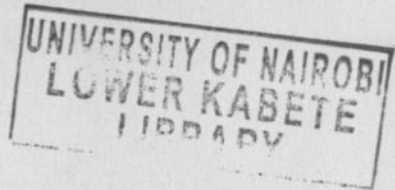# THE DETERMINANTS OF CASHHOLDING AND THEIR EFFECT ON THE CASH LEVEL OF SMALL AND MEDIUM ENTERPRISES IN NAIROBI, KENYA
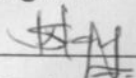
STELLAH WANJA

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

NOVEMBER 2011

DECLARATION

I declare that this is my original work and has not been presented in any other University or College for Examination or Academic purposes.

Signature: 8/11/2011
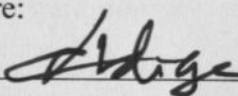
Student: STELLAH WANJA   Date

REG NO: D61/72890/2009

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

Signature: Date

                                                         10/11/2011

Supervisor: **Mr. Herick O. Ondigo**

Lecturer

School of Business

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DEDICATION

This project is dedicated to my dear parents, and my brother and sisters.

ACKNOWLEDGMENTS

It has been an exciting and instructive study period in the University of Nairobi and I feel privileged to have had the opportunity to carry out this study as a demonstration of knowledge gained during the period studying for my master's degree. With these acknowledgments, it would be impossible to remember those who in one way or another, directly or indirectly, have played a role in the realization of this research project. Let me, therefore, thank them all equally.

First, I am indebted to the all-powerful GOD for all the blessings he showered on me and for being with me throughout the study. I am deeply obliged to my supervisor Mr. Herick O. Ondigo for his exemplary guidance and support without whose help; this project would not have been a success. Finally, yet importantly, I take this opportunity to express my deep gratitude to the lasting memory of my loving family, and friends who are a constant source of motivation and for their never ending support and encouragement during this project.

ABBREVIATION

SME'S-	Small and medium Enterprises
KRA -	Kenya Revenue Authority
WCM -	Working capital management
NSE -	Nairobi Stock Exchange

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ABSTRACT

Much of the previous research into the cash holding and its effect on firm mechanism has concentrated generally on developed countries. Not much known local study has focused on relationship between the determinants of working capital management i.e. inventory, debtors, creditors, and the cash level of Kenyan SMEs. This study therefore sought to fill the existing research gap by carrying out a survey study on the relationship between the determinants of working capital management i.e. inventory, debtors, creditors, and the cash level of SMEs.

The main purpose of the study was to investigate into relationship between the determinants of working capital management i.e. inventory, debtors, creditors, and the cash level of SMEs. This research was conducted through a survey study. The target population of this study was the sampled 205 SMEs. This paper utilized the firm's financial statements and other data used in various previous research projects.

This study collected descriptive data also. The data received was analyzed by multiple regression analysis. From the findings, the study established It suggests that firms with greater cash flow volatility hold more cash in order to provide a safe cushion for smooth operations. The results support the notion that firms with higher leverage hold less cash, which is consistent with pecking order and free cash flow theories.

As per the pecking order theory, when firms' investments are in excess of retained earnings, high levels of debt and little cash holdings occur simultaneously and are better resolved for performance to be effective in a very great extent. The study further established This result suggests the agency problem is prevalent in SMEs firms, where managers try to avoid raising external funds for keeping the investment information of the company to themselves. Firm size, cash flow and industry sigma are significant at 1% level in the cross sectional regression analysis.

The positive coefficient on cash flow-to-assets ratio supports the pecking order theory which suggests that firms finance investments first with the retained earnings and then go for debt and if effectively implemented and utilized. This study therefore recommends that in order to avoid many impediments, SMEs should make sure that its strategies are sufficient to enable administration and management of credit with management prudence and getting them advice promptly.

CHAPTER ONE
INTRODUCTION

1.1 Background of the Study

Working capital management refers to choosing the levels and mixing of cash, marketable securities, receivables, inventories and short term financing. The core determinants of working capital are inventories, accounts receivables, accounts payables, and marketable securities. Ramachandran & Janakiraman (2009) define working capital as the flow of ready funds necessary for the working of a concern. It comprises funds invested in current assets which in ordinary course can be turned into cash within a short period without undergoing diminishing in value and without disrupting the organization. According to (Pandey 2009) there are two concepts of working capital namely: gross working capital which refers to the firm's investment in current assets and net working capital which refers to the difference between current assets and current liabilities. The gross working capital concept focuses attention on how to optimize investment in current assets and how current assets should be financed.

Net working capital is a financial metric which represents operating liquidity available to a business, along with fixed assets such as plant and equipment, working capital is also considered a part of operating capital. Net working capital is calculated as current assets minus current liabilities. If current assets are less than current liabilities an entity has a working capital deficiency. This also indicates the liquidity position of a firm and suggests the extent to which working capital needs may be financed by permanent sources of funds. Therefore current assets should be efficient in excess of current liabilities to constitute a buffer for maturing obligations within the ordinary cycle of a business.

According to ICPAK (2010) An SME is defined as an entity that,
a) Does not have public accountability. b) Publishes general purpose financial statements for external users e.g. owners not involved in day to day management; Kenya Revenue Authority; existing and potential creditors; credit rating agencies. c) Whose debt and equity instruments are NOT traded in the public market (A domestic or foreign stock exchange or over the counter market) and d) Does NOT hold funds in

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a fiduciary capacity for a broad group of outsiders as one of its primary businesses such as banks, credit unions, insurance companies, securities brokers/dealers, mutual funds and investment banks

Macharia (2010) The EU definition categorizes companies with fewer than 10 employees as "micro", those with fewer than 50 employees as "small", and those with fewer than 250 as "medium" Small medium organizations need to have between 20-500 employees .In the United States, small business refers to those with fewer than 100 employees, while medium-sized business often refers to those with fewer than 500 employees. In Kenya, there is no standard definition but lenders' generally accepted one is that SME is a business with six to fifty employees or with annual revenue below Kshs. 50 million.

Takaruza (2009). Globally and also here in Kenya, small to medium size enterprises (SMEs) are being hailed for their pivotal role in promoting grassroots economic growth and equitable sustainable development. SMEs have become more important in most economic countries in recent years across the globe through increased deliberate government policies and legislation aimed at nurturing SMEs as engines of economic growth and employment creation. SMEs play a vital role in the development of this economy not only in Kenya but in the world in general. SMEs are said to have increased the revenue collected in the country through the payment of domestic taxes which are mainly collected and remitted by the KRA. Kenyan has had an increasing rate of unemployment a problem that has been resolved by the emergence of many SMEs in the country. Hence it is estimated that SMEs constitute over 90 percent of total enterprises in most economies with a high rate of employment growth. And it's through employment that the rate of crimes has significantly reduced in the country. As a result of these many people are opting to establishing of small and medium enterprises and the rate is quite high than those that are exiting the economy. They are also a vehicle for increased industrial production and exports.

Despite the immense and increasing importance of SMEs for the African and Kenyan economy and their prevailing financial problems, not much financial management theory exists with special regards to SMEs. Most theory in this field of study is related to SMEs financial management. This also applies to empirical studies which are mainly conducted in large enterprises. Obviously, financial management in SMEs

and large enterprises bear strong similarities. However, there is a significant disparity which substantiates the study of financial management in SMEs. In addition Petersen and Rajan (1997) demonstrated that good working capital management must ensure an acceptable relationship between the different components of a firm's working capital so as to make an efficient mix, which will guarantee capital adequacy. Thus, working capital management should make sure that the desirable quantities of each component of the working capital are available for management. However the question is "What determines the necessary components of a firm's working capital and how much of such necessary components can be regarded as adequate or desirable? However, the question is to recognize the factors that determine the adequacy of working capital based on growth, size, operating cash flow, etc, and how these working capital components affect cash as the main source of business financing. Thus the ability to understand the determining factors and measurement of adequate amounts of working capital will lead an organization being able to avoid bankruptcy. Pandey (2009) says there is need for working capital to run the day to day growth and investment opportunity and every firm is in need of that. Further he says every firm has aim of maximizing the wealth of its shareholders hence in order to do so it must earn sufficient return from its operations which are as a result of successful sales activity which are in turn financed by current assets. This conversion of current assets into sales is known as the operating cycle. Operating cycle is defined as the time duration required to convert sales, after the conversion of inventories into cash. This process involves The Net Operating Cycle given as: - inventory conversion period Plus Debtors Conversion Period minus Creditors deferral Period. Therefore in this regard it is important to note and study how working capital components (inventory, accounts receivables and account payables) affect the cash level of an entity during the conversion stage.

