THE EFFECTS OF WORKING CAPITAL MANAGEMENT ON THE PROFITABILITY OF SMALL AND MEDIUM ENTERPRISES IN KENYA

BY

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A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTER OF BUSINESS ADMINISTRATION DEGREE, UNIVERSITY OF NAIROBI

NOVEMBER 2011

DECLARATION

This research project is my original work and has not been submitted for a degree award in any other University.
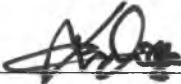
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ACKNOWLEGDEMENTS

DEDICATION

To my husband John Gatitu and our beloved children Lenny and Nimu.

To my mum for the moral support throughout my studies.

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LIST OF ABBREVIATIONS

CBS   Central Bureau of Statistics

CCC   Cash Conversion Cycle

DIO   Days Inventory Outstanding

DPO   Days Payables Outstanding

DSO   Days Sales Outstanding

GDP   Gross Domestic Product

ICEG   International Centre for Economic Growth

ICPAK   Institute of Certified Public Accountants of Kenya

K-REP   Kenya Rural Enterprise Programme

SMEs   Small and Medium Enterprises

SMERC   Small and Medium Enterprises Resource Centre

SPSS   Statistical Package for Social Sciences

ABSTRACT

An optimal working capital management is expected to contribute positively to the profitability of firms. The purpose of this study was to establish the relationship between working capital management and profitability in small and medium enterprises in Kenya. The study used secondary data obtained from financial statements of 40 small and medium enterprises registered by small and medium enterprises resource centre. The financial statements from the enterprises were analysed to determine the effects cash conversion cycle, days inventory outstanding, days sales outstanding and days payables outstanding on the net profit margin.

Pearson's correlation and regression analysis were used to analyse the data. The results showed a negative relationship between cash conversion cycle, days inventory outstanding, days sales outstanding and the profitability of the firms. There was a significant positive relationship between days payables outstanding and profitability. The results suggest that small and medium enterprises can increase profitability by maintaining an optimal level of working capital. The firms can wait longer to pay the accounts payables. The study recommends to the academia to include trainings on working capital management and to larger extent trainings in all areas of financial management in the entrepreneurship courses. The policy makers should arrange with other stakeholders for workshops on working capital management to the small and medium enterprises business managers and owners as most of them lack adequate skills in this area.

CHAPTER ONE
INTRODUCTION

1.1   Background of the Study

Working capital refers to the difference between current assets and current liabilities. The concepts of working capital focus attention on how to optimize investment in current assets and how current assets should be financed. The consideration of level of investment should avoid either excessive or inadequate investment in current assets. Excessive investment should be avoided as it impairs the firm's profitability. On the other hand, inadequate amount of working capital may expose the firm to insolvency. Whenever a need for working capital arises due to the increasing level of business activity, financing arrangements should be sought quickly. Similarly if surplus funds arise they should be invested in short term securities (Pandey, 2008).

Profitability is the state or condition of yielding a financial profit or gain. It is the primary goal of all business ventures. Without profitability the business will not survive in the long run. Measuring current and past profitability and projecting future profitability is very important. Profitability is measured with income and expenses. Income is money generated from the activities of the firm. However, money coming into the firm from activities such as borrowings does not create income. This is simply a cash transaction between the firm and the lender to generate cash for operating the business. Accounting profits provide a view of the viability of the business. Although one year of losses may not permanently harm the business, consecutive years of losses or net income insufficient to cover the expenditure may jeopardize the viability of the business (Edwards, 2004).

The total amount of financial resources available to a firm is limited and should be put to the best alternative uses. Large amounts of investment in current assets reduce the amounts available for investment in profitable avenues (Brigham & Houston, 2007).

1.1.1 Small and Medium Enterprises

Small and Medium Enterprises (SMEs) are considered the backbone of economic growth in all countries (Rajesh, Suresh, & Deshmukh, 2008). Small enterprises are businesses employing up to 50 workers with at least two of the following characteristics:-the management is independent, capital is supplied and ownership is held by an individual or a small group, the area of operation is local but the target market is not necessarily local and the size is fairly small relative to the industry. The enterprises should essentially be in non-primary businesses (Futuro, 1999). Medium enterprises have from 51 to 100 workers (Parker & Torres, 1999).

In Sessional paper no. 2 of 2005 on development of micro, small and medium enterprises for wealth and employment creation for poverty reduction, the Government of Kenya commits itself to the promotion of an enabling environment to the growth of this sector. The Government has recognized the impact of SMEs in creating employment. Policies to promote this sector have been stipulated in various sessional papers and a number of initiatives aimed at improving the environment, expand access to credit, and improve access to training have been undertaken (Ronge, Ndirangu, & Nyangito, 2002).

Kenya has also recognized the SMEs industry as the leading sector for addressing the development challenges. Kenya Vision 2030 is the country's blueprint covering the

period 2008 to 2030. The Vision aims at making Kenya a middle income country providing high quality of life for all citizens by the year 2030. Under the Economic pillar Kenya aims to become the provider for basic manufactured goods in East and Central Africa. This is likely to reduce the unemployment rate in Kenya estimated to be about 2 million or 14.6% of the labour force. This gainful employment can be generated through the support of SMEs. The SMEs sector contribution to the Kenya's Gross Domestic Product (GDP) increased from 13.8% in 1993 to 20% in 2007. This sector provided about 78% of total employment and contributed to 57% new jobs created in the 2005/2006 Financial Year (World Bank, 2007).

A baseline survey in Kenya on National micro, small and medium enterprises by CBS, ICEG and K-Rep bank (1999) found out that vertical growth is negligible among SMEs yet many of them have sprung up due to the increased horizontal growth. The same sentiments were shared by Waweru (2002) who also carried out a study and found out that SMEs had a horizontal growth rather than a vertical growth pattern.

1.1.2 Working Capital Management and Profitability

Working capital management is important because of its effects on the firm's profitability and risk, and consequently its value (Smith, 1980). Working Capital management refers to choosing the levels of mix of cash, marketable securities, receivables, inventories and short term financing. Efficient working capital management practices involves planning and controlling current assets and current liabilities so as to eliminate the risk of inability to meet short term obligations as they fall due and avoid excessive investment in these assets (Eljelly, 2004). Working capital management directly affects the liquidity and

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profitability of a firm. The investment that firms make in short-term assets, and the resources used with maturities of under one year, represent the main share of items on a firm's balance sheet (Pedro & Pedro, 2007).

A firm is required to maintain a balance between liquidity and profitability while conducting its day to day operations. Liquidity is a precondition to ensure that firms are able to meet its short-term obligations and its continued flow can be guaranteed from a profitable venture (Kesseven, 2006). Working capital management involves the financing and management of the current assets of the firm. The financial manager probably devotes more time to working capital management than to any other activity. Current assets, by their nature are changing daily and managerial decisions must be made. Questions relating to how much inventory is to be carried and whether there are funds to pay for it are often asked. Unlike long-term decisions, there can be no deferral of actions to working capital. While long-term decisions involving plant and equipment may well determine the eventual success of the firm, short term decisions on working capital determine whether the firm gets to the long term (Block, 1992).

1.2   Research Problem

A large number of business failures have been attributed to the inability of business managers to plan and control properly the current assets and current liabilities of their firms. Working capital management is of particular importance to the profitability of every firm (Olomi, 2008).

