RELATIONSHIP BETWEEN PROFITABILITY AND WORKING CAPITAL OF SMALL AND MEDIUM ENTERPRISES IN KENYA.

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Declaration

I Cate Nyambura Wainaina hereby declare that this research project proposal is my own original work and has never been presented to any other Institution of Higher learning for Examination purposes leading to award of Certificate, Diploma or Degree.

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This project proposal has been submitted to the University for Examination with my approval as the University Supervisor

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DEDICATION

I dedicate this study to the Almighty God and our baby still in the womb. God has been my source of wisdom and strength without him I would not have made it.

ACKNOWLEDGEMENT

ABSTRACT

The main objective of the study was to establish the relationship between profitability and working capital of Small and Medium Enterprises in Kenya. . Mathuva (2009) examined the influence of working capital components on corporate profitability by using a sample of 30 firms listed in the Nairobi Stock Exchange for the periods between 1993 to 2008.The key studies of his findings were that there exist a highly Significant negative relationship between the time it takes for firms to collect cash from their customers and there exist a highly significant positive relationship between the time it takes the firm to pay its creditors (average payment period) and profitability. The sample of the study consisted of 40 Small and Medium Companies operating in Nairobi Kenya and banking with Bank Of Africa Kenya Limited .

The data collection was based on secondary data sources which included audited financial statements for the year ended 31st December 2009 and research design was based on regression and descriptive statistics which was run through SPSS and results presented in form of a table.

The study considered dependent and independent variables which included profitability (dependent variable) which was measured using EBIT and Cash Conversion Cycle and its components (Independent Variable)The key findings for the study was there is statistical significance between profitability and working capital.

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CHAPTER ONE

INTRODUCTION

1.1   Background to the study

There is no universal definition of small and medium enterprises (Zimmerer and Scarborough,1994).In theory and practice they are many terms used to refer to SME (Small and Medium Enterprises) including "small business", small enterprise", "small firm "small company and small and medium sized company. They are all somewhat different meanings and we note there is no standard definition of an SME in Kenya ,lenders definition vary but typically define SMEs as business with annual turnover of less than 50 million and employee base of 6 to 50 employees.

According to World Bank (2007) in developing countries the number of employees and size of assets or turnover for SMEs tend to be much smaller compared to their counterparts in developed countries due to their relative size of business entities and economies. Characteristics of Small Scale Businesses in Kenya are poverty, attempt to survive in addition to minimum income standards, little capital invested ,lack of skills and limited opportunities for growth

The European Union Commission (2003) classified an SME into three groups including Medium, Small and Micro Enterprises based on number of paid employees, turnover and balance sheet total. Therefore a medium company as per European Commission has a maximum no of 250 employees, turnover of EUR 40Million and a maximum balance sheet of EUR 40 Million. This study shall consider an SME as having turnover of Kenya Shillings 10 Million to Kenya Shillings 500Million and employee base of 6 to 250 employees.

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Working capital is the relationship between a firm's short-term assets and its short-term liabilities. The goal of working capital is to ensure that a firm is able to continue its operations and that it has sufficient ability to satisfy both maturing short-term debt and upcoming operational expenses. Profit is the income a company earned in a certain period of time and is considered as the actual profit retained by a business and it is actually the difference between the revenue earned by the company and the expenses incurred. Working capital components include inventories, accounts receivable and payable, and cash.

Inadequate working capital and in adequate long term financing is a primary cause of small business failure (Dunn and Cheatham 1993).Poor management of inventory, debtors collection , creditors payables and cash leads affects profitability of small business in Kenya. When there is available long term bank financing to support capital expenditure and short term bank financing to support inventories , debtors and creditors then the business is better placed in recording profits which if part of it is retained in the business then supports working capital requirements. Experience in running of small and medium businesses directly or indirectly affects working capital and profitability of the small business. Identification of push factors for firms to adopt good working capital practices or econometric analysis to investigate association between working capital (Shin and Soenen 1998) .Withdrawal of funds from the business lead to constrains in cash flows of affecting working capital cycle and business profitability.

SME sector in Kenya play a vital role in developing the economy through employment creation which alleviates poverty. Working capital has affected profitability of the SME leading to collapse and failure of the businesses .Cash management is critical in the day to day running of the business,

inadequate cash leads to poor debtors, creditors and inventory management. Inventory a component of working capital supports profitability and business continuity (Blinder and Maccini, 1991).Maintaining high inventory reduces the cost of possible interruptions in the production process or of loss of business due to scarcity of products, reduces supply costs and protects against price fluctuations, among other advantages. There is need to maintain adequate stocks, unavailability of stocks a critical component in working capital leads to business loss to competitors and eventual profitability decline .Inventories keep the businesses going as sale of the stocks translates to debtors and cash as well as creditors payment ,if resources are blocked at different stages of the supply chain it will prolong the cash operating cycle .

Wilner (2000) argue that suppliers contribute largely to the success of business, therefore creditors payment period is critical in profitability and success of the business. Delayed creditors payments constrain business profitability and continuity as it leads to lack of supply or credit supply which translate to cash terms only .It is impractical for most of the SME market to sell all of their stocks in one day in order to generate funds to purchase on cash terms. It is very important to manage the creditors payment terms for business growth.

Debt collection is a critical working capital component in the SME sector . Debtors collected translate into cash which if retained into the business supports the working capital cycle ensuring repeat business. Therefore it is critical to evaluate and monitor debtors in your business .Bad debts provision or bad debts written off affects the profit and loss position of the business .Reliance on one major client could lead to losses in cases where the debtor fails to honour their obligations or their businesses collapse .It is important to have a diversified debtors portfolio depending on the industry

the business is operating in. Deloof (2003) analyzed a sample of large Belgian firms during the period of 1992-1996 and confirm that Belgian firms can improve their profitability by reducing the number of days accounts receivable are outstanding and reducing inventories. Moreover , he finds that less profitable firms wait longer to pay their bills.