1.2 Research Problem

A survey conducted in the UK indicated that above 20% of firm failures was due to irrecoverable debts or poor receivable management (Padachi, 2006). In other developed countries such as US, Canada, England, Australia and others, it has long been recognized that efficient management of working capital is crucial for prosperity and survival of small businesses (Deloof, 2003). Nevertheless in the developing countries such as Kenya very little has been done concerning working capital

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management practices in SMEs. SMEs with Limited access to the long- term capital markets tend to rely more heavily on owner financing, trade credit and short – term bank loans to finance their operations (Olomi, 2008). Few researches have being done in this area. As Matoha (2007) explained in his study of working capital management in the SMEs publishing companies in Dar es Salaam, there are problems in working capital management such as low level of education and low level of experience. Jarvis.and Kitching (1996) noted that small business literatures often stress that small businesses operate differently than large ones. In addition, small business finance literatures frequently suggested the problem of scarcity of funds (Kargar and Blumentha, 1994).

The study Conducted by De Chazal Du Mee (1998) revealed that 60% enterprises suffer from cash flow problems. Anand (2001) discovered, the longer a debt remain outstanding the greater the risk of it becoming uncollectible. This leads to a domino effect as small businesses not being paid cannot in turn run their accounts payable. Teruel and Solan (2005) suggested that managers can create value by reducing their firm's number of days of accounts receivables and inventories. Similarly reducing the cash conversion cycle also enhances the firm's profitability.

Arnold (1998) quotes, insufficient investment in Working Capital increases the firm's risk of financial distress or insolvency by not having sufficient funds available to pay creditors when the bills become due. It's worth noting that Working Capital Management accelerates short-term financial decisions and policies. Hence it is noted that smaller firms experience difficulties in accessing external finance, and they rely more strongly on internally generated funds than large firms. Therefore working capital determinants thus play an important role in the financing of SMEs. This assumption is confirmed by the fact that working capital related problems are cited among the most significant reasons for the failure of SMEs.

The study therefore tries to ask the following questions.

What core components of working capital determinant that affect the cash level of a firm?

How can the determinants of working capital enhance the efficiency of the SMEs on cash holding?

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1.2.1 Research Gap

Researchers aiming at developing this field of study could conduct exploratory studies in order to detect qualitative data which reveal the concrete working capital management procedures which are employed by SMEs in order to attain their target cash level. As theory on the working capital management perspective on cash holdings is not very developed, such a research could further confirm and develop the analytical findings of this paper.

Another interesting approach could be to detect potential differences between SMEs and large enterprises. By this means, the assumption that SMEs are more dependent on their internally generated funds than large enterprises could be tested. The impact of this supposition on cash holdings could constitute an important field of interest in this context.

Another area which needs further study is the relationship of liquidity position of firms and agency problem. Another area of study is on the impact of long term liabilities on cash holding of small and medium enterprises.

1.3 Objectives

To analyze the relationship between the determinants of cash holding i.e. firm size, growth inventory, debtors, creditors, and the cash level of SMEs

To assess the efficiency of working capital management determinants on cash holdings on SMEs by testing if:-

H1: There is a negative relationship between cash holding and determinants of cash holding

H0: There is a positive relationship between cash level and determinants of cash holding

1.4 Value of the Study

The study will be useful to other enterprises that fall under the category of small and medium enterprises in the country other than the one's studied since they was able to know the effect of a firms working capital component to the level of cash that they hold and also to lenders of money like the financial institutions in that it was able to show the state of an enterprise in working capital management and short term financing of the firm through the conversion of the components of working capital to cash.

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The study will also be useful to those studying issues related to working capital management in the area of finance and also to research companies and consultant firms

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This chapter consists of five parts. The first part aims at the approaches employed in working capital management. The motives for holding cash are dealt with in the second section. The third part is dedicated to working capital management. The aspect of cash level is discussed in the fourth section and finally, the fifth part consists of the empirical section.

According to Pandey (2009) there three approaches in working capital management.

2.2 Approaches in Working Capital Management

These are the methods applied by a firm when they want to finance the business depending on the mix of short-term-and long-term-financing. The approach followed by a company may be;

2.2.1 Matching Approach

It's where a firm may adopt a financial plan which matches the expected life of the source of funds raised to finance the assets. The justification for the exact matching is that, since the purpose of financing is to pay for assets, the source of financing and the asset should be relinquished simultaneously.

2.2.2 Conservative Approach

This is where a firm financing policy depends more on long term funds for financing both its long-term assets and temporary current assets. Thus when a firm has no need for temporary current assets, the idle long term funds can be invested in the tradable securities to conserve liquidity.

2.2.3 Aggressive Approach

This is a policy where a firm finances part of its permanent assets with short term financing. Many organizations are compelled to hold cash for various reasons, discussed below are:

2.3 The Keynesian Motives for Holding Cash

In his influential work "The General Theory of Employment, Interest and Money" first published in the year 1936, John Maynard Keynes devotes one chapter to "The Psychological and Business Incentives to Liquidity" in which he elaborates on the motives for holding cash. He distinguishes between three different but interrelated motives: The 'transactions-motive', the 'precautionary-motive' and the 'speculative-motive'.

2.3.1 The Transactions-Motive

The 'transactions-motive' deals with bridging the gap between cash collections and disbursements. In this regard, Keynes differentiates between the 'income-motive' and the 'business-motive' which are subordinate motives to the 'transactions-motive'. Both motives are based on a very similar principle but while the 'income-motive' deals with an individual's cash holding behavior, the 'business-motive' describes an enterprise's motives. For the purpose of this work, only the latter is of importance. According to Keynes, companies hold cash in order to "bridge the interval between the time of incurring business costs and that of the receipt of the sale-proceeds". In other words: Companies hold a certain amount of cash in order to meet the regular expenses of their activity. Therefore, the higher the firm's ability to schedule its cash flows – depending on their predictability – the weaker the 'transactions-motive' for holding cash was.

2.3.2 The Precautionary-Motive

Keynes' second motive, the 'precautionary-motive', pays regard to a company's need to provide for unsuspected expenses and "unforeseen opportunities of advantageous purchases". The strength of the 'precautionary-motive' is determined by the risk of a sudden contingency and the probability of a profitable acquisition. Thus, if a firm operates in a highly volatile sector of activity, its precautionary cash holding was higher than that of firms which act in a less risky environment.

2.3.3 The Speculative-Motive

Keynes' third motive refers to the holding of cash for the purpose of speculation. The 'speculative-motive' is based on the assumption that rising interest rates induce decreasing prices of securities and vice versa. Therefore, a firm will invest its idle cash in securities when interest rates are expected to decrease. This generates benefits for the firm because the prices of the acquired securities will rise as a consequence of the anticipated interest rate drop. Van Horne claims that companies do not hold cash for this kind of speculative purpose and it can be assumed that this estimation is valid especially for SMEs which usually do not have the resources to make such complex financial decisions. Therefore the significance of Keynes' 'speculative-motive' is negligible for this work.

2.3.4 Strength of the Keynesian Motives

The transactions- and precautionary-motives share one common ground. Their strength is dependent on the accessibility of cash and the cost of acquiring it when needed. Costs of running out of cash, i.e. shortage costs are therefore an important factor that influences the strength of the two first Keynesian motives. In the extreme case of maximum ease of access and no costs associated, i.e. no shortage costs of running out of cash, a company would not hold any cash at all. In the event of an emerging expense, it would simply retrieve the required amount from its portfolio of short-term investments.

Additionally, a firm's demand for cash depends on the "relative cost" of holding cash. In this context, Keynes mentions the example of "forgoing the purchase of a profitable asset" in order to be able to hold on to a certain amount of cash. This 'relative cost' will weaken the firm's motive for holding cash and lead to a lower cash holding in order for the company to be able to make profitable acquisitions when these occur.

Yet, another factor which strengthens the two first Keynesian motives is the aspect of bank charges which could be avoided by holding cash. Obviously, if reducing bank deposits diminishes the associated costs, firms will tend to hold a larger amount of cash.