Deloof(2003) carried out a study on the effect of trade credit and inventory policies on profitability by sampling 1009 large Belgian non-financial firms spread from 1992-1996. The study findings showed that firms can improve their profitability by reducing the number of days accounts receivables are outstanding and reducing inventories levels. Reheman and Nasr (2007) studied the relationship between working capital management and its effect on liquidity as well as on profitability of the firm. A sample of 94 Pakistan firms listed on Karachi stock exchange was selected. The period of study was 6 years from 1999 to 2004. They studied the effect of different variables of working capital management. Using Pearson's correlation and regression analysis the results showed that there is a strong relationship between variables of the working capital management and profitability of the firm.

Garcia-Teruel and Martinez-Solano (2009) studied the effects of working capital management on the profitability of a sample of small and medium sized Spanish firms covering the period 1996-2002. The results demonstrated that managers can create value by reducing their inventories and the number of days in which their accounts are outstanding; moreover the shortening of cash conversion cycle improves the firm's profitability.

Mathuva (2010) carried out a survey on the working capital management components on corporate profitability among Kenyan listed firms. The findings from a sample of 30 firms listed at the Nairobi Stock Exchange were that there existed a negative relationship between the time firms took to collect cash from their customers and their profitability. Firms that took a very short time to collect cash from their customers were profitable. A positive relationship between inventory conversion period and firm's profitability was also noted. It was also noted firms that took longer to pay creditors were also profitable. Kiplimo (2010) carried out a study on the relationship between working capital and profitability of state owned commercial enterprises in Kenya. The findings from a sample of 23 firms for a period of 2005 to 2009 revealed that firms operating on shorter cash conversion cycles reported better returns. The firms with lower current to total asset ratios earned relatively better returns because they kept idle resources at optimum levels. Firms yielded better returns if they cautiously follow aggressive working capital management practices. These studies addressed the relationship of working capital management on profitability in large firms in Kenya. There is no empirical study on whether the findings would show the same relationship in small and medium enterprises.

Muchina (2009) carried out a study on influence of working capital management policies on firm's profitability in Kenya by analyzing affixed panel of 232 firms. The study found that SMEs in Kenya follow conservative working capital management policy and they needed to concentrate and improve on their collection and payment policy. The effective policies must be formulated for the individual components of working capital. Makarius et al (2009) observed that for efficient working capital, there is need for the owners to be

trained in an area that is relevant to the business carried. The study indicated that managers with relevant training had successful businesses compared to the untrained managers. For efficient working capital management, specialized persons in the fields of finance should be hired by the firms for expert advice on working capital management in SMEs. The studies addressed the lack of skills in working capital but did not address the effects or the relationship of the working capital variables to the profitability of SMEs in Kenya.

Most of the previous related studies on working capital management of small firms have focused on the developed countries. Studies on larger firms have focused on those firms employing professionals to manage the trade. In both cases the business managers have adequate knowledge on working capital management unlike the managers of small and medium enterprises. There was need to address the relationship between working capital management on profitability in SMEs in Kenya so as to enhance the growth of this sector in Kenya. This study sought to fill the gap by studying the relationship between working capital management and profitability in SMEs in Kenya. The question that this study sought to answer was: What was the relationship between working capital management and profitability in SMEs?

1.3   Objective of the Study

To establish the relationship between working capital management and the profitability of SMEs in Kenya.

1.4   Value of the Study

This study will be of great importance to;

Small and Medium Enterprises

The recommendations and findings of this study will help SMEs understand the effects of working capital management on profitability so as to enhance growth and success.

Policy Makers

It is envisioned in the Economic pillar of Vision 2030 that the economy will grow by 10% by the year 2030. SMEs are vital in realising this achievement. The study findings will recommend to policy makers who will in turn propose to government, interventions on how SMEs can have sustained growth and transit to the next level of growth.

Academia

The study findings will add to the wide academia knowledge. The researchers and the academicians will find this study useful for further discussions and research.

Financial Institutions and Development Partners

The study findings will assist financial institutions and development partners understand the status of the working capital management practices of entrepreneurs and the interventions that need to be taken up to achieve the increased performance and hence returns for their funding.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This section discussed literature on working capital, theories and empirical findings on relationship of working capital management on profitability.

2.2 Working Capital

Working capital which is sometimes referred to as gross working capital refers to current assets used in business operations. Net working capital is the current assets less the current liabilities. The term working capital originated with the old Yankee peddler, who would load up his wagon with goods and then go off on his route to peddle his wares. The merchandise was the working capital as it was what he actually sold to make profits. The wagon and the horse were his fixed assets and were therefore financed with equity capital. As he borrowed funds to purchase the merchandise these borrowings were his working capital loans and had to be repaid so as to demonstrate his credit worthiness to the bank. The bank would advance more loans for the purchase of more merchandise (Brigham & Daves, 2004)

2.3 Small and Medium Enterprises

In Kenya, micro-enterprises are those with 10 or fewer workers, small enterprises have from 11 to 50 workers, and medium enterprises have from 51 to 100 workers (Parker & Torres, 1999). A small and medium enterprise in Kenya is an entity that does not have

public accountability, publish general purpose financial statements for external users and does not hold funds in fiduciary capacity for broad group of outsiders as one of its primary business and has the option to use the international financial reporting standards (ICPAK, 2010). SME sector in Kenya play a vital role in developing the economy through employment creation which in return alleviates poverty. This sector has been recognised as the leading sector for addressing Kenya's development challenges (World Bank, 2007).

2.4   Working Capital Management in Small and Medium Enterprises

SMEs are faced with several challenges that hinder their growth to maturity. Due to lack of professionalism and skills in management practices, SMEs are faced with a challenge of managing their working capital that may subsequently affect their performance. Few small business entrepreneurs handle their jobs with high sense of professional carefulness and expertise. Often, they rely on their experience. They learn through mistakes but this expose them to unnecessary risks (Mwololo, 2011).

Most small businesses are seasonal in nature. Effects of seasonality can be greater because of the difficulty that small businesses have in attracting large pools of permanent funds through the use of equity capital. Suppliers are likely to provide the financing. There should be sufficient planning to ensure that excess funds generated during the peak season are optimally invested hence prevent the closure of the business (Block, Hirt, & Danielsen, 2009).

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Working capital needs of the small firm fluctuate with changing business activity. This may frequently cause excess or shortage of working capital. The firm should be prompt to initiate an action and correct imbalances. Whenever a need for working capital arises due to the increasing level of business activity or for any other reason, financing arrangement should be made quickly. If suddenly some surplus funds arise, they should be invested in short term securities instead of lying idle. The business manager should be conversant with the sources of working capital funds as well as investment avenues where funds may be temporarily invested (Pandey, 2010).

Working capital management is critical in small firms. The small firms may not have much investment in fixed assets but it has to invest in current assets. Small firms have difficulties in collecting their debts. The role of current liabilities is more significant in small firms as they face difficulties in raising long term finances. There is a direct relationship between a firm's growth and its working capital needs. Increased sales demand for increased inventories and lead to increase in debtors. The business manager should be aware of these needs and finance them quickly so as enhance the firm's growth (Whited, 1992). Danielson and Scott (2000) show that small and medium sized US firms use vendor financing when they have run out of debt. SMEs have to be concerned with working capital management because they can also create value by reducing their cash conversion cycle to a minimum, as far as that is reasonable. Efficient working capital management is particularly important for smaller companies for their growth (Peel & Wilson, 1996).

2.5 Components of Working Capital

According to Mcmenamin (1999) the components of working capital include: Inventory, Cash, Accounts receivables, Short term investments and Current liabilities. These components should be managed efficiently so as to increase a firm's profitability. Managing inventory is a juggling act. Excessive inventory can place a heavy burden on the cash resources of a business. Insufficient inventory can result in lost sales and delays for customers. Large inventory levels also reduce the risk of a stock-out.The main objective of cash management is an optimal cash balance; minimizing the sum of fixed cost of transactions and the opportunity cost of holding cash balance. The optimal balance is when the cash balance amount is on the most ideal proportion so that the company has the ability to invest the excess cash for a return and at the same time have sufficient liquidity for future needs (Pandey, 2010).