There are businesses which have been successfully operated and also others that have failed as a result of working capital. Theoretical studies Chittenden et al (1998) report that SME sectors have limited access to long term capital markets rely heavily on owner financing ,trade credit and short-term bank loans to finance their needed investment in cash, accounts receivables and inventory. This theory does not address character of the managers / proprietors of the business which includes diversion of funds from the business into other areas not related to the business and therefore hurting the business cash flow operations.

Berryman (1983) finds that SME have not developed their financial management practices to any great extent and they conclude that owners /managers should be made aware of the importance and benefits that accrue from improved financial management practices. Education on working capital management is important in cash flows management of the business and working capital cycles.

Walker and Petty (1978) Deakins et al, (2001) reports that managing cash flows and cash conversion cycle is a critical component of overall financial management for firms especially those who are capital constrained and more reliant on short term sources of finance .Jarvis et al ,(1996) report that cash flow problems of many small businesses are exacerbated by poor financial management and in particular lack of planning cash requirements .Overtrading in the SME business would result to

working capital constraints and affect business profitability which arises from increased working capital requirements. A business borrowing from a bank to finance the working capital will be subject to increased financial requirements which come with a cost from the bank's interest charges.

1.2 Statement of the problem

Profitability is of importance in working capital of Small and Medium Enterprises in Nairobi, Kenya. Mathuva (2009) examined the influence of working capital components on corporate profitability by using a sample of 30 firms listed in the Nairobi Stock Exchange for the periods between 1993 to 2008.The key studies of his findings were that there exist a highly Significant negative relationship between the time it takes for firms to collect cash from their customers and there exist a highly significant positive relationship between the time it takes the firm to pay its creditors (average payment period) and profitability.

Michael et al (2009) observed for efficient working capital there is need for the owners to get training in an area that is relevant to the business carried. The study indicated managers with relevant training run successful businesses compared to the untrained counterparts. This study addresses lack of skills in working capital according to World Bank (2007) however it does not address direct components of working capital in relation to profitability of SMEs .

According to Anders (2002) trade credit constituted an important part of the Kenyan Firms loan portfolios. Formal firms there were large differences across firm size and ethnicity in how large part of external finance trade credit accounted for. Large disparities were also found between formal and informal firms. The differences were less pronounced when studying the use of trade credit, although

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small and informal firms tend to obtain less credit than other groups. This study did not address the various components of working capital in relation to SME profitability.

There was need to address relationship between profitability and working capital to ensure profitability and business success in Kenya. Kenya like many developing countries small business entrepreneurs are in the manufacturing, import/export business and trade in general which contributes greatly in the Kenyan economy through creation of wealth by way of employment. Keeping this in view and the wider recognition of potential contribution of the SME sector to the Kenyan economy the study attempted to measure and analyse the relationship between profitability and working capital of small businesses in Kenya.

1.3 Objective of the study

The study sought to establish the relationship between working capital management and profitability of the Small and Medium Enterprises in Kenya.

1.4 Importance of the study

The study produced data on relationship between profitability and working capital of Small and Medium Enterprises in Kenya. The study will be useful to:

Owners/managers of Small and Medium Enterprises. This study will assist owners/managers to effectively and efficiently manage working capital of their businesses for profit making purposes hence business going concern.

Government of Kenya on their focus on SMEs: This study will be useful to the government in support of the SME sector through government funding, capacity building and also Small and Medium Enterprises management.

Lending institutions: The study will assist the lending institutions in analysis of a borrowing client's ability to repay their debts in relationship to profitability and working capital of the firm .Is the firm in a position to meet interest and principal payment.

Scholars and academicians: This study will be useful in research of relationship between working capital and profitability of a business, cash conversion cycle and liquidity management and its effects on profitability.

CHAPTER TWO

LITERATURE REVIEW

2.1   Introduction:

This chapter focused on studies undertaken by various scholars and theories that address the effects of working capital on profitability of SMEs. Working capital can be positive or negative and could result in the success or failure of Small and Medium Relationship between profitability and working capital of Small and Medium Enterprises can be derived from studies that seeks to address profitability and its relationship with working capital of business .According to Eisenhardt (1989) an essential feature of theory building is comparison of the emergent concepts, theory or hypothesis with the extent literature.

2.2 Working Capital Theories

Conservative Plan theory explains the cost of financing working capital is equal to the cost of long term fund that is annual average loan multiplied by long term rate of interest. Fixed and part of current assets are financed by long term funds as permanent and long term sources are more expensive leading to lower risk return.(Horne and Wachowitz,1998) Efficiency in working capital is vital for especially production of firms whose assets are current as it directly affects liquidity and profitability of any firm.

Thus this approach is more expensive as the available funds are not fully utilized during certain periods and interest has to be paid for funds which are actually not needed. Conservative approach does not use short term borrowing. (Raheman and Bluementhal (1994) firms are required to use accurate measures on working capital even though their profitability may be positive .

Hedging plan theory indicates that no long term funds are used to finance short term seasonal needs, that is current assets are equal to current liabilities. It is a moderate policy that matches assets and liabilities to maturities.Finnerty,1993;Jose et al.,(1996) Current ,acid- test and cash ratios as are balance sheet measures that cannot provide detailed and accurate working capital and effectiveness.

Hedging theory is risky as it involves almost full utilization of the firm's capacity to use short term funds and in emergency situations it may be difficult to satisfy the short term needs. Firm uses long term sources to finance fixed assets and permanent current assets and short term funds to finance temporary current assets .Richards and Laughlin (1989) ,Gentry Et al.(1990),Schilling (1996) and Boer (1999) have insisted on using on going liquidity management. On going liquidity management refers to the inflows and outflows of cash through the firm as the payment and collection takes place over time.

In hedging approach , assuming a firm needs to have additional inventories for two months it will then sought short term funds two month to match the inventory purchase .Limited access to short term working capital sources which includes bank financing, suppliers financings results is a hindrance in hedging approach. Ross et al., (2003) advices that most of the time it is reasonable to study the working capital management approach in relation to application of funds.

