A SURVEY OF THE WORKING CAPITAL MANAGEMENT PRACTICES AMONG LARGE BUILDING CONSTRUCTION FIRMS IN KENYA

BY

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A MANAGEMENT RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS OF THE DEGREE OF MASTER IN BUSINESS ADMINISTRATION, UNIVERSITY OF NAIROBI.

DECLARATION.

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

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This Project has been submitted for examination with my approval as university supervisor.

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I would like to thank all the financial executives of the various building construction firms who took time out of their busy schedule to respond to my questionnaire.

I sincerely thank my husband, Nicholas for his financial and moral support during the whole MBA programme.

Lastly but not least, I thank my son, Timothy, for his understanding and support throughout the study period.

DEDICATION

I dedicate this work to my son Timothy Mwendwa and my husband Nicholas Munywoki. They motivate me to face the challenges of each new day.

ABSTRACT

Working capital is the excess of current assets over current liabilities. It involves the financing and management of the current assets of the firms. Construction contracting firms in both building and civil engineering sub sectors require various types of efficiently managed assets in a different mix to successfully and profitably carry out their primary operation. This study carried out a survey of working capital management practices among large building construction firms in Kenya. The objective of the study was to establish the working capital management practices among large building construction firms in Kenya. This was a sample survey study .A sample survey was deemed fit because the population was large and a census survey could not have been possible in terms of finances, time and manpower.

The population of this study comprised 656 building construction firms which are categorized A – D depending on the value of work which they can undertake. The sample size comprised 37 firms selected from those registered in categories A – D in the contractors' register. The sample was arrived at through systematic sampling. The study used primary data which was obtained through the use of a questionnaire which had both open and closed ended questions. The questionnaire was administered using the drop and pick method. Data for this study was analyzed using descriptive statistics. The statistical package for social sciences (SPSS) version 17 was used to analyze the data.

The findings of this study showed that all the surveyed firms prepared a cash budget and any idle cash was invested to earn some interest. The surveyed firms stated that uncertainty of payments, delayed payments by clients and fluctuations in price levels of building materials are some of the problems encountered in cash management. Of

the surveyed firms, 82%, evaluate the credit worthiness of would be clients using the three Cs of credit, that is, capacity, character and condition. No model is used to assist in inventory management. The factors considered in determining the amount of stock to hold are: Availability of the stock, volume of operations, ordering costs, and carrying costs.

All the surveyed firms purchase some of their requirements on credit. Seventy four percent of the surveyed firms take advantage of cash discounts offered by their suppliers and 51% practice stretching accounts payable. The challenges facing the building construction industry according to some of the surveyed firms include: Delayed payments by clients, price fluctuations of the building materials, many players because there are no barriers to entry in the industry making competition to be very stiff, and lack of adequate finance to carry out the project work and hence minimize relying on interim payments from clients. These challenges need to be minimized as much as possible by having the government put in place policies to favor the industry e.g. making it mandatory to include a price fluctuation clause in the contract agreement to take care of the price fluctuations, and severe penalties for any delayed payments.

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LIST OF ABBREVIATIONS AND ACRONYMS

ANOVA- Analysis of Variance

CA - Current Assets

CDS - Certificate of deposit

FA - Fixed Assets

GDP - Gross Domestic Product

KSE - Karachi Stock Exchange

LSD - Least Significant Difference

NCA - Net Current Assets

NSE - Nairobi Stock Exchange

NWC - Net working capital

ROA - Return on Assets

ROE - Return on Equity

SMEs - Small and Medium Enterprises

TB - Treasury Bills

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CHAPTER ONE

1.0 INTRODUCTION

1.1 Background of the study

Working capital is the excess of current assets over current liabilities (Lamberson, 1992). In light of the turbulent business environment of the 21 century, it's imperative that strategists for the business realize that formulating proper working capital is not only a managerial ritual but an undertaking, that besides ensuring a firm's success and competitiveness, needs a thorough audit of both internal and external aspects of the firm that have both direct and implied relationships with a firm's working capital need (Weinraub and Sue, 1998).

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 Pakistani firms listed on Karachi stock Exchange was selected. The period of study was 6 years from 1999 – 2004. They studied the effect of different variables of working capital management including the average collection period, inventory turnover in days, average payment period, cash conversion cycle and current ratio on the net operating profitability of Pakistani firms. Debt ratio, size and the firm (measured in terms of natural logarithm of sales) and financial assets to total assets ratio were used as control variables. Pearson's correlation and regression analysis (pooled least square and general least square with cross section weight models) were used for analysis. The results showed that there is a strong relationship between variables of the working capital management and profitability of the firm, there is a positive relationship between size of the firm and its profitability and there

is a significant negative relationship between debt used by the firm and its profitability.

Filbeck and Krueger (2005) highlighted the importance of efficient working capital management by analyzing the working capital management policies of 32 non-financial industries in the US. According to their findings, significant differences exist among industries, in working capital practices overtime. Moreover, these working capital practices, themselves, change significantly within industries overtime.

William Muffee Visemith (2001) did a study on determining the optimum level of working capital in the Cameroon business environment. The objective was to determine the optimum size of working capital. Data was collected and analyzed from CDC because CDC is a very large corporation and working capital problems are likely. The study found out that CDC has acute working capital problems resulting in losses. These problems stem from poor working capital management approaches employed over the years. Every organization must seek a point of balance in its working capital in order to avoid a loss-making situation.

Mogere (2003) studied working capital management among thirty pubic companies listed at the Nairobi Stock Exchange as at 31st December 2002. The objectives of the study were to determine the effects on the profitability of companies, to investigate whether there is any significant relationship between working capital management policy and the profitability of a company as measured by the return on equity and to establish if public companies in different sectors in Kenya follow different working capital management policies. Simple regression analysis was done to establish the relationship between working capital policy and the return on equity. The results of the analysis showed that the commonly practiced working capital management policy

among the public companies in Kenya is the aggressive approach policy and that there were no significant differences between the working capital management policies across the five sectors. Also there were no significant differences in return on equity among companies that practice different working capital management policies. The regression analysis also showed that the working capital management policy explained only fifty three percent of the variation in return on equity.

Ngaba (1990) did a research on working capital management practices in Kenyan secondary schools using a case study of secondary schools of kikuyu division, Kiambu district. The population of study comprised the 21 secondary schools of kikuyu division then. A questionnaire was used to collect data. The findings were that there was preparation of cash budgets. That the major source of cash was fees and cash collections were banked daily. In receivables management, to remind students of overdue debts, letters were send to the parents and that the school head was responsible for the management of working capital. The study concluded that there seems to be lack of professionalism in some areas of management of school finances. This calls for qualified personnel to be employed in the management of school finances considering the huge expenditure involved in education.