The credit policy of the firm affects the working capital by influencing the level of accounts receivables. Liberal credit policy can be detrimental as it can lead to difficulties in debt collection. This may lead to tying of huge funds and increased bad debts. The business firm should follow a rationalized credit policy to avoid tying of funds unnecessarily. Cash flow can be significantly enhanced if the amounts owing to a business are collected faster. Slow payment has a crippling effect on business; in particular on small businesses who can least afford it (Block & Hirt, 1992).

Creditors are a vital part of effective cash management and should be managed carefully to enhance the cash position. Purchasing initiates cash outflows and an over-zealous purchasing function can create liquidity problems. Delaying payment of accounts payable

to suppliers allows firms to access the quality of bought products and can be inexpensive and flexible source of financing. On the other hand, delaying of such payables can be expensive if a firm is offered a discount for the early payment. A popular measure of working capital management is the cash conversion cycle, that is, the time span between the expenditure for the purchases of raw materials and the collection of sales of finished goods (Block & Hirt, 1992).

Deloof (2003) found out that the longer the time lag, the larger the investment in working capital. A long cash conversion cycle might increase profitability because it leads to higher sales. However, corporate profitability might decrease with the cash conversion cycle, if the costs of higher investment in working capital rise faster than the benefits of holding more inventories and/or granting more trade credit to customers.

2.6 Working Capital Management Practices

Working capital management practices refer to the optimal ways of managing working capital components so as to maximise profitability and ensure smooth operations in the firm. It is concerned with the techniques used to optimize levels of working capital components; how to accelerate the collection of receivables, best ways of investing surplus funds, how to take advantage of quantity and cash discounts and ensuring optimal inventory levels. Finance managers apply these techniques to accelerate collection of accounts receivables, scrutinize customers before advancing credit, decide on optimal amount of cash and inventory to be held at any particular point in time and how to best finance the current assets. It entails setting out the working capital policies for day to day operations (Brigham & Houston, 2007).

Working Capital management involves two basic questions: (1) What is the appropriate amount of current assets, both in total and for each specific account, and (2) how should those current assets be financed. Sound working capital goes beyond finance and finance comes into play in evaluating the profitability of alternative proposals. Financial managers determine how much cash a company must keep on hand, and how much short-term financing it should use (Brigham & Daves, 2004).

The consideration of the level of investment in current assets should avoid two danger points-excessive and inadequate investments in current assets. Investment in current assets should be just adequate to the needs of the business firm. Excessive investment in current assets should be avoided because it impairs the firm's profitability as idle investment earns nothing. On the other hand inadequate amount of working capital can threaten the solvency of the firm because of its inability to meet its current obligations (Pandey, 2010).

2.7 Working Capital Management Policies

According to Weston and Brigham (1975) financing current assets can be done by adopting three policy principles namely:

2.7.1 Long-term financing

Long term financing is a form of financing that is provided for a period of more than one year. The sources of long term financing include long-term borrowings from financial

institutions, ordinary share capital, debentures and retained earnings (Brigham & Weston, 1975).

2.7.2 Short term financing

The short term financing is obtained for a period of less than one year. It is arranged in advance from banks and other suppliers of short term financing. The sources include working capital funds from banks, factoring receivables, bank overdrafts, commercial paper etc (Brigham & Weston, 1975)

2.7.3 Spontaneous financing

Spontaneous financing refers to automatic sources of short term funds arising in the normal course of business such as trade credit and outstanding expenses. There is no explicit cost of spontaneous financing. A firm should utilise this source of financing to the fullest extent. Once this is fully utilised the firm can then choose between long-term and short term financing (Brigham & Weston, 1975).

2.8   Approaches in Working Capital Management

According to Pandey (2010) a firm can adopt an approach depending on the mix of short term and long term financing .The three approaches may be:

2.8.1 Matching Approach

The firm can adopt a financial plan which matches the expected life of assets with the expected source of funds raised to finance assets. Stock of thirty days may be financed with a thirty day bank loan. The justification for the exact matching is that since the purpose of financing is to pay for the assets, the source of financing and the asset should

be relinquished simultaneously. Using short term financing for long-term assets is costly as arrangements for the new short term financing will be made on a continuing basis. When a firm follows matching or hedging approach, long-term financing will be used to finance fixed assets and permanent current assets (minimum level of current assets which a firm should always maintain) and short term financing to finance short term temporary or variable current assets (Pandey, 2010).

2.8.2 Conservative Approach

Under this approach the firm depends more on long-term funds for financing needs. The firm finances fixed and part of temporary current assets with long term funds. The firm relies heavily on long-term funds and has less risk of facing the problem of shortage of funds (Pandey, 2010).

2.8.3 Aggressive Approach

An aggressive approach is when the firm uses more short term financing than warranted by the matching plan. Under this approach the firm finances part of the permanent current assets with short term financing. Some extremely aggressive firms can even finance a part of their fixed assets with short term financing. The relatively use of short term financing makes the firm more risky (Pandey, 2010).

2.9 Review of Theories

There are several theories on working capital some of which include;

2.9.1 Keynesian Theory of Money

Keynes (1956) discussed that the level of cash and money and marketable securities held by firms is determined by the motives of holding them. The speculative motive is the need to hold cash to be able to take advantage of bargain purchase and favourable exchange rate fluctuations. For most firms, reserve borrowing ability and marketable securities can be used to satisfy speculative motives. The precautionary motive is the need for safety supply to act as financial reserve. However there is no need of holding such substantial amounts of money given that money market instruments are quite liquid. Cash is also needed for transaction motive. Firms will have the need to have cash so as to settle bills. The disbursement of cash includes the payment of salaries, trade debts, taxes and dividends.

2.9.2 Baumol Model

The Baumol Model of cash management provides a formal approach for determining a firm's optimum cash balance under certainty. Cash management is considered similar to inventory management. Firms attempt to minimize the cost of holding cash and the cost of converting marketable securities to cash. This model makes the assumption that the firm is able to forecast its cash needs with certainty; the firm's cash payments occur uniformly over a period of time; the opportunity cost of holding cash is known and it

does not change over time; and the firm will incur the same transaction cost whenever it converts securities to cash (Baumol, 1952).

The firm incurs a holding cost known as opportunity cost for keeping the cash balance. The opportunity cost is the return forgone on the marketable securities. If the opportunity cost is k, then the firm's holding cost for maintaining an average cash balance (C) is calculated as follows;

Holding cost=k(C/2)

The firm incurs a transaction cost whenever it converts its marketable securities to cash. Total number of transactions during the year will be total funds requirement, T, divided by the cash balance, C. The assumption is that the cost per transaction is constant. If the cost per transaction is c, then the total transaction cost will be:

Transaction cost = c (T/C)

The total annual cost of the demand for cash will be:

Total cost = k (C/2) + c (T/C)

Optimum level of cash balance

As the demand for cash, 'C' increases, the holding cost will also increase and the transaction cost will reduce because of a decline in the number of transactions. Hence, it can be said that there is a relationship between the holding cost and the transaction cost.

The optimum cash balance, C* is obtained when the total cost is minimum and the formula is;

$$C^* = \sqrt{2cT/k}$$

Where, C* is the optimum cash balance.

T is the total cash needed during the year.

k is the opportunity cost of holding cash balances and

c is the transaction cost.