2.3.5 Relevance of the Keynesian Motives

The Keynesian motives for holding cash are frequently referred to and further developed or slightly modified in relevant literature. In their discussion on firms' reasons for holding cash and marketable securities, Weston & Copeland add two further motives to the Keynesian 'transactions' and 'precautionary' motives. They claim that the level of liquid funds, i.e. cash plus marketable securities, will rise significantly if a firm is envisaging important investments in the near future. The second reason for holding cash that the authors include is "compensating balance requirements" which refer to the minimum balance that a bank requests its professional customers to preserve in their current account. This aspect is not an inherent motive but rather an extrinsic obligation which serves as an assurance to the bank. In this regard, the compensating balance is also mentioned by Ross et al. as one of the authors' two main reasons for cash holding, the other one being the 'transactions-motive'.

Keynes' motives are a very widespread approach in financial theory in order to explain cash holding behaviors of companies and they also constitute the basis for a great deal of cash management models which was discussed later on. As already pointed out, the third motive is irrelevant when studying the cash holding behavior of SMEs because of its complexity. However, the 'transactions-motive' and 'precautionary-motive' represent a very basic approach to illustrating the cash holding behavior of firms. Therefore, they should be particularly applicable to SMEs, assuming that these manage their finance in a less complex manner than large enterprises.

2.3.6 Advantages & Disadvantages of Cash Holding

The advantages of high cash level are numerous. The Keynesian motives which have been discussed in section 2.2 represent the basic reasons for holding cash. In this respect, these motives characterize the fundamental advantages of cash. A high level of cash allows the firm to easily carry out the regular expenses of its ordinary business activity and it also permits the company to pay for unforeseen expenses. If the cash level was too low and such an unexpected outflow occurred, the firm would have to either borrow the funds or forego the opportunity. Both alternatives obviously bring about significant costs. Short-term borrowing of funds can be extremely costly,

e.g. trade credit financing, and foregoing the opportunity results in opportunity costs which represent the lost return of the rejected investment. Another advantage of high cash level which shall be mentioned is the aspect of creditworthiness. The cash related financial ratios are a crucial element of credit rating and therefore a high level of cash will result in good creditworthiness

2.4 Cash Holding Model

These are the models that are used to determine the level of cash that a company should hold at a particular period of time given the above reasons

2.4.1 Models for Determining Optimum Cash Holdings

Constant pressure to increase return on assets has resulted in firms seeking ways to reduce their working capital costs. In the cash management area, firms are employing more sophisticated collection and disbursement systems. Cash management systems today efficiently speed up collection and, at the end of the day, sweep excess balances into money market accounts. Cash managers focus on finding the optimal cash-short-time investment mix (Ogden & Sundaram, 1998). In an effort to determine the optimal cash balance that a firm should maintain for transaction demand, a number of models have been brought forward notable among them are the Baumol nad Miller-orr models of cash management.

2.4.1.1 Baumol Model

Baumol model of cash management provides a formal approach for determining a firms optimum cash balance under uncertainty. It considers cash management similar to an inventory management problem. As such, firms attempt to minimize costs of holding cash and the cost of converting marketable securities to cash. This model makes the following assumptions: the firm is able to forecast it's firms needs with certainty; the firms 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 when it converts it's securities into cash.

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The firm incurs the holding cost for keeping the cash balance. It is an opportunity cost; that is, the return foregone on the marketable securities. If the opportunity cost is k, then the firms holding cost for maintaining an average cash balance is as follows:

Holding cost$=k(C/2)$

The firm incurs a trading cost whenever it converts its marketable securities into cash. The total number of transactions during the year was total funds required, T, divided by the cash balance, C, i.e. T/C. Per transaction cost is assumed to be constant. If per transaction cost is c, and then the total trading cost was:

Trading cost$=c$ (T/C)

The total annual cost of demand for cash was:

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

The optimum cash balance $C*$ is obtained when the total cost is minimum. The formula for the optimum cash balance is as follows:

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

Therefore, The Baumol model presents an approach for determining the optimal balance between cash and marketable securities. Therefore, it can be useful in order to illustrate the crucial elements of the issue of cash management. This issue consists in finding a balance between a firm's cash holdings and the investment in marketable securities in order to optimize the availability of cash while maximizing the interest income for idle cash.

As it basically deals with the decision on the repartition of funds between investments of different liquidities, the model can be applied to the decision on the overall cash level, i.e. including cash equivalents. The associated costs would be similar, but a decision would have to be made between the investment in cash including cash equivalents and less liquid investments. Opportunity costs would be the same only that the foregone returns would be related to any form of investment, with the exception of cash equivalents such as marketable securities. Trading costs would also be similar and would have to be generalized so as to contain all kinds of costs which occur when it is decided to liquidate an asset in order to generate cash.

2.4.1.2 The Miller-Orr Model

A limitation of Baumol Model is that it does not allow cash flows to fluctuate. Firms in practice do not use their cash balance uniformly nor are they able to predict daily cash inflows and outflows. The miller-Orr model overcomes this shortcoming and allows foe daily cash flow variation. It assumes that net cash flows are normally distributed with zero value of mean and standard deviation. The model provides for two control limits- upper control limit and the lower control limit as well as a return point. If the firm's cash flows fluctuate randomly and hit the upper limit, then it buys sufficient market securities to come back to a normal level of cash balance. Similarly, when the firms cash limit go below the lower limit, it sells sufficient marketable securities to bring the cash balance back to the marketable level as shown in the diagram below:
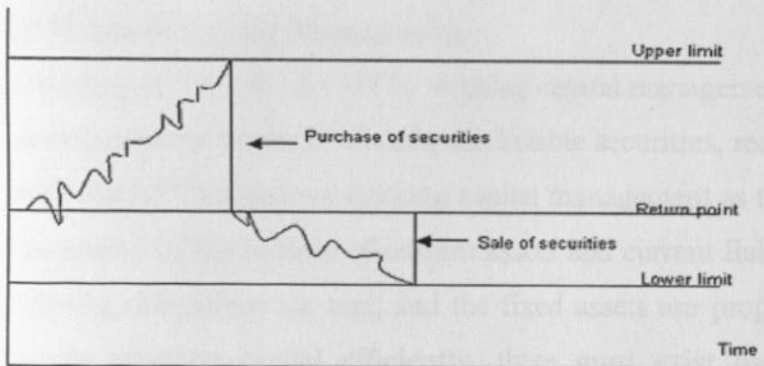
The lower limit is set by the firm based on its desired minimum "Liquidity requirement   stock" of cash in hand The firm should also determine the following factors:

1. An interest rate for marketable securities, (i)
2. A fixed transaction cost for buying and selling marketable securities, (c)
3. The standard deviation if its daily cash flows, (s)

The upper control limits and return path are than calculated by the Miller-Orr Model as follows:

Distance between the upper limits and a lower limit is 3Z.

(Upper limit – Lower limit) = (3/4 C Transaction Cost C Cash Flow Variance/Interest Rate) $^{1/3}$

$Z = (3/4 \; C \; cs2/i)^{1/3}$

If the transaction cost is higher or cash flows shows greater fluctuations, than the upper limit and lower limit was far off from each other. As the interest rate increases,

the limits will come closer. There is an inverse relation between the Z and the interest rate. The upper control limit is three times above the lower control limits and the return point lies between the upper and lower limits. Hence:

Upper Limit = Lower Limit + 3Z

Return Point = Lower Limit + Z

So, the firm holds the average cash balance equal to:

Average Cash Balance = Lower Limit + 4/3 Z

The Miller-Orr Model is more realistic as it allows variation in cash balance within the lower and upper limits. The lower limit can be set according to the firm's liquidity requirement. To determine the standard deviation of net cash flows the pasty data of the net cash flow behavior can be used. Managerial attention is needed only if the cash balance deviates from the limits.

2.5 Working Capital Management

According to Van Horne (1977), working capital management is the administration of current assets in the name of cash, marketable securities, receivables, and inventories. Osisioma(1997) described working capital management as the regulation, adjustment, and control of the balance of current assets and current liabilities of a firm such that maturing obligations are met, and the fixed assets are properly serviced. In order to manage working capital efficiently, there must exist two elements as necessary components and desirable quantities.

Working capital management implicates the administration of current assets as well as current liabilities. It is the main part of a firm's short-term financial planning since it encompasses the management of cash, inventory and accounts receivable. These three components and the way in which they are managed determine some of a company's most vital financial ratios, e.g. the 'inventory turnover', the 'average collection period' and the 'quick ratio'. Hence, working capital management reflects a firm's short-term financial performance. Given that current assets usually account for more than half of a company's total assets – an average 66% of the total assets of this study's sample firms – and owing to the fact that "this investment tends to be relatively volatile", the study of working capital management deserves special attention. According to Weston & Copeland, working capital management is of great importance especially to small firms. This is due to most small firms' large amount of

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current liabilities resulting from restricted access to long-term capital. Furthermore, Weston & Copeland claim that current assets represent a major investment for small firms because they cannot be avoided in the same way as investments in fixed assets can be prevented by renting or leasing, for instance.