1.1.1 Working capital management policies

Working capital management involves the financing and management of the current assets of the firms. The financial executive probably devotes more time to working capital management than to any other activity. Current assets, by their very nature are changing daily, if not hourly and management decisions must be made. "How much inventory is to be carried and how do we get the funds to pay for it? Unlike long term decisions, there can be no deferral of action. While long term decisions, involving

plant and equipment or market strategy, may well determine the eventual success of the firm, short term decision on working capital determine whether the firm gets to the long term. (McLaney, 2009)

Working capital policy refers to the firm's policies regarding target levels of each category of current operating assets and liabilities and how current assets will be financed.

There are three policies or approaches according to Brigham and Houson (2007). These are maturity matching or self liquidating approach, conservative approach, and aggressive approach.

Maturity matching or self liquidity approach is where risk is hedged by matching maturities of assets and liabilities. Permanent current assets are financed with long term financing, while temporary current assets are financed with short term financing. Two factors prevent this exact matching; there is uncertainty about the lives of assets and some common equity must be used. Common equity has no maturity.

Conservative approach uses long term funds to finance both permanent as well as some temporary short term assets. When there are excess funds, they are invested in marketable securities.

Aggressive approach uses less long term and more short term financing than the conservative approach. The firm finances all its permanent current assets with short term, non spontaneous credit.

Working capital policy is affected by the firms operating cycle. The longer the operating cycle, the greater will be the firm's investment in current assets. Also the less synchronization of receipts and disbursements the greater will be the need for working capital. (Mayo, 2007)

1.1.2 Review of the construction industry

Construction industry is one of the most booming industries in the whole world. This industry is mainly an urban based one which is concerned with preparation as well as construction of real estate properties. Construction industry is a booming industry and remains so with the continuation of the development process especially in the developing countries. With the process of development, the migration of people takes place from the rural to urban areas. (http://www.economywatch.com)

Construction contracting firms in both building and civil engineering sub sectors require various types of efficiently managed assets in a different mix to successfully and profitably carry out their primary operation. In a complex and highly competitive industry as the construction industry, with ever changing operating environment, the asset portfolio of any contracting firm determines how far they can go, what they can handle and what share of the market they can get (Kehinde and Mosaku, 2006). The construction industry is vital in the development and maintenance of physical infrastructure of any economy. It provides the infrastructure that supports other sectors of the economy.

In developing countries the construction industry may account for anywhere between 1.8 – 11% of the GDP (Lopes, 1998) depending on the performance of economy. In Kenya, the construction industry contributes about 4.0% of the GDP (economy survey, 2006) and provides direct employment to 78,200 people. According to Jim Mcfie (2010) Kenya's real GDP grew at 2.6% in 2009 after a revised 1.6% in 2008. The increase was achieved mainly as a result of a growth in tourism and in building and construction. Building construction is usually involved in nature of works which mostly have contracts.

1.2 Statement of the problem

Lopes (1998) observed that according to the UN system of national accounts convention, construction is the only sector of the economy that appears twice in the national accounts statistics: first as one of the sectors that compounds GDP by industry origin; and secondly as a component of a country's gross capital formation. The mismanagement of working capital may be disastrous. Failure to meet current obligations is often a source of business failure (Mayo, 2007). Locally, in January 2007, one of the largest construction firms operating in Kenya and Uganda, Mugoya Construction and Civil Engineering was placed under receivership by their creditors (Sunday Nation July 29,2007). This shows that the building sector is not immune to working capital problems.

Locally, prior study on working capital management practices mainly focused on different sectors. Loo (2007) did a survey of liquidity management approaches and their effect on profitability of commercial banks in Kenya. Mogere (2003) carried out a research on working capital management policies among thirty public companies listed at the NSE as at 31st December 2002.Ngaba (1990) did a research on working capital management practices in Kenyan secondary schools. No study has been done on working capital management practices among building construction firms in Kenya. It is in this respect that this research will seek to fill the gap by studying the working capital management practices among building construction firms in Kenya. The question that this study sought to answer was: What are the working capital management practices among building construction firms in Kenya?

1.3 Objective of the study

To establish the working capital management practices in the building construction firms in Kenya.

1.4 Significance of the study

The findings of this study will be of interest to:

The scholars and academicians

Scholars and academicians who may wish to use the findings of this study as a basis for further research on this subject.

The management

The management of building construction firms in Kenya will be able to know the best practice as far as working capital management is concerned and implement it.

CHAPTER TWO

2.0 LITERATURE REVIEW

This chapter reviews the literature that has been done in the field of working capital management both locally and internationally.

The concept of working capital management originated with the old Yankee Peddler, who would borrow to buy inventory, sell the inventory to pay off the bank loan and then repeat the cycle (Eugene and Phillip 2004) working capital is found by subtracting current liabilities from current assets. Technically the difference between current assets and current liabilities in a firm is net working capital (NWC) or net current assets (NCA) assuming current assets exceed current liabilities. However, in practice, the difference between current assets and current liabilities is often simply referred to as working capital. Working capital can also be defined as the investment which a business needs to make in its day-to-day operations. It is the level of investment necessary to carry adequate stocks, allow trade credit to debtors and pay creditors (without difficulty) McMenamin, 1999).

Characteristics of the building construction firms

Construction is intensely competitive especially in the building sector, where there are n major economic and technological barriers to entry (Chiang et al, 2001; Chiang and Tang, 2002), where there is not much value added by contractors (Ball et al, 2000) and where contractors have relied on developers' interim payments for much of the construction finance.

Building construction firms have a unique product market environment; they operate on contracts, on projects which have durations, operate on cyclical and volatile environment and have non-standard products. Property assets are known to be indivisible and highly localized in nature. This provides an illiquid market for their products.

2.1 The components of working capital

According to Mcmenamin (1999) the components of working capital include;

Stocks: These consist of the stocks of raw materials, work in progress and finished goods together with stocks of consumables and spare parts. Non-manufacturing concerns will not carry raw materials and work in progress stocks.

Debtors: Debtors represent the money owned at any point in time to the firm in respect of goods and services which it has supplied on credit to its customers. Debtors will also include any prepayments in respect of goods or services (e.g. prepayments of rents and insurance)

Investments: These will include short-term, easily liquidated investments such as marketable securities. Marketable securities are financial assets on which a company can earn a rate of return by investing temporarily surplus cash and which are readily and quickly convertible back into cash with minimal risk of loss to their value, for example treasury bills (TBs) and certificate of deposits (CDS).

Cash: This includes cash in hand, cash held in current bank account, and cash held in demand deposits accounts with banks and other financial institutions. Cash plus marketable securities collectively represent a firm's liquid assets. The management of cash involves ensuring prompt receipt of cash from customers and timely payment to creditors for goods and services supplied. Temporary cash surpluses will be invested

in short term interest- earning securities. Temporary cash deficits will be covered by short-term borrowings such as a bank overdraft.