2.9.3 The Miller-Orr Model

A limitation of the Baumol model is that it does not allow cash flows to fluctuate. In practice firms do not use their cash balance uniformly nor are they able to predict cash inflows and outflows, Miller-Orr model overcomes this limitation by allowing for daily cash flow variations. The model provides for two control limits -the upper limit and the lower limit. Companies buy or sell the marketable securities only if the cash balance is equal to any one of these. When the cash balances of a company touch the upper limit it purchases a certain number of salable securities that helps them to come back to the desired level. If the cash balance of the company reaches the lower level then the company trades its salable securities and gathers enough cash to fix the problem. The Miller and Orr model of cash management also assumes that distribution of cash flows is normal.

The difference between the upper limit and the lower limit depends on the following factors: the transaction cost(c), the interest rate (i) and the standard deviation of the net cash flows. The formula for determining the distance between upper and lower limits is as follows (Miller & Orr, 1996).

Upper limit= Lower limit +3Z

Return point=Lower limit +Z

The firm in return will hold the average cash balance equal to:

Average Cash balance=Lower limit +4/3 Z

2.10 Empirical Studies

Garcia-Teruel and Martinez-Solano (2007) studied the effects of working capital management on the profitability of a sample of small and medium sized Spanish firms covering the period 1996-2002. The results demonstrated that managers can create value by reducing their inventories and the number of days in which their accounts are outstanding; moreover the shortening of cash conversion cycle improves the firm's profitability.

Blinder and Maccini (1991) indicated that maintaining high levels of inventory levels reduces the cost of possible interruptions in the production process or of the loss of business due to scarcity of products, reduces supply costs, and protects against price fluctuations. Delaying payments to suppliers allow firms to assess the quality of the products bought and can be inexpensive and flexible source of financing for the firm. They however noted that businesses that invest heavily in stocks may affect the business profitability in cases where stocks are not fast moving and the credit period advanced by the company to the debtors to attract sales is long. High stock and debtors levels may therefore affect the cash conversion cycle.

Deloof(2003) carried out a study on the effect of trade credit and inventory policies on profitability by sampling 1009 large Belgian non-financial firms spread from 1992-1996. The study findings showed that firms can improve their profitability by reducing the number of days accounts receivables are outstanding and reducing inventories levels. Reheman and Nasr (2007) studied the relationship between working capital management and its effect on liquidity as well as on profitability of the firm. A sample of 94 Pakistan

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firms listed on Karachi stock exchange was selected. The period of study was 6 years from 1999 to 2004. They studied the effect of different variables of working capital management. Using Pearson's correlation and regression analysis the results showed that there is a strong relationship between variables of the working capital management and profitability of the firm.

Howorth and Wilson (1998) studied the management and financing of trade credit among 13 small firms in UK. The credit management was examined from the firm's perspective as both as a supplier and customer. The study revealed that while the late payments concerned all the firms interviewed, some of them managed better than others. At the extremes, there were two distinct types of firms; those who found late payment as the greatest problem where juggling various forms of short term finance to fund their working capital. Their credit management procedures were adhoc and unsystematic. Firms who managed the late payment had systematic credit management procedures in place, good knowledge of when to expect payment from the customers and in control of the process. Long-term sources of finance provided them with the stability to plan ahead and there were sufficient flexibility in their financial structure to cope with minor hiccups.

Lazaridis and Tryfonidis (2006) investigated the relationship of profitability and working capital management. The results showed that there was a negative relationship between profitability (measured through gross operating profit) and the cash conversion cycle which was used as a measure of working capital management. Thus managers can create profits for their companies by handling correctly the cash conversion cycle and keeping

each component like accounts receivables, accounts payables, inventory to an optimum level. Samiloglu and Demiraunes (2008) analyzed the effect of working capital management on the profitability of the firms. The study depicted the accounts receivable period, inventory period and leverage affects the profitability of the firm negatively while growth affects firm's profitability positively.

Mogere (2003) carried out a survey of working capital policies in public companies in Kenya. The results showed that the most commonly practiced policy among these companies was the aggressive approach policy where organizations relied on minimum investment in current assets and was highly dependent on short term financing. Eljelly (2004) empirically examined the relationship between profitability and liquidity, as measured by current ratio and cash gap (cash conversion cycle) on a sample of 929 joint stock companies in Saudi Arabia. Using correlation and regression analysis, he found significant negative relationship between the firm's profitability and its liquidity level, as measured by current ratio. This relationship is more pronounced for firms with high current ratios and long cash conversion cycles. At the industry level, however, he found that the cash conversion cycle or the cash gap is of more importance as a measure of liquidity than current ratio that affects profitability.

Mathuva (2010) carried out a survey on the working capital management components on corporate profitability among Kenyan listed firms. The findings from a sample of 30 firms listed at the Nairobi Stock Exchange were that there existed a negative relationship between the time firms took to collect cash from their customers and their profitability. Firms that took a very short time to collect cash from their customers were profitable. A

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positive relationship between inventory conversion period and firm's profitability was also noted. It was also noted that firms that took longer to pay creditors were also profitable.

2.11   Conclusion of Literature Review

From the literature review it was apparent that every organization must seek a point of balance in its working capital in order to make profits and hence enhance growth. Deloof (2003) found out that the longer the time lag, the larger the investment in working capital. A long cash conversion cycle might increase profitability because it leads to higher sales. However, corporate profitability might decrease with the cash conversion cycle, if the costs of higher investment in working capital rise faster than the benefits of holding more inventories and/or granting more trade credit to customers. It was concluded that all precautions should be taken for the effective and efficient management of working capital. The business manager should pay particular attention to the levels of current assets and the financing of these current assets. The study aimed at adding to the existing literature on the relationship between working capital management and profitability in SMEs in Kenya.

CHAPTER 3

RESEARCH METHODOLOGY

3.1   Introduction

This chapter contained the methodology that was be used to conduct the research. It described the research design, the population, sample, data collection and data analysis.

3.2   Research Design

The study used a descriptive research design. A descriptive research is a process of collecting data in order to answer questions concerning the current status of the subjects in the study. The research often involves collecting information through data review. This type of research best describes the way things are (Mugenda & Mugenda, 2003).

3.3   Population

According to Cooper & Schindler (2003) a population is the subject such as a person, organisation, customer database or amount of quantitative data on which measurement is being taken. The Population of the study was all the small and medium enterprises in Kenya. According to the year 2010 Kenya National Bureau of Statistics, there were about 9,041 SMEs in Kenya. The study targeted the 83 SMEs in Nairobi registered with the small and medium enterprises resource centre (SMERC).

3.4 Sample

The sampling frame was all the SMEs in Nairobi registered with SMERC. The study used purposive sampling in obtaining data from 40 SMEs from the target population who had prepared financial statements for the year 2010. The reason for the purposive sampling was to ensure accuracy and reliability of data since it is not mandatory for SMEs to publish financial statements.

3.5   Data Collection

The type of data collected for the study was secondary data. The data was obtained from the financial statements for the year 2010. Out of the 83 enterprises registered with SMERC, 64 were in business operation for less than two years. It was therefore prudent to analyse data for one year so as to include as many enterprises as possible. The specific data collected was net profit and sales revenue so as to determine the net profit margin (dependent variable). Data for the analysis of the independent variables was on inventory, accounts receivables, accounts payables, cost of sales and credit sales.

3.6   Data Analysis

In order to analyze the effects of working capital management on the firm's profitability, net profit margin as a measure of profitability was used as the dependent variable.