In the following, the three components of working capital management, i.e. inventory management, cash management and credit management was discussed. Thereafter the concept of working capital policy was presented.

2.5.1 Working Capital Policy

The overall way of managing working capital can differ significantly from firm to firm. Weston & Copeland refer to a company's approach as "working capital policy". Working capital policy involves the decision on the level of current assets held by a company as well as the decision on how these current assets ought to be financed. Merely the investment in current assets and the optimal policy concerning the level of current assets will therefore be discussed in this section.

2.5.2 Optimal Working Capital Policy

In order to determine the optimal policy, Ross et al. propose to integrate the different costs which are associated with the level of current assets in a model which then features carrying costs as well as shortage costs. Carrying costs are those costs which augment analogically with the level of current assets, e.g. opportunity costs. Shortage costs are those costs which decrease when the level of current assets increases, i.e. costs which incur when current assets level is low, e.g. costs of running out of cash or inventory.

2.5.3 Investment in Current Assets

As shown above, the three components of working capital management imply separate yet similar associated costs and benefits. Therefore, it is evident that the level of current assets has an impact on the firm's profitability. For instance, a large inventory ties up capital but it prevents the company from detrimental production stoppages due to stock-out. A high level of current assets therefore means less risk to the company but also lower earnings due to capital tie-up. Weston & Copeland refer to this interrelation as the "Risk-Return Tradeoff for Current Asset Investments".

2.6 Inventory Management

The overseeing and controlling of the ordering, storage and use of components that a company will use in the production of the items it will sell as well as the overseeing and controlling of quantities of finished products for sale. A business's inventory is one of its major assets and represents an investment that is tied up until the item is sold or used in the production of an item that is sold. It also costs money to store, track and insure inventory. Inventories that are mismanaged can create significant financial problems for a business, whether the mismanagement results in an inventory glut or an inventory shortage.

The downside of large inventory comprises several aspects. Besides the apparent cost of handling and storage, there is also the relative cost of capital tie-up and the threat of obsolescence. In this regard, the decision maker's task is to strike a balance between the above mentioned benefits and costs of inventory in order to find the optimal inventory size.

Although inventory management is not within the typical field of responsibility of a financial manager, the 'economic order quantity' (EOQ) model which is a simple concept for determining a company's optimal inventory level and order size was introduced. It is mentioned in a great deal of relevant literature and can also be applied to cash management. An understanding of the EOQ model will therefore facilitate the comprehension of the cash management model as well as the basic issue of working capital management. Since a discussion of the complete EOQ model would go beyond the scope of this work, only the first step, namely the decision on inventory level, shall be examined. The second stage which deals with order size and inventory usage is not of importance for the achievement of this paper's purpose.

2.6.1 Optimal Inventory Size

The EOQ model can be applied to all kinds of inventory, i.e. raw materials, work in process as well as finished goods. In order to ensure the applicability of the EOQ model, several assumptions must be taken into consideration. First, the usage of the stored product is assumed to be steady. Second, ordering costs are assumed to be constant, i.e. the same amount has to be paid for any order size. Finally, the carrying costs of inventory which are composed of costs of storage, handling and insurance "are assumed to be constant per unit of inventory, per unit of time". The EOQ model

in its simplest conception therefore merely takes variable costs into consideration, although it can easily be extended so as to include fixed costs.

2.7 Credit Management

Credit management deals with the firm's decision on whether to grant credit to its customers and if so to determine the credit policy as well as the collection policy. In this respect, decisions regarding credit management will have an impact on the selling firm's level of accounts receivable. This is due to the fact that the terms of credit have an impact on its customers' with less generous terms leading to decreased payment delays and thus augmented investment in accounts receivable and vice versa.

2.7.1 Credit Policy

Credit policies can vary significantly depending on the industry sector, the country of origin or the business' seasonality. The terms of sale feature the due date for net payment and an optional cash discount for payments within a certain period. For instance, terms of sale stated as '2/10, net 30' imply that either a 2 percent cash discount can be taken advantage of by the buyer if payment occurs within 10 days from the invoice date or net payment should occur within 30 days. The longer the payment target and the higher the cash discount, the more generous the terms of sale. The terms of sale therefore reflect the selling firm's credit policy and its generosity. The selling firm's motivation for granting cash discount in this respect is to accelerate collections in order to optimize cash availability.

2.7.2 Optimal Credit Policy

Granting credit will have a positive impact on the firm's turnover by stimulating sales but it will also generate costs of holding accounts receivable and create the risk of losses due to bad debts. The more generous the credit policy, the stronger the positive impacts on the firm.

Sales as well as on the associated costs. Therefore, the financial manager's task is to find the optimal credit policy which minimizes the total costs of credit. The total costs of credit are defined as the addition of opportunity costs which arise from lost sales and carrying costs of accounts receivable. Opportunity costs decrease when credit is extended to customers as more and more customers are attracted to the company which generate increasing sales and therefore decrease opportunity costs of foregone

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sales. Carrying costs, however, increase in line with the credit extension since these costs incur due to the cash collection delay, the relative cost of capital tie-up, the increased probability of bad debt losses and the costs of managing credit, all of which are positively related to credit extension. In this respect, the EOQ model is applicable to credit management by relating credit policy to associated costs. Similarly to the model for inventory, the illustration shows decreasing opportunity costs and increasing carrying costs for increasing level of credit policy generosity. The optimal credit policy can be found at the minimum point of the total costs curve.

2.7.3 Collection Policy

Collection policy deals with the issue of collecting overdue receivables. This aspect copes with monitoring receivables and taking appropriate actions when the account is overdue. If a firm has an effective collection policy, this will reduce the probability of bad debts and decrease the cash collection period, hence decreasing the carrying costs of accounts receivable. This again will have an impact on the optimal credit policy. In other words, if the firm collects its accounts receivable efficiently, it can resort to a more profitable credit policy. The 'average collection period' or 'days sales outstanding' is a financial ratio which reflects the collection policy effectiveness by measuring "the average amount of time required to collect an account receivable". By comparing the average collection period to the terms of sale the firm can keep track of its collection policy.

2.7.4 The Concept of Cash Holding-Empirical Evidence

Existing literature has mainly focused on evaluating the cash balances across different firm sizes and industries of developed countries in order to establish a relationship between asset management practices and firm performance. In an earlier study, Nadiri (1969) empirically tested the determinants of Real cash balances in the US manufacturing sector. Taking quarterly data on manufacturing sector from 1948 to 1964, he estimated a model relating the desired level of real cash balances to the expected level of its operations and movements in the opportunity cost money, the user cost of capital services, the price of labor services, and the general price level. The estimated results revealed that the demand for real cash balances is determined by output (wealth), the interest rate, the expected rate of change in the general price level, and factor prices.

Later, Campbell and Brendsel (1977) empirically examined the impact of compensating balance requirements on the cash holdings of US firms for the period 1953-1963. By employing the Miller and Orr's OLS regression of the target cash balances over the cash

holdings by the firms, they find that compensating balance requirements are not binding. These results are further verified by applying Cochran-Orcutt technique.

Opler et al. (1999) examined the determinants and implications of holding cash and cash equivalents by 1048 publicly traded US firms in the period 1971-1994. Their results show that cash holdings are negatively related to size, net working capital, leverage, dividend payment, and govt. regulation while they are positively related to the cash flow-to-assets

ratio, the capital expenditures-to-assets ratio, industry volatility, and the R&D-to-sales ratio. They concluded that firms with better growth opportunities and riskier cash flows had higher levels of cash, while large firms having better access to capital markets hold less cash. Similar results were reported by Faulkender (2002) for a sample of small US firms and Ozkan and Ozkan (2002) for a sample of UK firms.

Considering the agency costs that arise due to excessive cash levels, Harford (1999) empirically studied the notion that excessive cash leads the managers to make value decreasing investment decisions. He estimated a sample of all acquisition attempts by US firms during the period 1977-1993. The results support the hypothesis that acquisition by cash rich firms are value decreasing. Moreover, they are more likely to make diverse acquisitions, and their targets firms are less attractive to other bidders. The similar phenomenon is observed in bidder firms in a merger depicted by sharp decline in operating performance.