Aggressive theory which explains the firm wants to take high risk where short term funds are used to a very high degree to finance current and even fixed assets. This approach gives low interest rates but the risk associated with short term debt is higher than long term debt. Such a policy is adopted by

a company which is operating in a stable economy and is quite certain about future cash flows. A company with aggressive working capital policy offers short credit period to customers, holds minimal inventory and has a small amount of cash in hand .This policy increases the risk of default because a company might face lack of resources to meet short term liabilities but also give a high return as the high return is associated with high risk (Vishnani Shah (2007).

2.3 Profitability Theories

Uncertainty –bearing theory of profit which is theory of risk and uncertainty
and profit. Knight defines pure profit as the difference between the returns actually realized by the entrepreneur and competitive rate of interesting high class gilted securities. According to him risk are insurable or non insurable .However uncertainty which leads to high reward of profits .The theory does not suit to monopoly business phenomenon .The uncertainty element cannot be quantified to profits.

Dynamic Theory of Profit is defined as the difference between selling price
and the cost resulting in the changes in demand and supply conditions. J.B Clarke originated this theory which is Profit is the surplus over cost. There are changes that causes profits to emerge which include increase in population, changes in task and preferences, multiplication of wants, capital formation and Technological advancement.

However the theory gives an artificial definition of profit and wage management, all dynamic changes lead to profit but only unpredictable changes give rise to the profits.
The theory does not stress the element of risk involved in the business due to dynamic changes.

Risk theory of profit which according to an American Professor Hawley's risk indicates the riskier the industry the higher its profits rate. When an entrepreneur takes the risk of business he is entitled to receive profits as his rewards as profit is commensurate with risk. There is however no functional relationship between risk and profit .Profit is not based on entrepreneur's ability to undertake risk but rather on his capability of risk avoidance. The theory disregards many other factors attributed to profit and just concentrate on risks.

2.4   Empirical Studies

Beaumont and   Begemann (1997) emphasizes the major components of working capital   are profitability and liquidity and points out there exists a trade off between profitability and liquidity .The relationship between profitability and working capital help understand the relationship between profitability and working capital which is ultimate goal of working capital management. This theory addresses profitability and liquidity and does not explain and   look into the components of working capital and effects to their profitability .

Van Horne (1977) described working capital as the administration of current assets in the name of cash , marketable securities, debtors and stocks . (Smith 1980) described working capital as important because of its effects on the firm's profitability and risk consequently its value .Brennan et al,1998;Petersen and Rajan,1997) Granting trade credit favours the firm's sales in various ways .Trade credit can act as effective price cut .(Emery ,1984) Trade credit is an incentive for customers to acquire merchandise at times of low demand. It allows customers to ensure stocks received are of proper quality and quantity. According to (Deloof and Jegers, 1996) trade credit may stimulate sales

because it allows customers product quality before paying .In addition large stocks reduces the risk of stock out .

Blinder and Maccini (1991) indicate that maintaining high inventory levels reduces the cost of possible interruptions in the production process, or loss of business due to scarcity of products, reduces supply costs, and protects against price fluctuations among other advantages. Delaying payments to suppliers allow firm to assess the quality of the products bought and can be inexpensive and flexible source of financing for the firm. We note however businesses that invest heavily in stocks may affect their business profitability in cases where the stocks are not fast moving, credit period advanced by the company to the debtors to attract sales. The longer the stock turnover and debtors payment period will affect the businesses profitability .We note cash is held up in stocks and debtors therefore affecting the cash conversion cycle which affects other components of working capital such as cash and creditors.

Trade credit on the other hand is a source of financing that reduces the amount required to finance the sums tied up in the inventory and customer accounts .We should however note financing from suppliers can have a very high cost if early payment discounts are available .According to Wilner,(2000), the opportunity cost of supplier financing may exceed 20% depending on the discount percentage and discount granted . Peterson and Rajan (1997) advises since suppliers may have significant cost advantages over financial institutions in providing credit to their customers , it can also be an inexpensive source of credit for customers . If payment to suppliers is delayed it may affect the relationship between the supplier and business which may result in cash purchases terms as well as no supply at all. Decision about how much credit to accept from suppliers are reflected in

the business cash conversion cycle which represents the number of days between the date the firm must start paying the suppliers and the date when it begins to collect payment from customers. Some previous studies have used this measure to analyze whether shortening the cash conversion cycle has positive or negative effects on the business profitability.

Shin and Soenen (1998) analyze the relation between the cash conversion cycle and profitability. Their results show that reducing cash conversion cycle to a reasonable extent increases firm's profitability .Deloof (2003) firms can improve their profitability by reducing the number of days accounts receivable are outstanding and reducing inventories .He also finds that less profitable firms wait longer to meet their payments.

Previous studies have focused their analysis on larger firms .However the management of working capital (current assets and current liabilities) is important for small and medium firms .Most of small and medium size companies assets are in the form of current assets and current liabilities are one of their main source of financing .

Petersen and Rajan (1993) in their study small firms have difficulties in obtaining funding in the long-term capital markets and the financing constraints that they face .In this respect Elliehausen and Woken (1993) ,Peterson and Rajan (1997) and Danielson and Scott (2000) show that small and medium sized firms use supplier financing when they run out of debt .Study undertaken by Peel et al, (2000) revealed that small firms tend to have a relatively high proportion of current assets, less liquidity, exhibit volatiles cash flows and high reliance on short term debt.Howorth and West head (2003), Suggest that small companies tend to focus on some areas of working capital where they can expect to improve marginal returns. Peel and Wilson (1996) suggest for small and growing business

an efficient working capital is a vital component of success and survival i.e. both profitability and liquidity. They further asserted that smaller firms should adopt formal working capital routines in order to reduce the probability of business closure as well as to enhance business performance.

The study of Grablowsky (1976) and others have showed a significant relationship between various success measures and the employment of formal working capital policies and procedures. Walker and Petty, (1978) suggested managing cash flows and cash conversion cycle is a critical component of overall financial management for all firms especially those who are constrained and more reliant on short term sources of finance.Berryman (1983) finds that SMEs have not developed their financial management practices to any great extent and they conclude that owner / managers should be made a aware of the importance and benefits that can accrue from improved financial management practices.