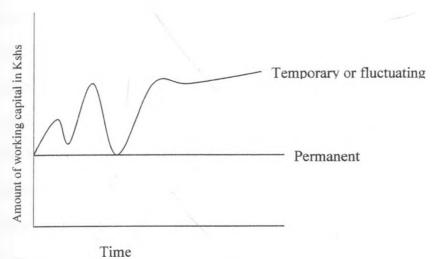
Current Liabilities: These represent the amounts usually owed at any point in time by the firm and technically due to be paid within one year of the balance sheet date. They include amounts due to trade creditors for goods and services supplied, interest and principal due on any short-term borrowings and payments due in respect of taxes, dividends etc.

2.2 Permanent and variable working capital

The operating cycle is a continuous process and therefore the need for current assets needed is felt constantly. But the magnitude of current assets needed is not always the same, it increases and decreases over time. However, there is always a minimum level of current assets which is continuously required by the firm to carry on its business operations. This minimum level of current assets is referred to as permanent, or fixed, working capital. It is permanent in the same way as the firms fixed assets are. Depending upon the changes in production and sales, the need for working capital, over and above permanent working capital, will fluctuate. For example, extra inventory of finished goods will have to be maintained to support the peak periods of sale and investment in receivable may also increase during such periods. On the other hand, investment in raw materials, work in process and finished goods will fall if the market is slack (Pandey 2008).

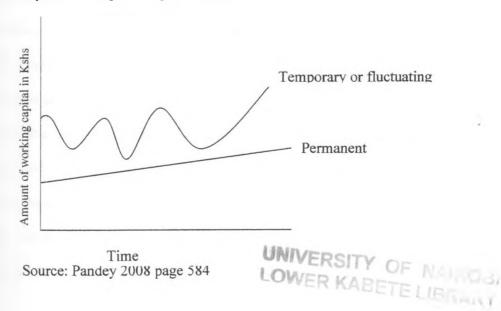
The extra working capital, needed to support the changing production and sales activities is called fluctuating or variable or temporary working capital. Both kinds of working capital-permanent and temporary are necessary to facilitate production and

sale through the operating cycle, but temporary working capital is created by the firm to meet liquidity requirements that will last only temporarily. The figure below illustrates the differences between permanent and temporary working capital.



Source: Pandey 2008 page 583.

The figure shows that permanent working capital is stable over time, while temporary working capital is fluctuating – sometimes increasing and sometimes decreasing. However, the permanent working capital is increasing (or decreasing) over a period. For a growing firm, the difference between permanent and temporary working capital can be depicted through the figure below.



The key task for the finance manager is to determine the level of working capital which balances risk and return and maximizes shareholders wealth.

Working Capital Management Policies

According to Brigham and Houston (2004), working capital policy refers to the firm's policies regarding target levels of each category of current assets and how current assets will be financed while working capital management involves both setting working capital policy and carrying out that policy in day-to-day operations

Mc Menamin (1999) classifies working capital management policies into three. These include the conservative policy, the aggressive policy and the moderate policy.

Conservative policy: In this policy stock and cash levels are generally kept high to avoid stock out and cash out (illiquidity) costs. There is also likely to be a sizeable investment in short-term bank deposits and other short-term liquid investment. In operating a conservative policy, short-term funding may only be called upon as a fall-back or emergency source of funding. Any short-term surpluses would be invested in easily liquidated short-term investments.

At its most extreme the conservative working policy assumes somewhat unrealistically, the absence of any spontaneous funding from current liabilities such as trade creditors. It gives lower than moderate returns for a company and lower than moderate risk of liquidity or insolvency.

Aggressive policy: An aggressive policy relies on minimum investment in current assets and is highly dependent on access to short-term financing. With an aggressive policy, total investment in current assets is kept to a minimum. The current assets to sales ratios are much lower and current assets turnover rates much higher in comparison to a conservative policy.

This policy uses long-term finance to fund investment in permanent fixed assets and also a substantial part of its permanent current assets. Short-term financing is used to fund temporary current asset needs and also part of the permanent current assets requirement. Compared with conservative and moderate policies, an aggressive policy achieves higher returns and also carries a higher risk due to its higher dependency on short-term finance.

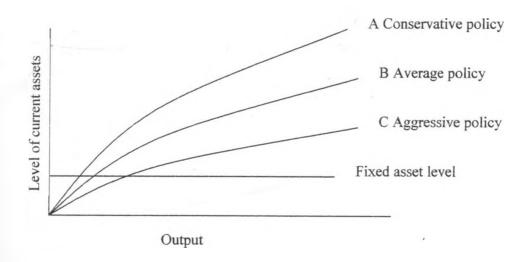
Moderate policy: This policy falls mid way between the aggressive and conservative policies. Long-term funds are used to finance the investment in fixed assets and the permanent component of current assets investment. Temporary or seasonal current assets are financed by short-term sources of finance. This policy is less risky than the aggressive but more risky than the conservative policy. Returns are correspondingly higher than under a conservative policy but lower than under an aggressive policy.

2.3 Current Assets to fixed Assets Ratio

The financial manager should determine the optimum level of current assets so that the wealth of shareholders is maximized. A firm needs fixed and current assets to support a particular level of output. However, to support the same level of output, the firm can have different levels of current assets. As the firms output and sales increases the need for current assets increases.

Generally current assets may increase at a decreasing rate with output. This relationship is based upon the notion that it takes a greater proportional investment in current assets when only a few units of output are produced than it does later on when the firm can use its current assets more efficiently. (Pandey, 2008).

The level of the current assets can be measured by relating current assets to fixed assets. Dividing current assets (CA) by fixed assets (FA) gives the CA/FA ratio. Assuming a constant level of fixed assets a higher CA/FA Ratio indicates a conservative current assets policy and a lower CA/FA ratio means an aggressive current assets policy assuming other factors to be constant. A conservative policy (i.e. higher CA/FA ratio) implies greater liquidity and lower risk, while an aggressive policy (i.e. lower CA/FA ratio) indicates higher risk and poor liquidity. The current assets policy of most firms may fall between these two policies and is referred to as average policy. (Pandey, 2008). The alternative current assets policies may be shown as below.



Source: Pandey, 2008 pg 587

In the figure above, the most conservative policy is indicated by alternative A, where CA/FA ratio is greatest at every level of output. Alternative C is the most aggressive policy, as CA/FA ratio is lowest at all levels of output. Alternative B lies between the conservative and aggressive policies and is an average policy.