Pinkowitz and Williamson (2001) examined the effect of bank power on cash holding patterns of industrial firms for a sample of Japanese firms for the period 1974-1995, German firms for the period 1984-1994 and US firms for 1971-1994. The cross country analysis show that Japanese firms tend to hold more cash than their American or German counterparts do. While cash holding pattern was similar across German and US firms, the OLS regression analysis reveal that

Japanese cash balances are significantly influenced by the monopoly power of the banks. This is consistent with the fact that high cash holdings mean higher rents extracted by the banks during the periods when they enjoy certain power in the corporate lending system.

Dittmar et al. (2003) tested the significance of corporate governance in determining the corporate cash holdings. They collected the data of more than 11,000 firms (including 30 from Pakistan) from 45 countries for the year 1998 and employed a shareholders' rights index developed by La Porta et al. (1998). The results reveal that the firms in countries with low shareholder protection hold upto twice as much cash as firms in countries with high shareholder protection. In case of poor shareholder protection, the factors determining corporate cash holding, such as investment opportunities and asymmetric information become less important. Furthermore, they find that with the easier access to funds, firms hold larger cash which supports the agency theory.

Ferreira and Vilela (2004) investigated the determinants of corporate cash holdings using a sample of 400 firms in 12 EMU countries including Germany, Austria, France, Greece, Italy, Netherlands, Portugal, Spain, Belgium, Ireland, Finland and Luxemburg for the period 1987-2000. The results show that cash holdings are positively influenced by investment opportunity set and firm cash flows. While, assets' liquidity, leverage, firm size and bank debt negatively affect the cash holdings. Low levels of cash are held by firms in countries with superior investor protection and concentrated ownership.

Nguyen (2005) investigated the hypothesis that cash balances have a precautionary motive and serve to mitigate the volatility of operating earnings, which they used as a proxy for risk. Their results show that cash holdings are positively associated with firm level risk, but negatively related to industry risk. Consistent with past researches, cash holdings were found to be decreasing with the firm's size and debt ratio, and increasing with its profitability, growth prospects, and dividend payout ratio.

Guney et al (2006) examined the impact of leverage on cash balances of firms, which they argued may be non-monotonic. A negative (substitution

effect) relation between leverage and cash holdings exists to the extent that leverage of firms acts as a proxy for their ability to issue debt. However, with the increase in leverage, firms may accumulate larger cash reserves so that the risk of financial distress and costly bankruptcy can be minimized. Therefore, at high levels of leverage, a positive (precautionary effect) relationship between cash holdings and leverage exists. Their results suggest a significant non-linear relationship between cash holding and leverage. Furthermore, Country specific characteristics such as degree of creditor protection, shareholder protection and ownership concentration can influence the strength of the impact of leverage on cash holdings.

Drobetz and Grüninger (2006) investigated the determinants of Swiss non-financial firms' cash holdings over the 1995 to 2004 period. Their results show that the median Swiss firm holds almost twice as much cash and cash equivalents as the median UK or US firm. Moreover, they found a negative relationship between asset tangibility and cash holdings and a non-linear relationship between leverage and cash holdings. Dividend payments were positively related to cash reserves. However, they could not prove a significantly positive relationship between growth opportunities and cash holdings.

Recently, Hofmann (2006) examined the determinants of corporate cash holdings of non-financial firms in New Zealand. His findings suggest that the main determinants of corporate cash holdings in New Zealand are firms' growth opportunities, the variability of its cash flows, leverage, dividend payments, and the availability of liquid asset substitutes. While growth opportunities and the variability of cash flows are positively related to cash holdings, large dividend payments and liquid asset substitutes indicate lower cash holdings.

Abel (2008) examined the impact of working capital management on cash holdings of small and medium sized manufacturing enterprises in Sweden. The aim of the study was to theoretically derive the significant factors related to working capital management which have influence on the cash level of SMEs and test this in large sample of Swedish manufacturing SMEs. The theoretical framework of the study was considered of treaties of motives of holding cash, working capital management and cash level. He studies 13, 287 Swedish manufacturing SMEs of legal form

'Aktienbolag'. The results were that cash holdings are negatively related to present of substitutes, namely inventory and accounts receivable. Furthermore, it confirmed that WCM efficiency, measured by the cash conversion cycle; it is positively related to the cash levels.

Lazaridis and Tryfonidis (2006) investigated the relationship between SMEs profitability and working capital management using listed companies on the Athens Stock Exchange. They discovered that a statistically significant relationship existed between firm's profitability and the cash conversion cycle. They concluded that businesses can create profits for their companies by handling correctly the cash conversion cycle (that is accounts receivable, accounts payable and inventory) to an optimum level.

Beneda et al (2008) using a sample of initial public offerings (IPO's), their study finds a significant positive association between higher levels of accounts receivable and operating performance. The study further finds that maintaining control (i.e. Lower amounts) over levels of cash, securities, inventory, fixed assets and accounts payable appears to be associated with higher performance as well. They found that IPO firms which are experiencing a usual high growth tend not to perform as well as those with low moderate growth. Further firms which are experiencing high growth tend to hold higher levels of cash and securities, inventory, fixed assets and assets and account payables. These findings tend to suggest that firms are willing to sacrifice performance (accept low or negative operating returns) to increase their growth levels. The higher level of growth is also associated with higher operating and financial risk. The finds of this study suggest that perhaps IPO firms should stay more focused on their operating performance than on maintaining high growth levels.

Smith (1974) relates profitability versus trade off in WCM. The study suggested that parallel monthly forecasts of liquidity and profitability can be used in evaluating tradeoffs between the two goals. Besides, such forecasts can also be useful in estimating the impact of certain working capital policies on the goals, and in reflecting the uncertainty of the future. The study illustration of procedures suggested by other studies concerning WCM.

In this study Smith discussed individual and collective effects of accounts receivable, inventories, accounts payable, and other accruals on profitability and liquidity. On the basis of several assumptions made, the study mainly observed as follows for the Smith products: a tightened inventory policy reduces necessary borrowing to a lower level than does faster collection of receivables or slower payments of currents liabilities; profitability increases only slightly, a result only of lower interest expenses from lower levels of needed borrowing; the necessary borrowing can be reduced if receivables, payables and inventory policies are tightened.

Kiprono (2004) studied the relationship between cash flows and earnings performance measures for companies listed in the NSE. His objectives was to determine the relationship between return on assets (ROA), return on equity (ROE), and return on net assets (RONA) against the cash flows of a firm. To achieve this, regression analysis was employed to thirty companies listed in the NSE the companies were picked randomly and were analyzed for a five year period from 1998 to 2003.

He concluded that there is a positive association between cash flows from operating activities and all the return performance indicators. The results also showed that there is a negative association between cash flows from financing activities and investing activities and returns performance indicators. On overall, there is a weak relationship between cash flows and performance indicators. However he noted that it is important to determine the impact of firm size in cash flow and earnings performance indicators.

Antony (2006) did a study on the effects of the relationship between firms listed in the NSE and the economic activity in Kenya over the last twenty years (1986-2006). The period was selected because it gives enough duration to indicate trends in working capital position. The findings revealed that the liquidity of the fifty firms in the study, as measured by current and quick rations increased slightly during economic expansion and decreased during economic slowdown. However he argued that the liquidity positions reacted differently to various economic indicators such as inflation and lending rates.

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The empirical researches reveal that that the firm specific factors affecting the firms cash holdings have differing relationship across different countries and firm sizes. Moreover, the behavior of these variables has been changing over time. The literature does not provide considerable research on determinants of firms cash holdings in SMEs in Kenya. The current research tries to fill this gap by analyzing the behavior of firm specific factors with respect to corporate cash holdings in Kenyan SMEs

CHAPTER THREE
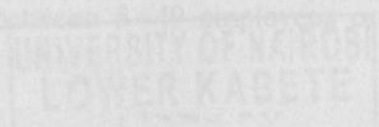## RESEARCH METHODOLOGY

3.1 Introduction

This chapter dealt with the research design, the target population of the research study, the sample procedure and the tools for collecting data and data analysis methods during the study. Research design and methodology will help to critically evaluate findings related to the topic.

3.2 Research Design

A research is a plan according to which one obtains research participants and collects information from them. It is an overall operational pattern or framework of the project that stipulates what information is to be collected, from which sources and by what procedures (Butt 2001)

The approach of measuring certain characteristics and their effect on others is labeled as "casual research". The casual research design was applied using the variables identified as the key components of working capital. In the causal study the following was done, preparation of a short structured questionnaire, finalizing on the sample size was done, conducting the survey process and analyzing the data, data report writing and giving the recommendations.