The study conducted by De Chazal Du Mee (1998) revealed that 60% enterprises suffer from cash flow problems.Narusimhan and Murty (2001) stress on the need for many industries to improve their return on capital employed (ROCE) by focusing on some critical areas such as cost containment, reducing investment in working capital and improving working capital efficiency .The study of Shin and Soenen (1998) and Deloof (2003) have found a strong significant relationship between the measures of working capital and profitability. Their findings suggest that managers can increase profitability by reducing the number of days accounts receivable and inventories. This is important in small and medium growing firms who need to finance increasing amount of debtors.

Schilling (1996) in his study mentions optimum liquidity position which is minimum level of liquidity necessary to support a given level of business activity .He says its critical to deploy resources between working capital and capital investment , because the return on investment is usually less than the return on capital investment. Therefore deploying resources on working capital as much as to maintain optimum liquidity position is necessary.

In their seminal paper Richards and Laughlin (1980) devised the cash conversion cycle theory that integrates working capital. It claims that the method is superior to other forms of working capital analysis that rely on ratio analysis or a decomposition of working capital. The cash conversion cycle is calculated by subtracting the payables deferral period (360/ annual payable turnover) form the sum of the inventory conversion period (360/annual inventory turnover) and the receivables conversion period (360/ annual receivable turnover) each of these components of working capital is denominated by number of days, the cash conversion cycle is also expressed as a number of days. It has been interpreted as a time interval between the cash outlays that arise during the production of output and the cash inflows that result from the sale of the output and the collection of the accounts receivable.

Karglar and Blumenthal, (1994) reveals that while the performance levels of small business have traditionally been attributed to general managerial factors such as manufacturing, marketing and operations, working capital may have a consequent impact on small business survival and growth. The amounts invested in working capital are often high in proportion to the total assets deployed and so it is vital that those amounts one used is an efficient and effective way. We however note there is evidence that small businesses lack working capital management skills. Given that many small

businesses suffer from under capitalization. Importance of exerting tight control over working capital investment is difficult to overstate.

According to Rafuse (1996) working capital starvation is credited as a major course if not the major cause of small business failure in many developed and developing countries. Jarvis et al (1996) finds the success of a firm depends ultimately on its ability to generate cash receipts in excess of disbursement. The cash flow problems of many small businesses are exacerbated by poor financial management and in particular the lack of planning cash requirements

2.5   Conclusion

Review on various studies by different scholars did not address the relationship between profitability and working capital of small and medium firms. Given these empirical studies this study hoped to fill the gap and provide useful support for understanding the determinant of SME's performance in Kenya, thus the empirical study was based on a sample of 40 SME's firms that were registered with the registrar of companies operate within Nairobi province.

This study aimed to add to existing literature on the relationship between profitability and working capital with more focus on Small and Medium Enterprises through use of measurement variables that are directly related to working capital and profitability of the SMEs in Kenya. The study focused on providing useful information that could be used by various scholars, accountants, auditors, lending institutions as well as the government.

The study considered cash conversion cycle as a measure of working capital , and Earnings before interest and tax as a measure of profitability .The results were aimed at providing the relationship between profitability and working capital of SMEs in Kenya to ensure business continuity. Therefore owners/managers can create profits for their firms by handling correctly the cash conversion cycle and keeping each different component of CCC to an optimum level.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter addressed the research design , the population target, study setting, sampling technique, data collection and Data analysis methods.

3.2 Research design

Empirical research design was used to explore the relationship between profitability and working capital of Small and Medium Enterprises in Kenya.

Population

The target population consisted of 1.6 Million registered Small and Medium Enterprises at the registrar of companies in Kenya. This research study collected quantitative and qualititative data from the respondents who were owners and managers of the Small and Medium sized companies. The study targeted SMEs in Nairobi, Kenya and are registered at the company's registry

3.3 Sample

Sampling frame consisted of SMEs who were customers of Bank of Africa Kenya Limited. The study used purposive sampling in obtaining data of about 40 small and medium sized companies which was aimed at ensuring accuracy .Respondents (owners/managers) were chosen deliberately on the assumption that they had valid and up to date information regarding the study.

3.4   Data collection

In the study secondary data sources were employed by obtaining audited financial statements for the year ended 31st December 2009 from the target population.

3.5   Data analysis method

The researcher edited raw data and organized so that the objective of the study is met. Data was organized through SPSS version 17 regression model.This study focused on analyzing data relating to working capital management and profitability. Cash Conversion Cycle which concerns the management of inventories, trade payable and trade receivables a measure of Working capital management. This was calculated as (accounts receivables/sales)*365 + (inventories/cost of sales)*365- (accounts payable/cost of sales)*365.This was used to analyze data on working capital management. Profitability concerns Earnings Before Interest and Tax (Revenue-Operating Expenses)

The study   regressed Profitability against cash conversion cycle. The profitability model used was as follows:

$$Y_{i,t} = \alpha_0 + \beta_1 CCC_{1,t} + \beta_2 DAYINV_{1,t} + \beta_3 DAYAR_{1,t} + \beta_4 DAYAP_{1,t}$$

Where:

$Y_{i,t}$ =Profitability of Firm I at time t

$CCC_{1,t}$ =Cash Conversion Cycle of firm I at time t

DAY INV =Inventory Turnover Days Firm 1 at Time T

DAY AR = Account Receivable days Firm 1at Time T

DAY AP=Account Payable days firm 1 at Time T

α_0 =*Estimated Value of Y when all the other variables are Zero*

β =*Change in Estimated Y*

The above regression model was used to find the value of α_n and β which explained the relationship between the independent variable and the dependent variable. The values were put in the equation in order to understand the results in a better way.

CHAPTER FOUR

DATA ANALYSIS AND RESEARCH FINDINGS

4.1   Introduction

This chapter addressed the data analysis and research findings on relationship between profitability and working capital and include research variables ,descriptive statistics, hypothesis and regression analysis. The data was collected from secondary sources which were the audited financial statements for the year ended December 2009 from a population of 40   small and medium companies in Kenya .The data was analyzed using SPSS version 17 and presented in form of tables.