2.4 Cash Budget

The cash budget is a projection or forecast of future cash receipts and cash disbursement over some time interval. It provides the financial executive with an overview of probable patterns of cash flows in the future. Collection and disbursement procedures can then be reviewed to determine whether they are maximizing the firm's net cash flows. The cash budget enables the financial executive to determine whether and when additional financing will be required and provides lead time for taking the actions necessary to provide for future financing. The cash budget also supplies information on whether and when the firm may have positive cash inflows available for a number of alternatives uses. (Weston and Copeland 1992).

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 collections and at the end of the day, sweep excess balances into money market accounts. Cash managers focus on finding the optimal cash short-term investment mix (Van Horne and Wachowicz, 2008). 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 and Miller-Orr models of cash management.

2.4.2 Baumol model

A Baumol model of cash management provides a formal approach for determining a firm's optimum cash balance under certainty. It considers cash management similar to an inventory management problem. As such firms attempt to minimize the cost of

holding cash and the cost of converting marketable securities to cash. This model makes the following assumptions; 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.

The firm incurs a 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 average cash balance is as follows.

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

Trading cost =
$$C(T/C)$$

Holding cost = K(C/2)

The total annual cost of demand for cash will be

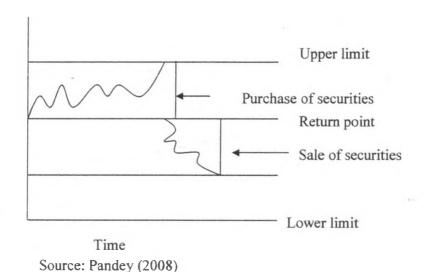
Total cost =
$$K(C/2) + C(T/C)$$

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

$$C^* = \sqrt{\frac{2CT}{K}}$$

2.4.3 The Miller-Orr Model

A limitation of the 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 for daily cash flow variations. It assumes that net cash flows are normally distributed with a zero value of mean and standard deviation. The model provides for two control limits- the 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 marketable securities to come back to a normal level of cash balance. Similarly when the firm's cash flows go below the lower limit, it sells sufficient marketable securities to bring the cash balance back to the marketable securities level as shown in the diagram below



Determining the distance between upper and lower control limits (called Z) is as follows; 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 (s) of net cash flows. The formula for determining the distance between upper and lower control limits (called Z) is as follows:

Upper limit = Lower limit + 3z

Return point = Lower $\lim_{z \to z} z = 1$

The net effect is that the firms hold the average cash balance equal to:

Average Cash balance = Lower limit + 4/3 Z

2.5 Empirical evidence

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 define significant factors related to working capital management which have influence on the cash level of SMEs and test these in large sample of Swedish manufacturing SMEs. The theoretical framework of the study consisted of a treatise of motives of holding cash working capital management and cash level. He studied 13,287 Swedish manufacturing SMEs of legal form 'Aktienbolag". The results were that cash holdings are negatively related to the presence of cash substitutes, namely inventory and accounts receivable. Also it confirmed that working capital management efficiency measured by the cash conversion cycle is positively related to cash levels.

Afza and Nazir (2007) investigated the relationship between the aggressive and conservative working capital policies of 17 industrial groups and a large sample of 263 public limited companies listed on the Karachi stock Exchange (KSE) using cross-sectional data for the period 1998-2003 using Analysis of Variance (ANOVA)

and leas significant difference (LSD) test. The study found significant differences among the working capital investment and financing policies across different industries. Also, rank order correlation confirmed that those significant differences were remarkably stable over the six-year study period. The ordinary least regression analysis found a negative relationship between the profitability measures of firms and the degree of aggressiveness of working capital investment and financing policies.

De Loof (2003) analyzed a sample of large Belgian firms for the period 1992 – 1996. He used correlation and regression test and found a significant negative relationship between gross operating income and the number of days accounts receivable, inventories and accounts payable of Belgian firms. The results showed the Belgian firms can improve their profitability by reducing the number of days accounts receivable are outstanding and reducing inventories.

Weinraub and Visscher (1998) did a study titled impact of aggressive working capital management policy on firm's profitability. They used quarterly data for the period 1984 –1993 of the US firms. Their study considered 10 diverse industry groups to examine the relative relationship between their aggressive/conservative working capital policies. The conclusion was that the industries had distinctive and significantly different working capital management policies. Moreover, the relative nature of thee working capital management policies exhibited remarkable stability over the 10-year study period. The study also showed a high and significant negative correlation between industry assets and liability policies and found that when relatively aggressive working capital asset policies are followed, they are balanced by relatively conservative working capital financial policies.

Loo (2007) did a survey of liquidity management approaches and their effect on profitability of commercial banks in Kenya. The objective of the study was to identify liquidity management strategies employed by such banks and to study the relationship between banks liquidity management and profitability. He found out that commercial banks in their lending activities extend credit only for short period and for purposes which resulted in self liquidation of credit. Banks with relatively tight liquidity were more profitable.

Kiprono (2004) studied the relationship between cash flows and earnings performance measures for companies listed in the Nairobi Stock Exchange (NSE). His objective 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 firms. To achieve this, regression analysis was employed on thirty companies listed at the NSE. The companies were picked randomly and were analyzed for the five year period between 1998 and 2003. He concluded that there is a positive or direct association between cash flows from operating activities and all the return performance indicators. The results also showed that there is a negative or indirect association between cash flow from financing 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 flows and earning performance indicators.

Conclusions of Literature Review

The literature reviewed has shown that every organization must seek a point of balance in its working capital in order to avoid a loss-making situation. Profitability can be improved by reducing the number of days accounts receivable are outstanding and reducing inventories. When relatively aggressive working capital asset policies are followed, they are balanced by relatively conservative working capital financial policies.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1. Introduction

This chapter outlines the methodology which was used in carrying out the study. Aspects covered include research design, population and sampling design, data collection methods, data analysis methods and testing of data validity and reliability. The study adopted a descriptive survey of building construction firms in Kenya. This study was concerned with the working capital management practices among building construction firms.

3.2 Research Design

This study was a sample survey study. This was because the population was large and a census survey was not possible in terms of finances, time and manpower.

3.3 Population

The population of this study comprised 656 building construction firms which were categorized A – D depending on the value of work which they can undertake as shown in appendix 1. The population was derived from the register of contractors 2009 (Ministry of Public Work, 2009).

3.4 Sample

The sample size comprised 37 firms selected from those registered in categories A – D. The sample was arrived at through systematic sampling. In this method from the target population, a starting point is chosen at random and thereafter at regular intervals. The method spreads the sample more evenly over the population and is

easier to conduct (Mugenda and Mugenda, 2003). The firms in each category are arranged alphabetically in the register for contractors. Every tenth firm was selected for the sample. This sample comprised of 37 firms from class A – D. These firms are all situated in Nairobi and its neighborhood i.e. Kiambu, Thika and Ruiru. The reason for this selection was that the building construction companies in Nairobi and its neighborhood were deemed to represent all categories in the sector and thus a study of building construction firms in Nairobi and its neighborhood would give findings that represent the whole country. The choice of Nairobi and its neighborhood was also based on the fact that it is more convenient in terms of accessibility in data collection and the cost of traveling involved.