The process of Causal Research may give solution to the problem and it could also lead to a situation where further study would need to be done to solve the Problem.The research method is based on numeric data which shall be analyzed with statistical procedures, namely comparison of means and correlation analysis.

3.3 Population

This study aims at assessing the impact of working capital management on cash holdings in SMEs in Nairobi, Kenya. The population consisted of 205 firms in Nairobi and targeted population consists of SMEs mainly in the following categories: sole proprietorship, Partnership, Manufacturing, General Trading and Companies.
The research used the survey method as it concerned with addressing the particular characteristics of a population at a particular fixed point of time (Gill and Johnson, 1997). Two hundred and five SMEs engaging between 5- 49 employees or with

capital investment from Kshs 100,000 to Kshs 20 million was selected from different industries basing on their readiness to provide the required information. The accounting year 2005 to 2009 was chosen as the period of reference since duration of five years is enough to indicate the trends in the working capital position of the firm.

3.4. Sampling Procedure

Since the target population consists of different enterprises of various forms Simple random sampling was applicable this is because in a simple random sample ('SRS') of a given size, all such subsets of the frame are given an equal probability. Each element of the frame thus has an equal probability of selection: the frame is not subdivided or partitioned. Furthermore, any given *pair* of elements has the same chance of selection as any other such pair (and similarly for triples, and so on). This minimizes bias and simplifies analysis of results. In particular, the variance between individual results within the sample is a good indicator of variance in the overall population, which makes it relatively easy to estimate the accuracy of results.

However, SRS can be vulnerable to sampling error because the randomness of the selection may result in a sample that doesn't reflect the makeup of the population. For instance, a simple random sample of ten firms from a given area was *on average* produce.
SRS may also be cumbersome and tedious when sampling from an unusually large target population. In some cases, investigators are interested in research questions specific to subgroups of the population. SRS cannot accommodate the needs of researchers in this situation because it does not provide subsamples of the population. However SMEs whose Questionnaires and financial data will not be complete and unaudited was not used for the study.

3.5 Data Collection Instruments and Procedures

The researcher used both the primary and the secondary methods of data collection in the study.
The primary data collection was through a short structured questionnaire, See Appendix II
The researcher also requested the interviewee to provide the financial statements for the last five years, which is a secondary method of collecting data.

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3.6 Validity and Reliability

This part aimed at confirming the research quality by discussing the main threats to validity. According to Creswell, there are four different types of threat to validity when doing quantitative research: Threats to 'internal', 'external', 'statistical conclusion' and 'construct' validity.

Internal validity threats can arise when "inadequate procedures" are being used or if the participants' responses are somehow affected by changed opinion, for instance. In this case, there are no actual participants, only measurements of the sample companies' financial performance. In this respect, the latter issue can be neglected. The first threat, however, could occur within this research. Therefore, I will ensure that the internal validity threat is kept at a low level by making sure that the methods of measurement such as the financial ratios are adequately calculated and not modified during the measurement process.

External validity threats result from drawing false conclusions from the measured data by extending the results to different settings. Evidently, the sample only contains Kenyan SMEs and therefore the results will not definitely applicable to any company from a different country or size class. In order to avoid the threat to external validity, I made sure that the sample represents the population in the best possible way by selecting a rather large sample and by delimiting the population as well as the sample to companies from the service or merchandising sector. Statistical conclusion validity is violated if the researcher uses "inadequate statistical power" or infringes statistical assumptions. This threat has been avoided by justifying and explaining the statistical methods, that is comparison of means and correlation analysis. Furthermore, the calculation of significance levels for the correlation analysis should reduce the emergence of potential threats to statistical conclusion validity.

Threats to construct validity appear when "investigators use inadequate definitions and measures of variables". Obviously, there are many approaches to defining a variable which is supposed to measure a certain characteristic. Hence, this threat was avoided by clearly defining the variables. Furthermore, their use was justified and the theoretical foundation was discussed extensively.

3.7 Data Analysis

After the researcher has administered the questionnaires and collected them, the raw data was recognized in a way that facilitates analysis. Quantitative analysis will then be adopted after assigning a number to each of the responses.

The data will then be summarized using descriptive statistics in order to develop meaningful description of scores. The scores was defined by coding the data using numerical values. The empirical results was achieved by two kinds of statistical methods, namely univariate and bivariate analysis. This decision is based on the fact that the methods that was employed present simple but significant tools in order to describe and analyze statistical relationships between the dependent variable and the independent variables. The univariate analysis is based on the comparison of the inspected variables' means by cash level quartile. This comparison is achieved by ordering the dataset ascending by the variable 'Cash' and afterwards dividing it into four equally sized segments, i.e. quartiles. The first quartile therefore contains the 25 firms with the lowest cash to assets ratios. Subsequently, the means of the independent variables are calculated for each quartile. The bivariate analysis consists of a correlation analysis. Data analysis was done using SPSS version 17.

3.8 Data Storage and Presentation

All the information collected was saved in CDs, flash disk and in hardcopy for future reference. The results were presented in form of graph, bar graphs and pie charts.

DATA ANALYSIS AND FINDINGS

4.1 Introduction

This chapter presents analysis and findings of the research. The findings are represented in tables. The financial information analyzed comprised of 5 years from the year 2005 to 2009. This information was collected from 205 different SMEs.

4.2 Determinant of Cash Holding.

Regression Analysis

Reliability of the Data

Reliability is a fundamental issue in any measurement scale. Scale reliability is considered as the proportion of variance attributed to the true score of the latent construct. Considering the small number of items used to measure each of the 5 values and their necessary heterogeneity, even reliabilities of 0.5 are reasonable. Since alpha value is 0.742, the study instruments yielded fairly reliable data for this research.

4.3 Regression of Variables

This section provides an analysis of returns given by SMEs under study. The data reflects data gathered over a five year period for 205 SMEs. The findings are summarized in table 4.1. Descriptive statistics show the mean, percentiles and standard deviation of the variables and provide a general overview of the characteristics of the data. A multivariate regression model was applied to determine the relative importance of each of the five variables with respect to the status of SMEs cash holding determinants.

The regression model was as follows:

$y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + e$

Where:

y = Determinants of cash holding; measured by

One of the objectives of cash flow management is to hold the right amount of cash. If we hold too much cash, we lose the opportunity to earn a return on idle cash. If we hold too little cash, we run the risk of not making timely payments to suppliers, banks, and other parties. We want to have an optimal cash balance that is neither

excessive nor deficient. The optimal cash balance is determined by looking at the four reasons for holding cash:

Transaction Amounts: We have to hold enough cash to cover our outstanding payments or transactions. In addition to transaction amounts, we should add any compensating balances required under loan agreements. Therefore, the amount of cash on hand must be transaction amounts + compensating balances.

Precautionary Amounts: We need to maintain cash for unexpected disbursements. This is the precautionary amount of cash.

Speculative Amounts: If we are anticipating making an investment, we will hold a speculative amount to take advantage of opportunities in the marketplace.

Financial Amounts: In order to acquire assets, retire debt, or meet some major event, we will accumulate and hold a financial amount of cash.

β_0 = Constant Term

β_1= Beta coefficients

X_1= Growth and investment opportunities

X_2= Real size of the firm

X_3= Cash flow

X_4= Liquidity requirements

X_5= Cash flow uncertainty

Table 4.1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.097(a)	.009	.981	4.223	.009	.009	1	1	.938

Source, Researcher (2011)

a Predictors: (Constant), growth and investment opportunities, real size of the firm, cash flow, liquidity requirements, cash flow uncertainty

The mean cash ratio over the sample is 13.5% which is considerably large for these SMEs. These statistics are very close to the NSE firms' mean cash ratio of 17%

as reported by Ndeche (1999) and the non-financial firms firms' mean cash ratio of 14.8% as reported by Ferreira and Vilela (2004). The overall mean market-to-book ratio is 1.13. This figure represents a low level of investment opportunities for SMEs firms in comparison to European and American firms who have market-to-book ratio of 1.71 and 1.53 respectively. Mean value of leverage is 15% which again suggests that Kenyan SMEs have a tendency to use lesser amount of debt to finance their assets .