The Net profit margin was derived as <u>Net profit</u>

<div align="center">Sales revenue.</div>

The independent variables of working capital management were measured by the cash conversion cycle (CCC). CCC focuses on the length of time between when a firm makes payment and when the firm receives cash inflow. The lower the CCC the better as this reveals that the firm has high liquidity and can easily convert its short term investment in current asset to cash. A higher CCC indicates greater investment in current assets.

Appropriate statistical tools such as Microsoft Excel and SPSS version 17 were used for analysing the descriptive and other statistical measures.

CCC was derived as follows;

CCC= Days inventory outstanding (DIO) + Days sales outstanding (DSO) – Days payables outstanding (DPO)

Other working capital independent variables were derived as follows;

Days inventory outstanding (DIO) = inventory/cost of sales x 365.

Days sales outstanding (DSO) = accounts receivables/ credit sales x 365

Days payables outstanding (DPO) = accounts payable/cost of sales x 365

DIO indicates the number of days on average a business turns its inventory into sales. A decrease in DIO is an improvement to working capital. DSO is a measure of the average age of accounts receivable. DPO indicates how many days on average a company pay off its accounts payables during an accounting period. The lower the ratio, the quicker the business pays its liabilities.

The study used regression model which was chosen in line with past similar study by Wainaina (2010). The model was as follows;

$$Y_i = \alpha_o + \beta_1 CCC_i + \beta_2 DIO_i + B_3 DSO_i + \beta_4 DPO_i + e_t$$

Where:

Y_i=Profitability of firm i.

α = Estimated value of Y when all the other variables are zero.

β =Change in Estimated Y.

e_t= Error term

CCC_i= Cash conversion cycle of firm i.

DIO_i= Days inventory outstanding of firm i.

DSO_i= Days sales outstanding of firm i.

DPO_i= Days payables outstanding of firm i.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter addressed the data analysis and research findings on the relationship between working capital management and profitability. The data was collected from secondary data which included the financial statements for the year 2010 from the selected 40 small and medium enterprises. The data analysis was carried out using both descriptive and quantitative analysis and was analysed using Microsoft Excel and SPSS version 17.The results of the analysis were as follows:

4.2 Sample Distribution

The research was conducted from a population sample of 40 small and medium enterprises and the distribution per the economic sector was as shown below.

Table 1: Sample Distribution

Economic Sector	No. of Firms
ICT/Telecommunications	8
General Trade	19
Industrial	2
Service	11
Total	**40**

Source: Research data (2011)

General trade had the highest number of enterprises at 47.5% of the entire population while industrial had the least distribution at 5%.

4.3 Variables

The dependent variable in the study was the net profit margin measured as;

Net profit

Sales Revenue

The independent variables were the cash conversion cycle and its components namely days inventory outstanding, days sales outstanding and days payables outstanding. The cash conversion cycle was calculated as;

CCC=DIO + DSO –DPO

The other components of cash conversion cycle were calculated as;

Days inventory outstanding (DIO) = inventory/cost of sales x 365.

Days sales outstanding (DSO) = accounts receivables/ credit sales x 365

Days payables outstanding (DPO) = accounts payable/cost of sales x 365

4.4 Descriptive Statistics

Table 2: Descriptive Statistics of the variables

	N	Minimum	Maximum	Mean	Std. Deviation
Descriptive Statistics					
NPM	40	-1.43	14.10	5.76	3.45
DIO	40	9.21	168.15	47.56	35.85
DSO	40	3.35	100.28	31.72	16.29
DPO	40	1.19	65.44	24.21	13.66
CCC	40	-8.12	134.18	55.08	36.45

Source: Research Data (2011)

The table above presents the descriptive statistics of the 40 small and medium enterprises that were sampled. The mean net profit margin was 5.76% of the sales revenue and the standard deviation was 3.45%. This means that the net profit margin can deviate from the mean to both sides by 3.45%. The maximum value of the net profit margin was 14.10% while the minimum was -1.43%.

The mean cash conversion cycle was 55 days with the minimum being -8.12 days and the maximum being 134.18 days. On average the enterprises' cash was tied up for 55 days between the payment for inputs and receipts of payment from the sale of the finished products. The standard deviation was 36.45 days.

The mean of the days inventory outstanding was 47.56 days with a minimum of 9.21 days and a maximum of 168.15 days. The standard deviation was 35.85days. This means that enterprises took an average of 47.56 days to turn the inventory held into sales.

Days sales outstanding had a mean of 31.72 days with a minimum of 3.35 days and a maximum of 100.28 days. The standard deviation was 16.29 days. On average it took the enterprises 31.72 days to collect the debts outstanding. Some enterprises collected their debts faster than others while some took longer to collect the outstanding debts.

Days payables outstanding had a mean of 24.21 days with a minimum of 1.19 days and a maximum of 65.44 days. The standard deviation was 13.66. On average, it took the enterprises an average of 24.21 days to pay off the accounts payables. From the analysis above small and medium enterprises paid off the debts faster than they collected the outstanding debts or converted the inventory into sales.

4.5 Quantitative Analysis

4.5.1 Correlation Analysis

Pearson's correlation coefficient was used to determine the relationship between working capital variables and profitability. If efficient working capital management increases profitability, a negative relationship between the measures of working capital management and profitability variables would be expected.

Table 3: Pearson's Correlation Coefficients

Variables	NPM	DIO	DSO	DPO	CCC
NPM	1				
DIO	-0.036	1			
DSO	-0.117	-0.13	1		
DPO	0.412**	0.398*	-0.299	1	
CCC	-0.242	0.776**	0.431**	-0.117	1

Source: Research data (2011)

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

The Table above shows the results of the correlation coefficients between the variables. There was a negative relationship of -0.036 between days inventory outstanding, -0.117 between days sales outstanding and net profit margin. However, there was a positive relationship of 0.412 between the days payables outstanding and the net profit margin.

There was a negative correlation of -0.242 between profitability and cash conversion cycle. This means that profitability decreases with the increase in cash conversion cycle. Therefore, enterprise managers can increase profits by shortening the working capital cycle. These results were consistent with those found by Garcia-Teruel & Martinez-Solano (2007) who demonstrated that managers can create value and increase firm's profitability by reducing their inventories and the number of days in which their accounts are outstanding and moreover by shortening the cash conversion cycle. There was a positive relationship between cash conversion cycle and days inventory outstanding and days sales outstanding. A negative relationship existed between cash conversion cycle

and days payable outstanding. For enterprises to maintain a shorter cash conversion cycle inventory and account receivables must be reduced and accounts payables increased.

4.5.2 Regression Analysis

To further investigate the relationship of working capital management on profitability, the model used for the regressions analysis was expressed in the general form as given in equation below:

$$NPM = \alpha_o + \beta_1 CCC_i + \beta_2 DIO_i + B_3 DSO_i + \beta_4 DPO_{i} + e_t$$

The analysis from SPSS version 17 was as shown in the table below.

Table 4: Regression model for CCC, DIO, DSO and DPO

Predictor	Beta	Std. Error	t	Sig.
Constant	3.715	1.712	2.17	0.037
DIO	-0.237	0.015	-1.477	0.148
DSO	-0.004	0.033	-0.028	0.978
DPO	0.508	0.042	3.042	0.004
CCC	-0.241	0.015	-1.476	0.149
Dependent Variable: NPM				

Source: Research data (2011)

R Square	0.217
Adjusted R Square	0.152
F statistics	3.332

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The regression model was as follows;

$$Y = 3.715 - 0.237DIO - 0.004DSO + 0.508DPO - 0.241CCC + e_t$$

The results of the regression indicated that the coefficients of days inventory outstanding, days sales outstanding and cash conversion cycle were negative at -0.237, -0.004 and -0.241 respectively. This implies that increase in inventory, accounts receivables and cash conversion cycle will negatively affect the profitability of the firm. The coefficient of days payables outstanding was positive and significant at 0.508. This implies that increase in payment period significantly lead to increase in profitability. The firms may delay paying of bills and utilise the amounts to generate more sales hence increasing profitability.