4.2   Frequency Distribution:

The research was conducted from a population of 40 Small and Medium Enterprises whose distribution according to industrial sector and frequency was shown on table below.

Table 4.2.1   Frequency Distribution as per industrial sector

Firm	Frequency	Percent
ICT	5	12.5
Trade	15	37.5
Agriculture	7	17.5
Construction	7	17.5
Transport	6	15.0
Total	**40**	**100.0**

General trade had the highest no of companies comprising to 37.5% of the entire population. ICT sector had the least frequency comprising of 12.5% of the entire population

4.3   Variables

There were two variables in the study which include independent variable and dependent variable.

Independent variable

In order to capture the general information on relationship between profitability and working capital cash conversion cycle and its components were used as an independent variable for regression analysis .Cash conversion cycle for is calculated as shown below

CCC=Number of days accounts receivable+ Number of days inventory-number of days account payable.

The above component of working capital was derived as below:

Number of days accounts receivable=Account Receivable/Sales * 365

Number of days Inventory=Inventory/ cost of sales * 365

Number of days payable= Accounts Payable/cost of sales * 365.

The cash conversion cycle was derived for the entire population using Microsoft excel (see appendix 1)

The sample was divided into sub groups per sector to included construction sector, Agriculture, General trade, transport and ICT. The study was aimed at establishing the relationship of profitability and working capital for the entire sample and the sub group. Cash Conversion Cycle and its components were treated as independent variable in regression analysis.

Dependent variable

The dependent variable for this research was Earnings Before Interest and Tax(EBIT). The results of EBIT were derived using Microsoft excel spread sheet which was used to analyse data collected from audited accounts of various small and medium Enterprises in Kenya for the financial year ended 31st December 2009.

4.4 Descriptive Statistics

Table 4.4.1: Descriptive Statistics of the sample

Variables	N	Min.	Max.	Mean	S.D	Variance
Profit of the firm as at 2009	40	.60	112.10	12.66	20.30	412.20
Inventory turnover days at 2009	40	.00	270.00	45.23	56.89	3236.23
Account receivable days at 2009	40	.00	320.00	62.70	60.89	3707.19
Account payable days at 2009	40	.00	2383.00	119.38	375.18	140757.78
Cash Conversion Cycle	40	-11206.40	405.73	-262.98	1794.73	3221044.56

The table above showed descriptive statistics of a sample of 40 firms . On average the number of days the companies take to collect debtors is 63 days , the number of days the companies take to pay their creditors is 119 days, inventory turnover days is 45 days .The average cash conversion cycle is -263. The average profit for the sample in the year 2009 is Kes.13Millon.

The data also showed the maximum and the minimum values of each variable .The standard deviation showed the dispersion of data from the mean, the variance showed how close the sample is to the population mean

4.4 Hypothesis

In testing hypothesis EBIT (dependent variable) was used as a measure of profitability and Cash Conversion Cycle (independent variable) was used as a measure of working capital. The variables were used in our hypothesis to determine the relationship between profitability and working capital.

In the study further hypothesis was also developed to find out the relationship of profitability with days receivable, days inventory and days account payable on construction, agriculture, transport, general trade, ICT firms and the entire population.

Hypothesis 1

The first hypothesis tested the relationship between profitability and working capital of small and medium firms in the construction industry.

H1 there existed relationship between profitability and working capital of Small and Medium enterprises in construction industry.

H0 There existed no relationship between profitability and working capital of Small and Medium Enterprises in construction industry .

Hypothesis 2

This hypothesis was used to determine the relationship between profitability and working capital of Small and Medium Enterprises of Agriculture firms from our sample

H1 there existed relationship between profitability and working capital of Small and Medium enterprises in agriculture industry.

H0 There existed no relationship between profitability and working capital of Small and Medium Enterprises in agriculture industry .

Hypothesis 3

This hypothesis was used to determine the relationship between profitability and working capital of Small and Medium Enterprises of ICT firms from our sample

H1 there existed relationship between profitability and working capital of Small and Medium enterprises in ICT industry.

H0 There existed no relationship between profitability and working capital of Small and Medium Enterprises in ICT industry.

Hypothesis 4

This hypothesis was used to determine the relationship between profitability and working capital of Small and Medium Enterprises of transport firms from our sample

H1 there existed relationship between profitability and working capital of Small and Medium enterprises in Transport industry.

H0 There existed no relationship between profitability and working capital of Small and Medium Enterprises in Transport industry .The following was the regression model for this hypothesis

Hypothesis 5

This hypothesis was used to determine the relationship between profitability and working capital of Small and Medium Enterprises of General trade firms from our sample

H1 there existed relationship between profitability and working capital of Small and Medium enterprises in General Trade industry.

H0 There existed no relationship between profitability and working capital of Small and Medium Enterprises in General Trade industry .

Hypothesis 6

This hypothesis was used to determine the relationship between profitability and working capital of the entire population

H1 there existed relationship between profitability and working capital of Small and Medium enterprises of the entire population.

H0 There existed no relationship between profitability and working capital of Small and Medium Enterprises of the entire population .

4.5   Regression Analysis

Regression method helped to estimate the unknown dependent variable with the help of several known independent variable.

$Y_{i,t}$ =*Profitability of Firm I at time t*

$CCC_{i,t}$ =*Cash Conversion Cycle of firm I at time t*

DAY INV =Inventory Turnover Days Firm 1 at Time T

DAY AR = Account Receivable days Firm 1at Time T

DAY AP=Account Payable days firm 1 at Time T

α_0 =*Estimated Value of Y when all the other variables are Zero*

β =*Change in Estimated Y*

Regression 1

Table 4.5.1 indicates the results of regression analysis which was carried out to test the hypothesis to find out the relationship between profitability and working capital of construction firms which were 17.5% of the entire population .We used cash conversion cycle and its components as independent variable and EBIT of the construction firms in the sample as a dependent variable. After running the regression on SPSS we found the values of alpha and beta and used them in our equation on analysis of the results in the construction industry below.