3.5 Data collection

The study used primary data which was obtained through the use of a questionnaire which had both open and closed ended questions. It was divided into five sections to cover the areas of working capital adequately. (a sample of the questionnaire is attached as appendix 3). The respondents comprised executive/managing directors or chief financial officers of these firms. The questionnaire was administered using the drop and pick method. In order to enhance the level of response, several follow up visits were made to the firm so as to remind the respondents and make them appreciate the seriousness of the research.

3.6 Data Analysis

Data for this study was analyzed using descriptive statistics, such as frequencies and percentages with the application of the statistical package for social sciences (SPSS) version 17, software. The data collected was analyzed to fit into the sections of cash management practices, inventory management practices, receivables management

practices and creditors' management practices. Descriptive statistics was used to describe the basic features of the data in the study and provide simple summaries about the sample. The data was presented in tables, pie charts and bar graphs. Inferences were drawn from the results.

3.7 Data Reliability and Validity

Piloting was carried out to test the reliability and validity of the questionnaire. Validity indicates the degree to which the instrument measures the constructs under investigation (Mugenda and Mugenda, 2003). There were three types of validity test which include; content, criterion and related construct validity. This study used content validity to measure the degree to which the sample of the items represents the content that the test is designed to measure. An expert opinion was sought to verify the validity of the content.

A pilot study was conducted by the researcher by administering the questionnaire to the financial executives of five firms .From this pilot study the researcher was able to detect questions that needed editing and those that were ambiguous. A final questionnaire was then printed and used to collect data which was used for analysis. This questionnaire is attached as appendix 3.

CHAPTER FOUR

4.0 DATA ANALYSIS, RESULTS AND DISCUSSONS

4.1 Introduction

This chapter gives a detailed analysis of the data collected and presents the findings.

The data has been analyzed and presented in form of frequency tables, percentages,

and pie charts.

The data was obtained from the questionnaires administered to the financial executives of the surveyed firms. Thirty seven questionnaires were distributed. Out of these, thirty five responded and returned their questionnaires. This constituted 94.5% response rate and a non-response rate of 5.5%.

4.2 General Information

The study requested the respondents to indicate the name of their firm. From the findings it was found that only two firms did not respond to the questionnaire.

4.3 Category of the firm

This section was devoted in finding out the category of the firms according to the classification by the Ministry of Public Works involved in the survey.

Table 1: Category of the firm

Category	Frequency	Percent	
Class A	11	31.4	
Class B	4	11.4	
Class C	10	28.6	
Class D	10	28.6	
Total	35	100	

Source: The Research Questionnaire

Table 1 shows that 31.4% of the firms which responded were in category A, 11.4% were in category B and category C and D was 28.6% each. This implies that the data for the study was collected from all the categories comprising the target population.

4.4 Type of business organization

There are different forms of businesses. Business people select the form that is most suitable to them. They consider the advantages and disadvantages of each form of business. Generally, there are three types of business organizations: sole proprietorship, partnership and limited liability companies.

Table 2: Type of business Organization

	Frequency	Percent
Limited company	26	74.3
Partnership	9	25.7
Total	35	100

Source: The Research Questionnaire

The respondents were requested to indicate the type of business organization they were operating. From the findings, 74.3% of the respondents indicated that their firm was a limited company while 25.7% operated as partnership construction businesses as shown in table 2. This implies that most of the construction organizations are limited companies. This may be attributed to the advantages of operating a limited company, the most outstanding being the legal entity and limited liability. None of the respondents operated as a sole proprietorship. This may be due to the disadvantages attributed to sole proprietorship, the most outstanding being limited capital . When the contractors are being registered, financial capacity is one of the considerations made.

4.5 Cash Management

4.5.1 Petty cash and cash at bank

Figure 1: Petty cash and cash at bank

94%

Whether the firm had written statement on petty cash

Source: The Research Questionnaire

The respondents were requested to indicate whether their firms had any written statement of deciding the amount of cash to hold (both petty cash and cash at bank). From the findings in figure 1, 94% of the respondents indicated that they had a statement of deciding the amount of cash to hold while 6.0% of the respondents indicated that they did not have a statement. This indicates that majority of the large construction firms have a written statement to be used as a guide when deciding the amount of cash to hold (both petty cash and cash at bank) at any one particular time. These findings show that cash is managed well by majority of the large building construction firms.

4.5.2 Reasons for not having a written statement

The study sought to know why there was no written statement on the amount of cash to hold by the 6% of the respondents. From the findings, respondents indicated that cash requirement as at a given time determined the amount of cash to hold. Others

indicated that due to the nature of construction work, it is not easy to limit the cash holding, because building projects are unpredictable.

4.5.3 Salient features of the written statement

Table: 3 Salient features of the written statement.

Frequency	Percent
21	60
14	40
35	100
	21

Source: The Research Questionnaire

The study sought to know briefly the salient features of the written statement .From the findings, 60% hold more than kshs 1 million at bank and petty cash of more than kshs 50,000 less than kshs 100,000.40% hold less than kshs 1 million at bank and less than 50,000, as petty cash.

4.5.4 Idle funds

Figure 2 : Percentage of idle funds

32%

EYes
No

whether the firm has idle fund

Source: The Research Questionnaire

The study sought to know whether the firm had any idle funds at any one time. From the findings, 68 % of the respondents indicated that they did not have idle funds while 32% of the respondents indicated that they had idle funds.

4.5.5 Investing idle funds

Table 4: Investing of idle funds

Use of idle funds	Yes	No	%	of
			Yes	
put the money in a savings a/c	7	4	63.6	
put the money in the money market	8	3	72.7	
put the money in a fixed deposit a/c	6	5	54.5	

Source: The Research Questionnaire

The respondents were requested to indicate how they invested their idle funds. From the findings, as shown in table 3, majority 72.7% of the respondents indicated that they put the idle funds in the money market, 63.6% of the respondents indicated that they put the idle funds in a savings account, while 54.5% put the idle funds in a fixed deposit account. This implies that, for those firms that have idle cash, they deposit in the bank or invest it in the money market to earn some interest in the future.

4.5.6The Cash Budget

The respondents were requested to indicate whether the firm prepares a cash budget .From the findings, all the respondents i.e. 100% of the respondents, indicated that their firms, do prepare a cash budget and that the project managers or accountants or directors are responsible for preparing the cash budget.