The adjusted R squared also called the coefficient of multiple determinations is the percent of the variance in the dependent explained uniquely or jointly by the independent variables and was 15.2%. This means that the dependent variable of profitability could be explained by the independent variables namely; days inventory outstanding, days sales outstanding, days payables outstanding and cash conversion cycle at 15%. There could be other significant control variables that affect the profitability of these firms. The F statistics is used to test the significance of the regression model which was at 3.33. The constant, where the regression line intercepts the y-axis representing the amount the dependent variable y will be when all the independent variables are zero was 3.715.

4.6 Discussion of Findings

From the research findings, there was a negative relationship between profitability and days inventory outstanding, days sales outstanding and cash conversion cycle. This means that enterprise managers and owners need to maintain optimal amounts of inventory so as to minimise the time funds in inventory are tied in the firm. The relationship between days inventory outstanding and profitability was not very significant. In some sectors high inventory levels may increase profitability as this minimises cases of stock outs. The owners need to improve on the debt collection. There was a significant negative relationship between profitability and days payables outstanding. The managers and owners should use the spontaneous financing to improve on the profitability as this does not incur any costs. The analysis showed that the firms took a relatively shorter period to pay off the payables. This could mean that the firms did not have credit facilities from the suppliers. There is need to negotiate for credit facility with suppliers so as to ensure that the firm has adequate working capital needed to run the business.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

This study analysed the effects of working capital management on the profitability of small and medium enterprises in Kenya. The study focused on cash conversion cycle, days inventory outstanding, days payables outstanding and days sales outstanding as the working capital management variables. Net profit margin was used for the analysis of the firm's profitability. From the descriptive analysis, small and medium enterprises took longer to convert inventory to sales and collect the debts outstanding. However the enterprises took a shorter time to pay off the account payables. This leads to an increase in the cash conversion cycle hence tying the funds which would otherwise be used to generate more sales and hence increase profitability.

Pearson correlation and regression analysis were run through the SPSS software to test the relationship of the working capital management and the profitability of the firms. The study revealed that there was a negative relationship between profitability and cash conversion cycle, days inventory outstanding and days sales outstanding. This means that enterprises should ensure that optimal levels of inventory are maintained. The firms could have a credit policy in place and ensure that debts are collected as fast as possible. There was a positive relationship between profitability and days payables outstanding. The firms can delay payment of accounts payables and utilise the funds to generate more

sales. However, caution should be undertaken so as not to affect the relationship with suppliers or incur interests on unpaid bills.

5.2 Conclusion

The study has revealed that managers and owners of small and medium enterprises should maintain optimal levels of working capital. They should aim at reducing the cash conversion cycle as far as it does not affect the business operations. Inventory should be maintained at optimal levels in order to meet the demands of the customers.

High inventory levels lead to tying of funds which would otherwise be utilised in more viable ventures. Firms should strive to collect the account receivables within the shortest time possible so as to utilise the funds in generating more sales. The small and medium firms may be selling to firms that insist on sale on credit and hence these small and medium firms have to wait for the credit period so as to be paid.

The firms should take longer to settle the account payables without restraining the relationship with the suppliers. Since the small and medium enterprises studied settled the account payables faster than they collected the debts, it may be concluded that these enterprises do not have credit facilities from the firms they purchase the goods for sale from hence leading to more cash outflow than inflow. The conclusions are in confirmation with Kiplimo (2010) who found that firms operating on shorter cash conversion cycles reported better returns and Deloof (2003) who found that firms can improve their profitability by reducing the number of days accounts receivables are outstanding and reducing inventories levels.

5.2 Recommendations

From the analysis above it is evident that firms must manage their working capital efficiently so as to increase profitability. Business owners and managers should ensure optimal management of inventories, account payables, account receivables and cash as this will ultimately increase profitability. Reducing the cash conversion cycle to a minimum should be of concern to the owners and managers.

Business owners and managers should have policies on credit management. They should collect the debts faster so as to release more cash into the business. Caution should be undertaken not to keep high levels of inventories as this will tie the firm's funds in inventory. The business manager should delay payments as much as possible and utilise the funds in generating more sales. These managers should strive to understand more on working capital management practices.

The policy makers should include trainings on working capital management to the small and medium enterprises in Kenya as this sector provides high levels of employment in the country.

The academia and training institutions should also focus more on the trainings on working capital management to the entrepreneurs. Entrepreneurship has become a core training area and the training institutions should focus more on how business managers can maintain optimal working capital so as to maximise profits and hence lead to increased growth.

5.2 Limitations

The study was restricted to small and medium enterprises in Nairobi who were registered with SMERC and who had prepared financial statements for the year 2010. The findings have been generalised to small and medium enterprises in Kenya. Therefore, caution should be undertaken when generalizing the findings of this study to all the SMEs in Kenya.

The sampled enterprises did not include all the small and medium enterprises in all the economic sectors. The sample also included only the enterprises that had prepared financial statements for the year 2010.

5.3 Suggestions for Further Research

The study was carried on small and medium enterprises in Nairobi registered with SMERC. Further research can be carried on small and medium enterprises in other areas and especially in the rural towns.

The study focused on secondary data from the year 2010 financial statements as most of the enterprises were not more than two years in business. Further research can be conducted on comparative results of several years.

The study focused only on the working capital variables as it included enterprises in different sectors. Other control variables can be included in the analysis in determining the relationship of the working capital management on the profitability of SMEs. The study can narrow down to small and medium enterprises in one economic sector.

Further research can also be undertaken to include other sectors in the economy not included in this study so as to determine any significant differences in the management of the working capital in the other sectors.

REFERENCES

Baumol, J. W. (1952). "The Transactions Demand for Cash: An Inventory Theoretical Approach", *Quarterly Journal of Economics*, Vol 52, pp 545-556.

Blinder, A.S., & Maccini, L.J. (1991). "The Resurgence of inventory research: What have we learned?", *Journal of Economic Survey*, Vol 5, pp 291-328.

Block, S. B., & Hirt, G.A. (1992). *Foundation of financial reporting* (6th Edition). Homewood: Irwin.

Block, S., Hirt, G., & Danielson, M. (2009). *Foundations of financial management* (13th Edition). Irwin: McGraw Hill.

Brigham, E. F., & Daves, P. R. (2004). *Intermediate financial management* (10th Ed.). Mason, OH: South-Western

Brigham, E., & Houston, J. (2007). *Fundamentals of financial management* (10th Edition). India: Saurabh.

Cooper, D.R. and Schindler, P.S. (2003). *Business Research Methods* (8th Edition). Irwin: McGraw Hill.

Danielson, M., & Scott, J. (2000). "Additional evidence on the use of trade credit by small firms: The role of trade credit discounts", *working paper*, SSRN Electronic Library.

Deloof, M. (2003). "Does Working Capital Management Affect Profitability of Belgian Firms?" *Journal of Business, Finance and Accounting*, Vol 30, pp. 573-587.

Deloof, M., & Jegers, M. (1996). "Trade credit, product quality and intra group trade: Some European evidence, Financial Management", Vol. 25(3) pp. 33-43.

Edwards, W.M. (2004). *Farm management*. New York: McGraw-Hill

Eljelly, A.M.A. (2004). "Liquidity Profitability Trade Off: An Empirical Investigation in an Emerging Market". *International Journal of Commerce and Management*, Vol No. 14, pp 46-51.