4.4 Correlation Analysis

A pooled time series regression has been estimated to evaluate the factors influencing SMEs cash holding. The estimated results are reported in table 4.2 below.) growth and investment opportunities, real size of the firm, cash flow, liquidity requirements, cash flow uncertainty

Two predictor variables are said to be correlated if their coefficient of correlations is greater than 0.5. In such a situation one of the variables must be dropped or removed from the model. As shown in table below none of the predictor variables had coefficient of correlation between themselves more than 0.5 hence all of them were included in the model. The matrix also indicated high correlation between the response and predictor variables, that is, growth and investment opportunity with the highest correlation followed by), real size of the firm, cash flow, liquidity requirements, cash flow uncertainty

Table 4.2: Pearson Correlation

	Determinants of cash holding	Growth and investment opportunity	Cash flow	Size of the SME firms	Cash flow uncer tainty	Liquidity requirement
Determinants of cash holding	1.000					
Growth and investment opportunity	.760	1.000				
Size of the SME firms	.746	.434	1.00	1.000		
Cash flow	.846	.247	.412	.184		
Cash flow uncertainty	.559	.364	.343	.267	1.00	
Liquidity requirement	.772	.246	.241	.307	.831	1.00

Source, Researcher (2011)

4.5 Strength of the Model

Analysis in table 4.3 shows that the coefficient of determination (the percentage variation in the dependent variable being explained by the changes in the independent variables) R2 equals 0.822,that is, Growth and investment opportunity , Liquidity requirement   Cash flow , and cash flow uncertainty explain 82.2 percent of Determinants of cash holding leaving only 17.2 percent unexplained.

Table 4.3: Coefficient of Determination

R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
				R Square Change	F Change	df1	df2	Sig. F Change
.907 (a)	.822	.814	.57479	.822	102.784	4	89	.000

Source, Researcher (2011)

Predictors: (Constant), **Growth and investment opportunity, Cash flow , cash flow uncertainty and Liquidity requirement**

Adjusted R^2 is called the coefficient of determination and tells us how Determinants of cash holding varied with Growth and investment opportunity, Size of the SME firms, Cash flow and cash flow uncertainty. From the table above, the value of adjusted R^2 is 0.822. This implies that, there was a variation of 98.1% of Determinants of cash holding varied with Growth and investment opportunity, Size of the SME firms, Cash flow and cash flow uncertainty at a confidence level of 95%.

4.6 Analysis of Variance

The probability value (p-value) of a statistical hypothesis test is the probability of getting a value of the test statistic as extreme as or more extreme than that observed by chance alone, if the null hypothesis H0 is true. The p-value is compared with the actual significance level of the test and, if it is smaller, the result is significant. The smaller it is, the more convincing is the rejection of the null hypothesis. ANOVA findings in the below table shows that there is correlation between the predictors variables (Growth and investment opportunity, Liquidity requirement, Size of the SME firms and cash flow uncertainty) and response variable (Determinants of cash holding) since P- value of 0.00 is less than 0.05

Table 4.4: Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	135.830	4	33.958	102.784	.000(a)
	Residual	29.404	89	.330		
	Total	165.234	93			

Source, Researcher (2011)

Predictors: (Constant), **Growth and investment opportunity, Liquidity requirement, cash flow, Size of the SME firms and cash flow uncertainty**

Dependent Variable: Determinants of cash holding which was measured by

One of the objectives of cash flow management is to hold the right amount of cash. If we hold too much cash, we lose the opportunity to earn a return on idle cash. If we hold too little cash, we run the risk of not making timely payments to suppliers, banks, and other parties. We want to have an optimal cash balance that is neither excessive nor deficient. The optimal cash balance is determined by looking at the four reasons for holding cash:

Key Point: The minimal cash balance is usually equal to the total transaction amount (includes compensating balances) + total precautionary amount.

The above summary of the basic logic of ANOVA is the discussion of the purpose and analysis of the variance. The purpose of the analysis of the variance is to test differences in means (for groups or variables) for statistical significance. The accomplishment is through analyzing the variance, which is by partitioning the total variance into the component that is due to true random error and the components that are due to differences between means. The ANOVA analysis is intended to investigate whether the variation in the independent variables explain the observed variance in the outcome in this study the cash holding. The ANOVA results indicate that the independent variables significantly ($F=102.784$, $p=0.001$) explain the variance in the determinants of cash holding. In this context, as have been presented in the table above, the dependent variable is the level of cash holding while the independent or the predictors are Growth and investment opportunity , Liquidity requirement Cash flow , Size of the SME firms and cash flow uncertainty .

4.7 Regression Equation and the Predictor Relationship

The established multiple linear regression equation becomes:

$$Y = 0.497 + 0.939X_1 + 0.785X_2 + 1.376X_3 + 0.306X_4 + 0.466 X_5 + 0.$$

Where

Constant = 0.497, shows that if Growth and investment opportunity , Liquidity requirement , Cash flow ,size and uncertainty were all rated as zero, Determinants of cash holding rating would be 0.497

$X_1 = 0.939$, shows that one unit change in Growth and investment opportunity results in 0.939 units increase in Determinants of cash holding

$X_2 = 0.785$, shows that one unit change in Size of the SME firms family results in 0.785 units increase in Determinants of cash holding .

$X_3 = 1.376$, shows that one unit change in Cash flow , results in 1.376 units increase in Determinants of cash holding

$X_4 = 0.306$, shows that one unit change in Liquidity requirement results in 0.306 units increase in Determinants of cash holding

$X_5 = .466$, shows that one unit change in cash flow uncertainty , results in .466 units increase in Determinants of cash holding

Table 4.5: Regression Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.497	.167		2.980	.004
Growth and investment opportunity	.939	.212	.933	4.431	.000
Size of the SME firms	.785	.142	.826	5.526	.000
Cash flow	1.376	.126	1.293	10.895	.000
Liquidity requirement	.306	.073	.321	4.174	.000

Source, Researcher (2011)

Dependent Variable: **Determinants of cash holding**

Table 4.6: Table Hypothesis Testing

Hypothesis	Critical t value	t statistics	Conclusion
H₁: There is no significant relationship between Growth and investment opportunity and Determinants of cash holding H₁ₐ: There is a significant relationship between Growth and investment opportunity and Determinants of cash holding	2.132	4.431	Reject H₁
H₁: There is no significant relationship between Size of the SME firms and Determinants of cash holding H₁ₐ: There is a significant relationship between Size of the SME firms and Determinants of cash holding	2.132	5.526	Reject H₁
H₁: There is no significant relationship between Cash flow and Determinants of cash holding H₁ₐ: There is a significant relationship between cash flow and Determinants of cash holding	2.132	10.895	Reject H₁
H₁: There is no significant relationship between Liquidity requirement and Determinants of cash holding H₁ₐ: There is a significant relationship between Liquidity requirement and Determinants of cash holding	2.132	5.526	Reject H₁
H₁: There is no significant relationship between Cash flow uncertainty and Determinants of cash holding H₁ₐ: There is a significant relationship between Cash flow uncertainty and Determinants of cash holding	2.132	5.523	Reject H₁

Source, Researcher (2011)

At degree of freedom regression, the t critical value is 2.132; H_1 should be rejected if the t statistics for individual independent variable is greater than 2.132. As shown the values for the individual predictor variables (Growth and investment opportunity,)Size of the SME firms , Cash flow , Liquidity requirement and cash flow uncertainty are more than 2.132, there is enough evidence to support H_{1a} thus Growth and investment opportunity , Size of the SME firms , Cash flow and cash flow uncertainty are individually linearly related with Determinants of cash holding.

Since all the t values for the individual predictor variables are more than 1.96, there is enough evidence to support H_{1a} thus there is a significant relationship between the response and all predictor variables.

The study found that market-to-book ratio coefficient is significant at 1% level, consistent with free cash flow theory that states that managers with poor investment opportunities (low market-to-book ratio) hold more cash to ensure availability of funds for investment in growth projects which may earn a negative NPV. This result suggests the agency problem is prevalent in SMEs firms, where managers try to avoid raising external funds for keeping the investment information of the company to themselves.

4.8: Discussion of Findings

Firm size, cash flow and industry sigma are significant at 1% level in the cross sectional regression analysis. The positive coefficient on cash flow-to-assets ratio supports the pecking order theory which suggests that firms finance investments first with the retained earnings and then go for debt. This result is, however, in contradiction to tradeoff model as reported by the earlier researches for firms in developed countries, i.e. Opler et al. (1999) Ozkan and Ozkan (2002) and Ferreira and Vilela (2004). The reason for this incongruity may be high cost of external debt in SMEs.