Table 5: Time span for cash budget

	Frequency	Percent
Three	15	43.0
Six months	7	20.0
One year	7	20.0
Over one year	6	17.0
Total	35	100

Source: The Research Questionnaire

The respondents were requested to indicate the time span for the cash budget drawn by the firms. From the findings, 43.0% of the respondents indicated that their firms draws a cash budget to cover three months, 20% of the respondents indicated that they draw a cash budget to cover a period of six months, another 20% of the respondents draw a cash budget to cover a period of one year, while 17.0% of the respondents indicated that they draw a cash budget to cover more than one year.

4.5.7 Problems encountered in managing cash

The study requested the respondents to state the problems they might be encountering while managing the cash in their firms. From the findings, the following were the problems encountered in cash management; purchasing in bulk, purchasing an insurance policy for new works, uncertainty of payments, delayed payments by clients and fluctuations in price levels of building materials.

4.5.8 Short-term loans from the banks

The study sought to know whether the surveyed firms were getting funds through short-term loans from the banks. From the findings, all the respondents indicated that their firms were getting overdrafts from the banks.

4.6 Receivables management and credit management

Table 6: Percentage of revenue not received

	Frequency	Percent
0-10	15	42.9
11-20	20	57.1
Total	35	100

Source: The Research Questionnaire

Table 5 shows that 14.3% of the firms surveyed had between 0-10% outstanding revenue,22.9% had between 11-20% outstanding revenue,34.2% had between 21-30%,outstanding revenue while 28.6% had between 31-40% outstanding revenue..

Figure 3: Evaluation of the credit worthiness of would be clients

18%

2 Yes
2 No

any attempts made to evaluate the credit worthiness

The study sought to know whether there were any attempts made to evaluate the credit worthiness of would be clients. From the findings, 82.0% indicated that their firms do evaluate the credit worthiness of would be clients using the three c's of credit. The three Cs of credit include; capacity, character and condition (Pandey,2008). 18.0% of the respondents indicated that there was no attempt to evaluate the credit worthiness of would be clients. This shows that majority of the building construction firms do practice credit management.

4.6.1 Client's payments expected time

Table 7: Expected time for clients to pay up

	Frequency	percent
On receipt of invoice	7	20
On presentation o payment certificate	28	80
Total	35	100

Source: The Research Questionnaire

The study sought to know the expected time for the clients to pay up. From the findings it was found that 20% of clients are expected to pay up immediately they receive the invoice or the claim. While 80% are expected to pay on presentation of payment certificate which occurs one month after valuation of work done.

Table 8: Collection policy

Days past due date	Frequency	Percent
0-10days	20	57.1
11-20days	10	28.6
21-30days	5	14.3
Total	35	100.0

Source: The Research Questionnaire

The respondents were requested to indicate at what point in time, after a client's bill is past due when the client will be reminded of the amount due. From the findings,57.1 % of the respondents indicated that the reminder would be done after 0-10 days, while 28.6% after 11-20 days and 14.3% after 21-30 days.

Table 9: Methods used to remind the clients of past-due accounts

	Yes	No	% of Yes
letter to client	22	13	62.9
phone call to client	10	25	28.6
Physical visits	5	30	14.3

Source: The Research Questionnaire

The study sought to find the ways in which clients were reminded of the amount past due date. From the findings, 62.9% were reminded using letters which include e-mails, 28.6% were reminded using phone calls while 14.3% were reminded by physical visits to the clients office.

4.6.2Action taken when the first reminder it not heeded

The respondents were requested to offer information on the action the firms takes on clients when the first reminder in not heeded. From their response, it was found that, if the first reminder was not heeded, another reminder may be done, the contractor may slow the work, or the contractor may give notice of claiming interest on delayed payments.

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4.6.3 Problems encountered in collection of overdue debts from clients

The following problems were encountered in the collection of overdue debts from clients according to the respondents; bureaucracy followed in government financial regulations, delays in payment by the government from the exchequer at the end of the financial year and for payment of interest due, approval has to be given by the consultants, causing further delays in payments which are past-due date.

4.7 Inventory Management

The twin goals of inventory management are; to ensure that the inventories needed to sustain operations are available and to hold the costs of ordering and carrying inventories to the lowest possible level (Brigham and Houston, 2004).

Table 10: Written statement as to the stock amount to be held

	Frequency	Percent
Yes	6	17.1
No	29	82.9
Total	35	100.0

Source: The Research Questionnaire

The study sought to find out whether there was any written statement as to the amount of stock which should be held at any one particular time. From the findings, 82.9% of the respondents indicated that there was no written statement as to the amount of stock to be held in the stores while 17.1% of the respondents indicated that there was a written statement in place.

4.7.1 Responsibility for deciding the amount of inventory to hold

The 17.1% respondents, who have a policy on the amount of stock to hold, said that the responsibility to decide how much stock to hold lay with the project managers or site managers or the directors depending on the individual firms.

4.7.2 Factors considered in determining the level of inventory to hold

The following are some of the factors considered in determining the level of inventory to hold according to the respondents; availability of the inventory, volume of operations, ordering costs and carrying costs.

4.7.3Use of inventory control models

From the findings, none of the surveyed firms used an inventory control model.

4.8 Creditors' Management

Trade credit is a spontaneous source of funding which is interest free.

4.8.1 Credit purchases

Table 11: Items purchased on credit

Percentage of credit purchases	Frequency	percent
0-20	1	2.9
21-40	4	11.4
41-60	30	85.7
Total	35	100

Source: The Research Questionnaire



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Percentage of credit purchases	Frequency	percent
0-20	1	2.9
21-40	4	11.4
41-60	30	85.7
Total	35	100

Source: The Research Questionnaire



All the respondents i.e. 100% do purchase some of their requirements on credit. As shown in table 10, 85.7% of the firms purchase between 41-60 percent of their requirements on credit, 11.4% of the firms purchase between 21-40 percent of their requirements on credit while 2.9% of the firms purchase between 0-20 percent of their requirements on credit.

4.8.2 Cash discounts

Table 12: Cash discounts offered by suppliers

	Frequency	Percent
Yes	26	74.3
No	9	25.7
Total	35	100.0

Source: The Research Questionnaire

The study sought to find out whether the firms surveyed took advantage of the cash discounts offered by the suppliers. Table 11 gives the findings which are, 74.3% of the respondents do take advantage of the cash discounts, while 25.7% of the respondents do not take advantage of the cash discounts offered.

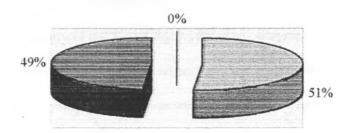
4.8.3 Factors considered when deciding to take advantage of the cash discounts or not

The study sought to find out the considerations that are taken into account while taking the cash discounts offered by the creditors. From the findings it was found that the following factors were taken into account; availability of materials and the amount of cash outflow required.