Futuro, C. (1999). Micro, small and medium enterprises (MSME), strategy for building a learning society. El Salvador, World Bank.

Garcia-Teruel, P.J., & Martinez-Solano, P. (2007). "Effects of Working Capital Management on SME Profitability", *International Journal of Managerial Finance*, Vol 3(2), pp 164-177.

Gitman, L. J., 2006, *Principles of managerial finance (11th ed.).* Boston: Pearson Addison Wesley.

Howorth, C., & Wilson, N. (1998). "Late Payment and the Small Firm: An Examination of case studies", *Journal of Small Business and Enterprise Development*, Vol. 5(4), pp 307-315.

Institute of Certified Public Accountants of Kenya. (2011). *Small and medium enterprises*. http://www.icpak.com. Retrieved on 18th June, 2011.

Karuga, C. (Producer). (2011, July 14). *Business news*. Nairobi, Kenya: K24, TV

Kesseven, P. (2006). "Trends in working capital management and its impact on firms' performance: An analysis of Mauritian small manufacturing firms", *International Review of Business Research Papers*, Vol No. 2, pp. 45-58.

Keynes, J.M. (1956). *The treatise on money*. London: John Wiley

Kiplimo, S. (2010). Relationship between working capital management and profitability of state owned commercial enterprises in Kenya. U*npublished MBA Project,* University of Nairobi.

Lazaridis, I., & Tryfonidis, D. (2006). "Relationship between Working Capital Management and Profitability of Listed Companies in the Athens Stock Exchange", *Journal of Financial Management and Analysis,* Vol 9(1) pp 26-35.

National Baseline Survey. (1999). *National micro and small enterprise baseline survey.* Nairobi: ICEG and K-REP.

Makarius, B., Michael, K., & Muriithi,S.(2009). "Management of business challenges among SMEs in Nairobi, Kenya", *KCA Journal of Business Management*, Vol. 2(1).

Mathuva, D.M. (2010). "The Influence of Working Capital Management Components on Corporate Profitability: A Survey on Kenyan Listed Firms", *Research Journal of Business Management*, Vol. 4 pp1-11.

Matoha, D. (2007). Working capital management of publishing companies. *Unpublished Undergraduate Project*, University of Dar es salaam.

Mcmenamin, J. (1999). *Financial management: An introduction.*11 New Fetter Lane, London: Routledge

Miller, H. M., & Orr, D. (1996). "A Model of the Demand for Money by Firms", *Quarterly Journal of Economics*, Vol. 80(3) pp 413-435.

Mogere, N. (2003). A survey of working capital management policies among public companies in Kenya. U*npublished MBA Project,* University of Nairobi.

Muchina, S. (2009). Influence of Working Capital Management on Firms Profitability a Case of SMEs in Kenya. *Unpublished doctorate thesis*, Jomo Kenyatta University of Agriculture and Technology, Kenya.

Mugenda, O., and Mugenda, G. (2003) *Research Methods: Quantitative and Qualitative approaches*. ACTS, Nairobi Kenya.

Mwololo, M. (2011, July 29). Better management of small enterprises. *The Nation Newspaper*, p. 1.

Olomi, D. (2009). Needs assessment for entrepreneurship and private sector development in Tanzania. Report submitted to Nuffic in relation to design of NICHE programme.

Pandey, I.M. (2008). *Financial management*, 9th Edition. New Delhi, India: Vikas

Pandey, I.M. (2010). *Financial management*, 10th Edition. New Delhi, India: Vikas

Parker, J., & Torres, T.T. (1999). *Micro and small enterprises in Kenya results of 1993 National Baseline Survey*, K-REP, Nairobi.

Pedro, J., & Pedro M. (2007). "Effects of Working Capital Management on SME Profitability", *International Journal of Managerial Finance*, 3(2), 164-177.

Peel, M., & Wilson, N. (1996). "Working Capital and Financial Management Practices in the Small Firm Sector", *International Small Business Journal*, Vol. 14 pp. 52-68.

Rajesh, K. S., Suresh, K. G., & Deshmukh, S. G. (2008). "Strategy development by SMEs for competitiveness: A Review Benchmarking", *An International Journal*, *15*(5), pp 525-547.

Reheman. & Nasr.(2007). "The relationship between working capital management and its effects on liquidity as well as on profitability of the firm", *International review research papers*, Vol. 3(1).

Republic of Kenya: Sessional paper No. 2. (2005), *Development of micro and small enterprises for wealth and employment creation for poverty reduction.* Nairobi: Government Printers.

Ronge, E., Ndirangu, L., & Nyangito, H. (2002). *Review of government policies for the promotion of micro and small scale enterprises in Kenya.* KIPPRA Discussion paper.

Smith, K. (1980). *Profitability versus liquidity tradeoffs in working capital management.* Readings on the management of working capital. St. Paul MN, New York: West.

Wainaina, K.W. (2010). Relationship of working capital management on performance of small and medium enterprises. *Unpublished M.B.A Project*, University of Nairobi.

Wanjohi, A.M., & Mugure, A. (2008). *Factors affecting the growth of MSEs in rural areas of Kenya: A case of ICT firms in Kiserian Township*, Kajiado District of Kenya.

Waweru, R.W. (2002). A survey of enterprises growth patterns in micro and small manufacturing firms in Kenya. *Unpublished M.B.A Project*, University of Nairobi.

Weston, J.F., & Brigham,E.F.(1975).*Managerial Finance*. Illinois:Dryden.

Whited, T.M. (1992). "Debt, Liquidity Constraints, and Corporate Investment: Evidence from Panel Data", *Journal of Finance*, Vol. 47 pp. 1425-60.

World Bank. (2007). Kenya inside informality: Poverty, jobs, housing and services in Nairobi's slums report" Nairobi, Kenya.

Appendix 1: Introduction Letter

25th August 2011.

Dear Sir/Madam,

I am a post-graduate student in the School of Business at the University of Nairobi. I am currently undertaking a research project on "Effects of Working Capital Management in Small and Medium Enterprises".

Your firm has been selected to form part of this study. I kindly request your assistance in providing year 2010 financial statements. The information and data provided will be for the purpose of this research only and will be treated in strict confidence.

Thank you in advance.

Yours Sincerely,

Jacinta W. Njenga

D/71125/2008

MBA Student

University of Nairobi,

P.O. Box 30197-00100,

Nairobi.

Appendix II: Data Collection Form

DATA COLLECTION FORM							
Enterprise No.	Economic Sector	Sales Revenue	Cost of sales	Net Profit	Inventory	Account Receivables	Accounts payables