Table 4.5.1   Coefficients (CONSTRUCTION FIRMS)

	B	Std. Error	T	Sig.
Constant	64.192	36.649	1.752	.222
Inventory turnover days at 2009	2.851	.852	3.345	.079
Account receivable days at 2009	-.321	.519	-.619	.599
Account payable days at 2009	-1.685	.623	-2.704	.114
Cash Conversion Cycle	-.074	.229	-.324	.777

Dependent Variable: Profit of the firm as at 2009

Y=64.192+ 2.851(DAYS INV)+(-.321 DAYS REC)-(-1.685 DAYS PAYABLE)

The regression equation supported the null hypothesis that there exist no relationship between CCC and profitability of the firms in the construction industry. There was also no relationship between profitability and accounts receivable days and account payable days. There was however positive

relationship between inventory turnover days and the profitability of firms in the construction industry of our sample population.

Regression 2

Table 4.5.2 below shows the results after carrying out the regression to find out the relationship between profitability and working capital of agriculture firms which were 17.5% of the entire study population .We used cash conversion cycle as independent variable and EBIT of the agriculture firms in the sample as a dependent variable.

Table 4.5.2 Coefficients (AGRICULTURE FIRMS)

	B	Std. Error	T	Sig.
Constant	-4.009	.718	-5.584	.031
Inventory turnover days at 2009	-.575	.047	-12.336	.007
Account receivable days at 2009	.293	.022	13.415	.006
Account payable days at 2009	.241	.019	12.648	.006
Cash Conversion Cycle	.003	.001	2.940	.099

Dependent Variable: Profit of the firm as at 2009

Y=-4.009+0.293(ACCOUNTS RECEIVABLE DAYS)+-0.575(INVENTORY TURNOVER DAYS)-0.241(ACCOUNT PAYABLE DAYS)

The results of the regression analysis on agriculture firms which were 17.5% of our sample confirms that there exist positive relationship between profitability and accounts receivable days,accounts payable days and cash conversion. However results of relationship between profitability and inventory days confirms null hypothesis that there exist no relationship between profitability and inventory turnover days.

Regression 3

Table 4.5.3 below shows results of regression analysis which was carried out to test the hypothesis to find out the relationship between profitability and working capital of ICT which were 12.5% of our sample size .We used cash conversion cycle as independent variable and EBIT of the construction firms in the sample as a dependent variable.

Table 4.5.3 Coefficients (ICT FIRMS)

	B	Std. Error	T	Sig.
Constant	1.464	.000	.	.
Inventory turnover days at 2009	7.369	.000	.	.
Account receivable days at 2009	.033	.000	.	.
Account payable days at 2009	-.136	.000	.	.
Cash Conversion Cycle	-.001	.000	.	.

Dependent Variable: Profit of the firm as at 2009

Y= 1.464+0.033(DAYS RECEIVABLE)+7.369(INVENTORY TURNOVER DAYS)- - 0.136(ACCOUNT PAYABLE DAYS)

The regression supports null hypothesis on relationship between profitability and Cash Conversion Cycle and also accounts payable. There however exist a relationship between profitability and inventory turnover days and account receivable of firms from our sample in the ICT sector. The regression analysis did not give us the coefficient of T and significance of confidence attributed to a small number of the Firms in the ICT sector from our sample population.

Regression 4

Table 4.5.4 below indicates the results of regression analysis which was carried out to test the hypothesis to find out the relationship between profitability and working capital of transport firms which constituted up to 15% of our sample population .We used cash conversion cycle as independent variable and EBIT of the construction firms in the sample as a dependent variable.

Table 4.5.4: Coefficients (TRANSPORT FIRMS)

	B	Std. Error	T	Sig.
Constant	5.017	3.506	1.431	.388
Inventory turnover days at 2009	.037	.020	1.832	.318
Account receivable days at 2009	.132	.165	.799	.571
Account payable days at 2009	.031	.031	.997	.501
Cash Conversion Cycle	-.053	.035	-1.514	.372

Dependent Variable: Profit of the firm as at 2009

Y=5.017+-0.053CCC+0.132(ACCOUNTSRECEIVABLE)+0.037(INVETORY TURNOVER)-0.031(ACCOUNT PAYABLE)

The regression analysis supports null hypothesis that there exist no relationship between

Profitability and cash conversion cycle of firms in the transport sector which constitute up to

15% of our sample .There however exist positive relationship between profitability and

Components of cash conversion cycle which include accounts payable, accounts receivable

and inventory turnover days.

Regression 5

Table 4.5.5 indicates the regression analysis that was carried out to test the first hypothesis to find out the relationship between profitability and working capital of general trade firms which were

37.5% of the entire sample .We used cash conversion cycle as independent variable and EBIT of the construction firms in the sample as a dependent variable.

Table 4.5.5 Coefficients (GENERAL TRADE)

	B	Std. Error	T	Sig.
Constant	7.299	4.450	1.640	.132
Inventory turnover days at 2009	.023	.061	.379	.713
Account receivable days at 2009	-.054	.057	-.939	.370
Account payable days at 2009	.024	.038	.624	.546
Cash Conversion Cycle	.023	.020	1.120	.289

Dependent Variable: Profit of the firm as at 2009

Y=7.299+0.023 CCC -0.054(ACCOUNT RECEIVABLE)+0.023(INVENTORY TURNOVER)-0.24(ACCOUNT PAYABLE)

The regression analysis supports the hypothesis that there exist relationship between profitability and cash conversion cycle and also profitability and inventory turnover days as well as account payable days .There however exist null hypothesis between profitability and account receivable days.

Regression 6

Table 4.5.6 shows the regression analysis results that were carried out to test the hypothesis to find out the relationship between profitability and working capital of the entire sample population of our study .We used cash conversion cycle as independent variable and EBIT of the sample population as a dependent variable.