4.8.4 Stretching accounts payable

Figure 4.stretching accounts payable

Stretching accounts payable



■ yes

Source: The Research Questionnaire

The study sought to know whether the firm practiced stretching accounts payable that is paying bills as late as possible without damaging its credit rating. From the findings it was found that 51% of the respondents practiced stretching accounts payable while 49% of the respondents did not practice stretching accounts payable.

4.8.5 How stretching accounts payable is done

The study sought to know how stretching accounts payable was done in the respective firms. From the findings, stretching accounts payable was done by delaying payments for materials and labor. These expenses are accrued and they are paid on the last day of the credit period.

Those who do not practice stretching accounts payable cited protecting their reputation and winning better credit terms as their main reasons.

4.8.6 Other comments

The respondents were requested to give their comment(s) on anything affecting the building construction industry. The following were the comments; the construction industry is very challenging because planning about the future is made difficult because this work is on contract basis unlike the manufacturing industry where volumes to be produced are forecasted with near certainty. Competition in the building construction industry is cut throat due to the many players. Contractors rely on interim payments from their clients, so when the clients delay the payment, the contractor may be forced to stop work till finances are available. When the clients fail to honor the payments, the contractors are forced to stall the project. Price fluctuations of the building materials have to be taken into consideration because the price which was quoted at the start of the project is likely to change as the project progresses.

CHAPTER FIVE

5.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter provides a summary of the findings, conclusions and recommendations into the working capital management practices among large construction firms in Kenya.

5.2 Summary and Conclusions

The objective of the study was to establish the working capital management practices among large building construction firms in Kenya. Findings indicate that most of the surveyed firms were limited liability companies. The surveyed firms were in categories A-D.

The findings also indicate that majority of the surveyed firms had a written statement of deciding the amount of cash to hold (both petty cash and cash at bank). Those who did not have a written statement said that the cash requirement as at a given time determined the amount of cash to hold and that since building projects are unpredictable it makes determination of the amount of cash to hold difficult.

Majority of the surveyed firms do not have idle funds and the minority who have, they invest it in a savings account, a fixed deposit account or put it in the money market. All the respondents do prepare a cash budget. Majority of them prepare the cash budget to cover a period of three months. The problems encountered in managing cash in the surveyed firms include; uncertainty of payments, delayed payments by

clients, fluctuations in price levels of building materials, requirement to purchase an insurance policy for new works and purchasing in bulk when the materials are not readily available. All the surveyed firms indicated that their firms do get bank overdrafts from their banks.

On evaluation of the credit worthiness of would clients, the findings show that majority of the respondents do evaluate their would be clients using the three c's of credit, that is, capacity, character and condition. According to majority of the respondents, their clients are expected to pay on presentation of a payment certificate which occurs one month after valuation of work done. There are three methods used to remind clients of over-due accounts. These are; a letter to the client, a phone call to the client or a physical visit the client's office. When the first reminder is not heeded, the following would be the next course of action according to the respondents; another reminder may be done, the contractor may slow the work or the contractor may give notice of claiming interest on delayed payments. Bureaucracy followed in government financial regulations, delays in payments by government from the exchequer at the end of the financial year and approval of interest due on payments by consultants were cited as some of the problems encountered in collecting overdue debts from clients.

According to the majority of the respondents, there is no written statement as to the amount of stock to be held at any one particular time. The guiding factors as to how much stock is to be held include; availability of the stock, volume of operations, ordering costs and carrying costs. None of the surveyed firms used an inventory control model.

All the surveyed firms purchased some of their requirements on credit. According to the findings, majority of the respondents do take advantage of cash discounts offered by their suppliers. Availability of materials and the amount of cash outflow required are some of the factors considered in determining whether to take advantage of a cash discount or not.

Stretching of accounts payable is practiced by majority of the surveyed firms. This is done by delaying payments for accrued costs and expenses like materials and labor to the final payment date. Those who do not practice stretching accounts payable cited protecting their reputation and winning better credit terms as their main reasons.

The challenges facing the building construction industry according to some of the surveyed firms include; delayed payments by clients, price fluctuations of the building materials, many players because there are no barriers to entry in the industry, making competition to be very stiff and lack of finance to carry out the project work to minimize relying on interim payments from clients.

The financial executive probably devotes more time to working capital management than to any other activity. Current assets, by their very nature are changing daily, if not hourly and management decisions must be made."How much inventory is to be carried and how do we get the funds to pay for it?"Short term decisions on working capital determine whether the firm gets to the long term (McLaney, 2009).From the findings of the study on working capital management practices among large construction companies, the following are the conclusions: Cash management practice is good. All the surveyed firms did prepare a cash budget. According to Brigham and Houston (2004) the firm estimates its needs for cash as a part of its general budgeting or forecasting process. The cash budget shows the firm's projected cash inflows and cash outflows over some specified period. Generally, firms use a monthly cash budget

forecasted over the next year, plus a more detailed daily or weekly cash budget for the coming month. The monthly cash budgets are used for planning purposes and the daily or weekly budget for actual cash control. Cash itself earns no interest. From the findings, idle cash is invested to earn some interest. Eighty two percent of the surveyed firms have a credit policy. This is a good practice and it is in line with Pandey (2008) who says that a liberal credit policy, without rating the credit worthiness of customers, is detrimental to the firm and creates a problem of collecting funds later on. In order to ensure that excess funds are not tied up in accounts receivables, the firm should follow a rationalized credit policy based on the credit standing of customers and other relevant factors

All the surveyed firms do not use any model for inventory management. They said that the following factors determine the amount of inventory to hold at any one time; the volume of operations, the availability of the inventory, ordering costs and carrying costs. Of the firms surveyed, 74.3% do take advantage of cash discounts. The availability of the materials and amount of cash out flow required determines whether the firm will take advantage of a cash discount or not.

To enhance management of receivables, the firm should evaluate the credit standing of new customers and periodically review the credit worthiness of the existing customers. The case of delayed payments should be thoroughly investigated.

Inventory models and cash models may be introduced so that they aid in knowing the optimum stock and cash to be held by the firm. This will help minimize stock out costs and storage costs in inventory management. Cash should be sufficient to enable

the firm to take trade discounts, to maintain its credit rating and to meet unexpected cash needs.

5.3 Limitation of the study

The study focused on large construction firms. However, there are small firms in category E, F, G and H, which were not covered in this study. These categories were left out due to the value of the projects they can undertake. These are classified as small firms. This means that the results of this study cannot be generalized.

5.4 Suggestions for further research

Further research can be done on small building construction firms in category E, F, G and H to establish whether the findings are the same as in the large building construction firms.

Also research on working capital management practices in the service industry can be done to establish what the actual practice is in this sector.