The sign on industry sigma is positive and significant which is in conformity with the Expectations and empirical research. It suggests that firms with greater cash flow volatility hold more cash in order to provide a safe cushion for smooth operations. The results support the notion that firms with higher leverage hold less cash, which is consistent with pecking order and free cash flow theories. As per the pecking order theory, when firms' investments are in excess of retained earnings, high levels of debt and little cash holdings occur simultaneously. This negative relationship is also supported by free cash flow theory but the main reason is because high leverage firms are subject to monitoring by capital markets preventing superior managerial control.

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The negative sign on net working capital is consistent with the notion that firms with higher liquid assets substitutes hold less cash which is consistent with the expected relationship between the two variables.

The level of SMEs cash holdings and its determinants has been the topic of a number of researches in the past. However, almost all of them investigated the issue for the firms in developed nations and few analyzed the cash holdings patterns of the firms in developing countries. The present study tries to fill this gap by investigating the determinants of cash holdings for 205 non-financial SMEs firms for the period 2005-2009 The descriptive statistics show that firms on average hold 13.1% cash for investment and financing purposes. Consistent with the practice in developed nations, this is generally a high level of cash holdings which may suggest the existence of managers' wish to keep the liquid assets under their control. Such phenomenon indicates the agency problems these firms may be facing.

The study models the cash-to-asset ratio as a function of firm specific factors including firm size, growth opportunities, cash flow, liquid assets substitutes, leverage, cash flow uncertainty and dividend payments The behavior of the these variables was analyzed under the framework of three theories of SMEs cash holding, i.e. Tradeoff model, pecking order theory and free cash flow theory.

The regression results indicate that all the variables in the model are significant in Defining the cash levels of SMEs firms. Consistent with the empirical research, Firm size, cash flow and cash flow uncertainty are positively associated with the cash levels of the firm These results indicate that larger firms hold more cash to follow the pecking order pattern of financing the investments and to avoid illiquidity in case of cash flow volatility. Investment opportunities, liquid assets substitutes, leverage and dividend payments are found be negatively influencing the SMEs cash holdings. This phenomenon, on one hand, indicates the existence of agency problem in SMEs firms, while on the other hand, supports the pecking order theory of cash holding. Keeping in view the dearth of researches on cash holdings and agency problems in developing countries, the present study can provide an insight into the issue with respect to SMEs firms. The future researches should explore the impact of SMEs cash holdings on firms' profitability and performance.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

From the analysis and data collected the foregoing discussions, conclusions and recommendations were made. The interpreted results were based on the objectives of the study.

5.2 Summary

The objective of the study was to analyze the relationship between the determinants of working capital management i.e. inventory, debtors, creditors, and the cash level of SMEs.

The study find that market-to-book ratio coefficient is significant at 1% level, consistent with free cash flow theory that states that managers with poor investment opportunities (low market-to-book ratio) hold more cash to ensure availability of funds for investment in growth projects which may earn a negative NPV. This result suggests the agency problem is prevalent in SMEs firms, where managers try to avoid raising external funds for keeping the investment information of the company to themselves. Firm size, cash flow and industry sigma are significant at 1% level in the cross sectional regression analysis. The positive coefficient on cash flow-to-assets ratio supports the pecking order theory which suggests that firms finance investments first with the retained earnings and then go for debt. This result is, however, in contradiction to tradeoff model as reported by the earlier researches for firms in developed countries, i.e. Opler et al. (1999) Ozkan and Ozkan (2002) and Ferreira and Vilela (2004). The reason for this incongruity may be high cost of external debt in SMEs.

The sign on industry sigma is positive and significant which is in conformity with the Expectations and empirical research. It suggests that firms with greater cash flow volatility hold more cash in order to provide a safe cushion for smooth operations. The results support the notion that firms with higher leverage hold less cash, which is consistent with pecking order and free cash flow theories. As per the pecking order theory, when firms' investments are in excess of retained earnings, high levels of debt and little cash holdings occur simultaneously. This negative relationship is also supported by free cash flow theory but the main

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reason is because high leverage firms are subject to monitoring by capital markets preventing superior managerial control.

The negative sign on net working capital is consistent with the notion that firms with higher liquid assets substitutes hold less cash which is consistent with the expected relationship between the two variables.

5.3 Conclusion

The level of SMEs cash holdings and its determinants has been the topic of a number of researches in the past. However, almost all of them investigated the issue for the firms in developed nations and few analyzed the cash holdings patterns of the firms in developing countries. The present study tries to fill this gap by investigating the determinants of cash holdings for 205 non-financial SMEs firms for the period 2005-2009 The descriptive statistics show that firms on average hold 13.1% cash for investment and financing purposes.

Consistent with the practice in developed nations, this is generally a high level of cash holdings which may suggest the existence of managers' wish to keep the liquid assets under their control. Such phenomenon indicates the agency problems these firms may be facing. The study models the cash-to-asset ratio as a function of firm specific factors including firm size, growth opportunities, cash flow, liquid assets substitutes, leverage, cash flow uncertainty and dividend payments The behavior of the these variables was analyzed under the framework of three theories of SMEs cash holding, i.e. Tradeoff model, pecking order theory and free cash flow theory.

The regression results indicate that all the variables in the model are significant in Defining the cash levels of SMEs firms. Consistent with the empirical research, Firm size, cash flow and cash flow uncertainty are positively associated with the cash levels of the firm These results indicate that larger firms hold more cash to follow the pecking order pattern of financing the investments and to avoid illiquidity in case of cash flow volatility. Investment opportunities, liquid assets substitutes, leverage and dividend payments are found be negatively influencing the SMEs cash holdings. This phenomenon, on one hand,

indicates the existence of agency problem in SMEs firms, while on the other hand, supports the pecking order theory of cash holding. Keeping in view the dearth of researches on cash holdings and agency problems in developing countries, the present study can provide an insight into the issue with respect to SMEs firms.

5.4 Limitations of the Study

Care must be taken to generalize the results of this study as there were some limitations. The use of regression analysis also means that there is an assumption of linearity with the various models which may not be the case. It is also within this period that elections were held and this may have an impact on the performance particularly that of firms. The findings may therefore be compromised. Most of the SMEs firms have not been in operations for long and this limit the period of the study. Some have just been in operation for two years while the oldest SME is ten years.

5.5 Recommendation for Further Study

The current research focused on the SMEs in Kenya. This excludes other industries, and future studies should consider returns in other industries such as returns in the insurance sector. One may also be interested to know the kind of strategies used by fund managers in cash holding mechanism that will make them experience superior performance though not very significant. It is worthy to note that the expenses incurred by manager's compromises the business.

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Appendix I

Inventory Financing of the sampled SMEs

Monthly Cash Flow Forecast

	January
Beginning Cash on Hand	Ksh 60
Operating Receipts:	
Accounts Receivable	1,200
Other Receipts	- 0 -
Operating Disbursements:	
Payroll	(850)
Taxes	(35)
Utilities	(80)
Insurance	(110)
Supplies	(60)
Services	(350)
Other	(40)
Net Operating Cash Flow	Ksh (325)
Investment Receipts:	
Investment Income	- 0 -
Sale of Marketable Securities	- 0 -
Sale of Assets	- 0 -
Investment Disbursements:	
Invest in Marketable Securities	- 0 -
Invest in Capital Assets	- 0 -
Financing Receipts:	
Proceeds from Loans	- 0 -
Proceeds from Asset Borrowings	- 0 -
Financing Disbursements:	
Repay Loans & Debt	- 0 -
Net Change in Cash	(325)
Total Available Cash	(265)
Minimum Cash Balance	40
Surplus (Deficit)	(305)
Activate Line of Credit	325
Ending Cash Balance	60

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APPENDIX II SAMPLE QUESTIONNAIRE

Instructions

Please fill the questionnaire below regarding your enterprise. Your response was treated with confidentiality and will not be used for any other purpose than for the current research.

Section A Survey Contact:

Please indicate the name of the person completing this questionnaire so I know who to contact should I have questions about this report.

Name of person completing questionnaire (optional)

....

Title/ Position

....

Telephone number

....

E- Mail

....

PLEASE GIVE DETAILS ABOUT YOUR COMPANY AS INDICATED BELOW

1. Ownership

   o   Sole proprietor

   o   Partnership

   o   Private limited Company

   o   Manufacturing

   o   General Trading

2. What is your current role in the business?

   o   Please tick where applicable Owner/ Manager

3. When did you start the business (indicate the year only)   ....

4. How many employees does your business have now?   ....

5. When the business started how many workers did u start with?   ....

6. How much his your sales turnover?   ....