Table 4.5.6: Coefficients (ALL FIRMS COMBINED-SAMPLE POPULATION)

	B	Std. Error	T	Sig.
Constant	9.214	5.731	1.608	.117
Inventory turnover days at 2009	.054	.061	.886	.382
Account receivable days at 2009	.017	.058	.299	.767
Account payable days at 2009	-.001	.010	-.149	.882
Cash Conversion Cycle	.000	.002	-.186	.853

Dependent Variable: Profit of the firm as at 2009

Y=9.214+000CCC+0.017(ACCOUNT RECEIVABLE DAYS) +0.054(INVENTORY TURNOVER DAYS)-(-0.001 ACCOUNT PAYABLE DAYS)

The regression analysis supports null hypothesis there exist no relationship between profitability and cash conversion cycle and also accounts payable. However there exist relationship between profitability and other component of cash conversion cycle which include accounts receivable days and inventory turnover days of the entire sample.

4.6   Summary and Interpretation of Findings:

In the study we tried to establish the relationship between profitability and working capital of Small and Medium Enterprises in Kenya. We divided our population sample into sub groups which included construction, transport, ICT, Agriculture and general trade. We carried out regression analysis on each sub group and the entire population and the results were there exist no relationship between   profitability and cash conversion cycle of firms in the construction, ICT, transport and the entire sample. The results supports the findings by shin and Soenen (1998) who argued that the negative relationship between profits and cash conversion cycle could be explained by the market power or market share .There was however positive relationship between profitability and cash conversion of industries in the General trade and agriculture sectors.

The study revealed on further analysis on relationship between profitability and inventory days there exist positive relationship between profitability and inventory turnover days of construction, ICT, transport, trade and the entire sample in general. This means that maintaining high inventory level reduces the cost of possible interruptions in the production process and the loss of business due to scarcity of products. Maintaining high levels of inventories also helps in reducing the cost of

supplying the products and protect the firm against price fluctuations as a result of adverse macroeconomic factors as observed by Blinder and Maccini (1991).We note only 12.5% of our sample result in negative relationship between profitability and inventory turnover, most studies have not found the expected negative relationship between profitability and working capital to be significant (Lazaridis and Tryfonidis (2006).

There exist no relationship between profitability and days payable for ICT and entire sample however there exist positive relationship between profitability and days payable for agriculture, transport and trade industries which constitute upto 87.5% Of the entire sample. The positive relationship can be explained in two ways. First contrary to Deloof (2003) and Rehman and Nasr (2007), this finding holds that more profitable firms wait longer to pay their bills. This implies that the transport and trade industries hold payments to suppliers so as to take advantage of the cash available for their working capital needs. Second this result makes economic sense in that the longer a firms delays its payment to creditors, the higher the level of working capital it reserves and uses in order to increase profitability. This study also adds to findings of Lazaridis and Tryfonidis(2006) who claimed that there was positive relationship between number of days account payable and profitability.

There exist positive relationship between profitability and days receivable for the entire sample, ICT,Agriculture and Transport sector .There is however negative relationship between profitability and working capital of trade and construction industries of our sample .The results of negative relationship between profitability and days receivable is consistent with the findings of Deloof (2003),Rahmen and Nasr (2007) .This results suggest that firms can improve their profitability by

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reducing the number of days accounts receivable .The results can also be interpreted as less the time it takes for customers to pay their bills ,the more cash is available to replenish inventory hence the higher the sales realized leading to higher profitability of the business. The negative coefficient on the account receivable suggest that an increase in the number of days accounts receivable by a day is associated with decline in profitability.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

The study has examined the relationship between profitability and working capital of Small and Medium Enterprises in Kenya. The study focused on a sample of 40 companies whose sales turnover were in the range of Kes.10Million and Kes 500Million and the said companies bank with Bank of Africa Kenya Limited. The study focused on companies in the Agriculture, Transport,ICt,General Trade and Construction industries. The studies choose Earnings before Interest (EBIT) as a measure of profitability and Cash Conversion Cycle and its components as a measure of working capital.

Regression analysis was run through SPSS software to test upto six hypothesis which included relationship between profitability and working capital of firms in the Construction, Agriculture, ICT, General Trade, Transport and the entire sample in general. The study revealed there exist no relationship between cash conversion cycle profitability and cash conversion cycle of firms in the construction, ICT, transport and the entire sample. There was however positive relationship between profitability and cash conversion of industries in the General trade and agriculture sectors.

The study revealed on further analysis on relationship between profitability and inventory days there exist positive relationship between profitability and inventory turnover days of construction, ICT, transport, trade and the entire sampler in general. Higher inventory is needed to meet higher demand ,buying bulk stocks reduces ordering cost and also there are high trade discounts associated with

bulk purchases. Low inventory level may reduce warehouse costs but may result in loss of customers who will switch to competitors due to scarcity of products

The study also observed that the longer accounts payables period gives higher profits returns. There was positive relationship between profitability and working capital of 87.5% of the entire sample population. Creditors are the cheapest means   of financing business as the greater the accounts payable period the more it allows firms to generate cash flows from trading in the cash meant to pay the creditors .The firms are also in a position to offer reasonable credit periods to their customers at a margin therefore increasing the sales and profitability .The companies that take longer to pay their creditors save on borrowing costs from financial institutions thus improving their profitability .

The study also revealed positive relationship between days receivable and profitability on Agriculture, ICT, Transport, General Trade and Entire Sample .Large credit period offered by companies to attract and increase sales and profits may result to bad debts. Bad debts may be provided for or written off affecting the company's profitability. Companies need to collect their debtors for the smooth running of business operations and avoid credit facilities from financial institutions which are advanced at an interest rate directly affecting profitability.

5.2   Conclusions

 The study revealed owners and managers of small and medium enterprises should consider maintaining inventory at reasonable levels in order to meet the demand of their products .The owners should ensure to maintain stocks with high turnover days to avoid holding absolute goods .High inventory turnover results to increased sales and therefore increased profits for business.

The study revealed that owners and managers of small businesses should take longer to pay their creditors without restraining the relationship with their suppliers. Long creditors payment period is a cheap source of financing working capital of the businesses as the funds are ploughed back in to the business to meet other working capital needs for a certain period therefore generating more profits into the business as opposed to cash purchases and short term credit periods.