Appendix III: Data Collected from SMEs Financial Statements

Ent No.	Sector	Sales Revenue	Cost of sales	Net Profit	Inventory	Account Receivables	Account payables
1	GT	67,764,965.00	46,288,205.00	5,430,745.00	12,987,410.00	11,447,864.00	3,791,238.00
2	ICT/Tel	60,541,350.00	30,048,750.00	4,234,115.25	1,750,336.00	3,877,272.00	2,412,200.00
3	ICT/Tel	50,806,999.00	32,095,582.00	3,254,823.78	2,210,000.00	2,856,971.00	2,899,874.55
4	GT	46,532,150.00	30,475,000.00	2,571,640.00	3,054,670.00	3,505,000.00	2,041,000.00
5	GT	96,582,040.00	66,923,835.00	3,639,835.00	6,058,350.00	6,068,425.00	3,870,050.00
6	IND	118,364,977.00	83,943,093.00	4,111,653.00	9,612,500.00	15,875,639.00	3,926,897.00
7	GT	53,746,911.00	28,485,855.00	1,517,652.00	6,811,641.00	4,692,901.00	1,337,462.00
8	SER	50,695,236.00	36,972,716.00	1,218,798.00	5,369,319.00	3,824,895.00	2,497,135.00
9	GT	47,512,119.05	41,522,034.40	(680,480.00)	4,381,003.00	4,651,950.80	2,481,589.75
10	GT	37,267,693.40	23,944,236.20	1,805,698.00	1,907,758.60	2,443,435.00	1,791,271.00
11	SER	108,456,060.00	64,152,756.00	6,264,420.00	6,016,800.00	10,382,040.00	4,665,264.00
12	GT	57,110,896.00	45,117,607.85	2,022,868.00	4,229,300.00	4,021,600.00	241,148.00
13	SER	30,841,108.00	24,635,903.00	962,845.00	1,934,095.00	4,285,837.15	1,723,988.80
14	GT	36,239,607.00	22,806,420.75	901,445.65	3,744,000.00	3,885,525.00	786,876.30
15	ICT/Tel	46,752,867.00	26,029,512.00	6,591,339.00	1,309,500.00	2,831,694.00	1,325,204.00
16	ICT/Tel	104,861,036.00	58,200,100.00	6,968,512.00	4,208,085.00	7,556,703.00	4,458,027.00
17	ICT/Tel	46,923,768.00	28,791,927.00	5,225,490.00	2,326,230.00	3,560,247.00	1,328,479.00
18	GT	48,009,408.00	22,400,997.00	4,651,490.00	10,320,000.00	440,700.00	3,351,455.00
19	ICT/Tel	84,727,263.00	48,219,152.00	4,542,317.00	1,639,105.00	6,893,519.00	2,653,651.00
20	SER	73,970,540.00	44,382,324.00	5,688,101.00	8,212,213.00	7,076,120.00	667,156.00
21	ICT/Tel	52,672,144.00	25,508,294.00	6,412,798.00	643,804.00	2,401,700.00	2,374,400.00
22	SER	46,547,211.00	26,865,030.00	3,130,167.00	1,337,679.00	3,737,691.00	2,504,961.00
23	SER	49,015,099.50	34,820,282.80	5,362,432.00	1,894,214.00	5,292,552.00	3,216,766.00
24	GT	16,471,922.00	7,716,339.00	2,165,070.00	553,266.00	1,274,297.00	710,616.00
25	Service	54,560,300.00	37,947,060.00	2,830,165.00	4,025,000.00	4,372,725.00	2,325,600.00
26	ICT/Tel	35,579,400.00	16,199,578.00	2,653,960.00	1,834,374.00	927,620.00	2,616,020.00

Ent No.	Sector	Sales Revenue	Cost of sales	Net Profit	Inventory	Account Receivables	Account payables
27	IND	550,730,410.00	409,149,106.00	33,480,279.00	32,307,400.00	29,301,944.00	29,884,210.00
28	SER	23,320,496.51	17,104,352.50	2,182,631.00	1,851,170.50	6,407,030.00	1,326,802.00
29	GT	88,400,320.00	72,580,580.00	2,359,388.00	9,849,450.00	6,596,810.00	939,415.00
30	GT	38,643,840.00	14,417,101.00	(126,756.00)	3,330,766.00	4,950,000.00	837,462.00
31	SER	92,523,324.00	73,360,259.55	3,932,407.50	5,802,285.00	12,857,511.45	5,171,966.40
32	SER	80,765,730.00	48,459,438.00	2,571,558.00	5,210,718.00	8,701,832.00	993,000.00
33	GT	31,992,711.25	28,197,284.25	854,360.00	3,332,925.00	2,293,614.00	1,043,250.00
34	GT	60,100,088.00	47,479,069.50	2,221,616.00	5,327,932.00	4,258,925.00	154,660.00
35	GT	45,129,301.00	21,600,006.00	3,059,449.00	9,881,000.00	607,190.00	3,872,754.00
36	GT	74,805,125.00	52,953,842.00	5,688,101.00	16,218,401.00	8,242,157.00	3,936,210.00
37	GT	49,170,184.00	23,113,356.14	3,253,133.52	3,556,000.00	2,696,066.00	1,859,199.95
38	GT	44,306,650.00	32,652,280.00	1,640,660.00	3,123,650.00	3,345,890.00	1,896,540.00
39	SER	36,073,800.00	25,291,440.00	1,061,262.00	2,083,887.00	3,277,278.00	1,071,105.00
40	GT	41,295,369.00	31,560,476.00	1,305,668.00	4,092,214.00	4,102,000.00	720,117.00
Total		**2,779,810,419**	**1,852,411,181**	**156,961,657**	**214,338,451**	**225,823,170**	**115,705,021**
Average		**69,495,260**	**46,310,280**	**3,924,041**	**5,358,461**	**5,645,579**	**2,892,626**

GT-General Trade

ICT/TEL-ICT/Telecommunications

SER-Service

IND-Industrial

Appendix IV: Data Analysed from SMEs Financial Statements

Ent No.	Net profit margin	Days inventory O/S	Days Receivables O/S	Days payables o/s	CCC
1	8.014	102.41	61.66	29.90	134.18
2	6.994	21.26	23.38	29.30	15.34
3	6.406	25.13	20.52	32.98	12.68
4	5.527	36.59	27.49	24.45	39.63
5	3.769	33.04	22.93	21.11	34.87
6	3.474	41.80	48.96	17.07	73.68
7	2.824	87.28	31.87	17.14	102.01
8	2.404	53.01	27.54	24.65	55.89
9	(1.432)	38.51	35.74	21.81	52.43
10	4.845	29.08	23.93	27.31	25.71
11	5.776	34.23	34.94	26.54	42.63
12	3.542	34.21	25.70	1.95	57.97
13	3.122	28.66	50.72	25.54	53.84
14	2.487	59.92	39.13	12.59	86.46
15	14.098	18.36	22.11	18.58	21.89
16	6.645	26.39	26.30	27.96	24.74
17	11.136	29.49	27.69	16.84	40.34
18	9.689	168.15	3.35	54.61	116.90
19	5.361	12.41	29.70	20.09	22.02
20	7.690	67.54	34.92	5.49	96.97
21	12.175	9.21	16.64	33.98	(8.12)
22	6.725	18.17	29.31	34.03	13.45

Ent No.	Net Profit Margin	Days inventory O/S	Days Receivables O/S	Days payables O/S	CCC
23	10.940	19.86	39.41	33.72	25.55
24	13.144	26.17	28.24	33.61	20.79
25	5.187	38.72	29.25	22.37	45.60
26	7.459	41.33	9.52	58.94	(8.10)
27	6.079	28.82	19.42	26.66	21.58
28	9.359	39.50	100.28	28.31	111.47
29	2.669	49.53	27.24	4.72	72.05
30	(0.328)	84.33	46.75	21.20	109.88
31	4.250	28.87	50.72	25.73	53.86
32	3.184	39.25	39.33	7.48	71.09
33	2.670	43.14	26.17	13.50	55.81
34	3.697	40.96	25.87	1.19	65.64
35	6.779	166.97	4.91	65.44	106.44
36	7.604	111.79	40.22	27.13	124.87
37	6.616	56.16	20.01	29.36	46.81
38	3.703	34.92	27.56	21.20	41.28
39	2.942	30.07	33.16	15.46	47.78
40	3.162	47.33	36.26	8.33	75.26
Total	230.39	1,902.57	1,268.85	968.28	2,203.13
Mean	5.76	47.56	31.72	24.21	55.08