manufacturing sectors. For agriculture, services and construction sectors, the relationship is negative. All the firms in the study had a negative relationship between the level of aggressiveness and profitability and the results were only significant to firms in the energy and services sectors. For

conservativeness, all the firms had a positive association with profitability and the results were only significant to firms in the energy and services sector.

### 5.3 Conclusion

In conclusion, the study finds that individual working capital management components affect profitability but the effect is not significant to all sectors. Also, the relationship can either be negative or positive between different firms. Therefore, firm managers should employ proper working capital management strategies in order to yield the best results depending on what is best for them. An improvement in the firm's performance shall increase the firm value and eventually shall be of great importance to the shareholders of the company.

Both the level of aggressiveness and conservativeness affect profitability of firms listed in the NSE. Therefore, firm managers should employ the best strategy for their firm in order to increase their profits.

### 5.4 Motivation and extending current literature

This study can be used as a foundation for existing literature as well as for future research on the relationship between WCM and firm profitability. This research extends existing research by incorporating five sectors of the NSE unlike prior research where only one sector was studied.

### 5.5 Limitations of the study

The study is only limited to 20 companies listed on the NSE. This sample size could have affected the findings of the study. All the companies in each sector should be put in consideration in order to give the best results.

Also, working capital is dynamic and it keeps changing from time to time depending on prevailing economic conditions and product market demand. The findings therefore, may not reflect the true effect of working capital on financial performance of the firms for a period considered.

### 5.6 Recommendations

Firm managers should employ proper working capital management strategies in order to yield the best results depending on what is best for them. An improvement in the firm's performance

shall increase the firm value and eventually shall be of great importance to the shareholders of the company.

The firms in the study prefer a conservative approach to an aggressive approach. In the long run, the firms should employ a more aggressive approach since it yields more income.

#### 5.7 Areas of further research

Further research can be done between WCM and small scale business enterprises so that the managers can know how to manage working capital effectively so that the business can grow. Also, an extension of this study can be done but now with more companies and also a longer time frame.

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*Appendix 2: Random Effects Model*

```

Random-effects GLS regression           Number of obs   =    180
Group variable: Company1               Number of groups =    20

R-sq:  within = 0.3334                 Obs per group:  min =     9
      between = 0.2409                               avg   =    9.0
      overall  = 0.2897                               max   =     9

                                           Wald chi2(9)    =   77.08
corr(u_i, X) = 0 (assumed)             Prob > chi2     =   0.0000
    
```

ROA	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
APP	.0004502	.0003027	1.49	0.137	-.0001432	.0010435
ICP	-.0005562	.0004777	-1.16	0.244	-.0014924	.00038
CCC	.0009115	.000654	1.39	0.163	-.0003704	.0021933
ACP	-.0007618	.0006497	-1.17	0.241	-.0020352	.0005116
AGG	-.7415924	.1026793	-7.22	0.000	-.9428401	-.5403447
CONS	.4527599	.0824107	5.49	0.000	.2912378	.614282
LNSALES	.0001742	.0092515	0.02	0.985	-.0179584	.0183068
CR	-.021855	.0084186	-2.60	0.009	-.0383551	-.0053548
DR	.2268798	.0360034	6.30	0.000	.1563144	.2974453
_cons	.0349535	.155614	0.22	0.822	-.2700443	.3399513
sigma_u	.04205172					
sigma_e	.09183478					
rho	.17333385	(fraction of variance due to u_i)				

. estimates store random

**Appendix 3: Hausman Test**

. hausman fixed .

	Coefficients		(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
	(b) fixed	(B) random		
APP	.000261	.0004502	-.0001892	.0005009
ICP	-.0007177	-.0005562	-.0001615	.000491
CCC	.0012109	.0009115	.0002995	.0006992
ACP	-.0009482	-.0007618	-.0001864	.0007523
AGG	-.7688487	-.7415924	-.0272563	.0774647
CONS	.5610467	.4527599	.1082868	.0454228
LNSALES	-.0001959	.0001742	-.0003701	.0165518
CR	-.0308365	-.021855	-.0089815	.0029198
DR	.2162744	.2268798	-.0106054	.0219853

b = consistent under Ho and Ha; obtained from xtreg

B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2(9) = (b-B)'[(V\_b-V\_B)^(-1)](b-B)  
 = 44.29  
 Prob>chi2 = 0.0000  
 (V\_b-V\_B is not positive definite)

**Appendix 4: List of Companies in the Study**

Sector	List of Companies
Agriculture	Kakuzi, Sasini, Williamsons Tea, Rea Vipingo.
Services	Nation Media, TPS EA, Uchumi, Scan Group
Manufacturing	EABL, Mumias Sugar, Unga group, Eveready EA.
Construction	Athi River Mining, Bamburi cement, EA Cables, EA Portland
Energy and Petroleum	Kengen, Kenol Kobil, Total, KPLC