The study revealed owners and managers of businesses are required to collect their debtors within the shortest time possible. Long debtors payment periods could lead to bad debts provisioning and could result into writing off of bad debts. Therefore owners and managers should advance credit to customers they consider credit worthy as bad debts provisioning and writing off has effects on company's profitability.

5.3   Policy Recommendations

From the study owners and managers of small ands medium enterprises in Kenya can improve their business profitability by reducing the number of days receivable .Debtors collection can improve the business cash flows as funds are used for working capital management as opposed to being held by the debtors. There is a risk of bad debts and bad debts provisioning if the funds are left to remain with the debtors for too long. Owners and business managers can further improve profitability by increasing inventory to reasonable levels aimed at increasing sales and customer retention ensuring repeat of business and thus profitability .

The firm owners and managers can also take longer to pay their creditors in as far as they do not restrain their relationship with the creditors .Creditors are a source of financing business which is cheaper than bank borrowing which is at interest rate .From the study we observed there exist negative relationship between profitability and cash conversion cycle of several firms in our sample and also the entire sample. We concluded that firms are capable of gaining competitive advantage by means of efficient and effective utilization of resources of their organization through careful handling of the cash conversion cycle and keeping each different component account receivable, inventory days and account payable at optimum level.

5.4 Limitations

The main limitation of study is its inability to get data and include organizations banking with other banks. The study focuses on Small and medium Enterprises operating in selected industrial sector and Banking with Bank Of Africa and the findings are generalized to all Small and Medium Enterprises in Nairobi Kenya. The study would have covered Small and Medium Enterprises operating with other banks in Kenya.

The other limitation from this study was the fact that it did not address companies in all industrial sectors in Kenya .The study faced the limitation on also the number of companies to be included per sector other sectors had more companies than others to the available data .

The study also focused on Earnings Before Interest and Tax as a measure of profitability and did not consider other measures of profitability as Gross Profit Margin, Return on Assets and Net Profit of a

company. Further the study focused on only accounting measures of profitability and did not consider other measures of profitability such as economic and market value measures.

5.5   Suggestion for further research

The research design was based on Small and Medium Enterprises Banking with Bank Of Africa Kenya Limited and operating within Nairobi County. Future researches can be carried out on Small and Medium Enterprises banking with other financial institutions in Kenya and also operating in other geographical areas.

The study included a limited number of companies in various industrial sectors in Kenya, future research can be carried out and include other industrial sectors in the study

The study used EBIT as an accounting measure of profitability; future research can consider other measures of profitability such as net profit, gross profit margin and return on assets. Future research could also consider non accounting measures of profitability.

The study focused on Small and Medium Enterprises operating sales turnovers of Kes 10 million to Kes 500 Million. Future research can consider business operating sales turnovers of below Kes.10Million and should categorize the Small and Medium Enterprises between Small Companies and Medium Companies.

The study focused on secondary data sources which were audited accounts for one year period ended 31st December 2009.Future studies should focus and compare on relationship between profitability and working capital management of several years.

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Appendix (1)

All the figures are in Millions

FIRM No.	A/C Receivables	A/C Payables	Sales	Cost Of Sales	inventories	CCC
10	47.60	29.30	348.60	312.90	6.80	23.53
14	4.30	3.20	47.30	31.30	2.80	28.25
18	3.00	0.20	64.80	44.50	48.00	405.73
20	19.80	11.10	47.00	1.70	5.70	-1015.70
21	2.70	1.60	30.40	25.50	0.00	9.52
22	6.64	12.17	48.46	13.55	0.00	-277.81
23	5.10	10.10	181.0	170.60	33.50	59.74
24	0.70	0.10	17.90	3.70	0.00	4.41
25	56.59	26.21	251.32	182.19	24.65	78.66
26	28.60	36.10	235.80	176.70	18.30	7.19
27	83.90	51.90	363.50	320.30	75.30	110.21
29	2.90	19.00	81.30	64.50	17.90	5.96
30	194.00	263.50	472.70	326.20	191.30	67.25
31	61.10	83.10	220.70	135.00	31.90	-38.09
32	0.50	1.90	48.60	41.80	0.00	-12.84
34	30.00	10.10	116.72	86.96	0.00	51.40
35	20.30		118.70	80.40	33.00	211.00
36	26.92	45.14	120.19	85.82	12.04	-59.47
38	2.98	1.63	28.96	14.92	5.20	123.73
7	0.00	10.83	384.06	337.83	70.98	64.36
2	6.40	5.20	26.60	18.20	1.50	13.37
11	9.72	0.89	11.07	5.62	0.00	262.78
12	78.20	62.80	426.00	289.80	86.60	96.08
19	17.61	61.20	294.19	244.19	28.95	-26.71
20	3.26	2.51	63.55	54.65	0.00	1.96
3	83.60	128.40	403.00	354.20	80.20	25.37
43a	1.56	0.93	26.95	22.07	12.56	211.71
5	1.34	3.95	27.79	15.64	4.82	37.09
6	2.70	0.10	19.20	12.90	0.70	68.14
4	18.34	17.19	30.06	68.52	2.81	145.98
42	5.66	0.32	24.82	12.50	8.22	311.94
43b	7.72	0.13	20.40	8.84	0.00	132.98
44	3.57	0.75	14.00	8.19	0.61	86.66
45	1.17	0.00	14.08	5.10	0.00	30.43
47	14.80	5.50	31.70	18.90	1.80	98.67
48	2.58	0.67	48.36	14.63	0.00	2.73
49	6.57	49.10	32.64	1.59	0.00	-11206.40
50	4.30	1.00	17.40	4.70	4.20	336.03

51	3.5	1.5	436.5	426.10	0.00	1.64
9	0.00	0.00	11.914	3.1775	0	0.00

NB: Cash Conversion Cycle (CCC) = [(Accounts receivables/Sales)*365 + (Inventories/cost of sales)*365- (Accounts Payable/cost of sales)*365]