REFERENCES

Abel, M, (2008). The impact of working capital management on cash holdings: A quantitative study of Swedish manufacturing SMES, University essay from Mittuniversitetet/institutionen for Samhallsvetenskap.

Afza, T, & Nazir, MS. (2007). Working capital management practices of firms: Empirical evidence from Pakistan, in the proceedings of 9th South Asian Management Forum (SAMF) held on February 24-25, pp.334-343, North South University; Dhaka, Bangladesh.

Ball, M.Farshchi, M. and Grilli, M. (2000). Competition and the persistence of profits in the UK construction industry, Construction Management and Economics .18 pp 733-745.

Bringha, E, F. & Houston, J.F. (2004), Fundamentals of financial management (10th Ed.). Elm Street publishing services, Inc.

Chiang, Y.H, & Tang B.S. (2002) Submarines don't leak, why do buildings?-Building quality, technological impediment and organization of building industry in Hong Kong: Habitat International.

Chiang, Y.H, Tang,& B.S, Leung, W.Y, (2001). *Market structure of the construction industry in Hong Kong:* Journal of Construction Management and Economics, 14 pp 189-198.

De Loof, M. (2003). Does working capital management affect profitability of Belgian firms? Journal of Business, Finance and Accounting: Nos. 3 – 4, PP. 573 – 587.

Economic Survey (2006) www. Cbs.go.ke

Eugene, F.B. and Phillip, R.D, (2004). *Intermediate financial management* (8th Ed.).

R. R. Donnelley Willard; Ohio

Filbeck, G, and Krueger, T. (2005). *Industry related differences in working capital management*: Mid -American journal of business, 20, (No.2,) PP.11 – 18.

Http://www.economy watch.com

Jim Mcfie, (2009). The Accountant journal, August /September, PP57.

Kehinde, J. O. & Mosaku, T. O. (2006). An empirical study of assets structure of building construction contractors in Nigeria, journal of Engineering construction and Architectural management; 13,(No. 6) PP. 634 – 644: Emerald Group Publishing Ltd.

Kiprono, D.K. (2004). Relationship between cash flow listed on Nairobi stock exchange; Unpublished MBA research project: University of Nairobi.

Lamberson, M. (1992. The relationship between changes in working capital position of large corporations and changes in the business cycle: Unpublished research presented at Mid – South academy of Economis and Finance (Feb.)

Loo, M.A. (2007). A survey of liquidity management approaches and their effect on profitability of commercial banks in Kenya; Unpublished MBA research project,:University of Nairobi.

Lopes, J. (1998). *The construction industry and macro-economy in Sub-Sahara Africa* post – 1970; journal of Construction Management and Economics: 16 PP. 637 – 649.

- Mayo, H.B. (2007). Basic finance, An introduction to financial institutions, investments and management; (9th Edi.): Treso production, Natorp boulevard mason.
- Mc Laney, E. (2009). Business finance, theory and practice, (8th Ed.): Pearson education Ltd.
- Mcmenamin, J. (1999). Financial management, an introduction: Routledge, 11 New Fetter Lane, London.
- Mogere, N. (2003). A survey of working capital management policies among public companies in Kenya; Unpublished MBA research project: University of Nairobi.
 - Mugenda M.O. & Mugenda, A. (2003). Research methods: Qualitative and quantitative approaches: African Centre for Technology Studies, Nairobi, Kenya.
- Ngaba D.K. (1990). Working capital management practices in Kenyan secondary schools, the case of Kikuyu division; Unpublished MBA research project: University of Nairobi.

Pandey, I.M. (2008). Financial management (9th Ed.): Vikas Publishing House, New Delhi, India.

Ramachandran and Janakira Man (2009), The relationship between working capital management efficiency and EBIT, 7, (No.1).

Reheman. & Nasr. (2007). The relationship between working capital management and its effect on liquidity as well as on profitability of the firm: International review research papers, 3(no.1).

UNEP, (1996). Industry and environment: 19, (No. 2), April / June.

Van Horne, J.C. & Wachowicz, J. M. (2008). Fundamentals of financial management (13th Ed.): Pearson Education Limited.

Weinraub, H.J. & Visscher, S. (1998). *Industry practice relating to aggressive conservative working capital policies*, Journal of financial and strategic decision; 11, (No. 2), PP. 11 – 18.

Weston, J.F. & Copeland, T.E. (1992). *Managerial finance*, (9th Ed.): The Dryden press, Harcourt Brace Jovanovich.

William, M.V. (2001). Determining the optimum level of working capital in the Cameroon business environment; Journal of finance and management, 10(1) PP.69 – 83.

Zickmund, G. W. (2003). Business research methods, (7th ed.): Mason, Thomson Southwestern.



UNIVERSITY OF NAIROBI SCHOOL OF BUSINESS

MBA PROGRAM - LOWER KABETE CAMPUS

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TO WHOM IT MAY CONCERN

0 11

The bearer of this	letter Kliku	K. 19	
Registration No: .	D611730651	2009	

is a Master of Business Administration (MBA) student of the University of Nairobi.

--He/she is-required-to-submit-as part of his/her coursework assessment—a research project report on a management problem. We would like the students to do their projects on real problems affecting firms in Kenya. We would, therefore, appreciate if you assist him/her by allowing him/her to collect data in your organization for the research.

The results of the report will be used solely for academic purposes and a copy of the same will be availed to the interviewed organizations on request.

Thank you.

SCHOOL OF BUSINESS
MBA OFFICE

DR. W.N. IRAKI P. O. BOTFICE CO-ORDINATOR, MBA PROGRAMORI

APPENDIX 1

Value of work that building contractors can undertake

Category	Value of work (Kshs)
Α	Unlimited
В	Up to 250 million
С	up to 150 million
D	up to 100 million
Е	up to 50 million
F	up to 20 million
G	up to 10 million
Н	up to 5 million

Source: Ministry of Public Works, Nairobi, Kenya.

APPENDIX 2

SAMPLING FRAME – CLASS A – D BUILDING CONTRACTORS

CATEGORY

В

R

B

C

 \mathbf{C}

NAIROBI

NAIROBI

NAIROBI

NAIROBI

NAIROBI

NAIROBI

RUIRU

CONTRACTOR'S NAME

11. Devcon Group Limited

13. Vinayak Builders Ltd.

12. Fahari Building and Civil Engineering Ltd.

15. Miira Building & Civil Engineering contractors Ltd.B

14. Kenya Builders & Concrete Company

17. Consif contractor and civil Engineers

16. Aswa Developers & contractors

ADDRESS

1. China Sichuan Corporation for International technology **NAIROBI** A 2. Franvi Construction Company NAIROBI Α **NAIROBI** 3. Kariuki Construction Company Α 4. Lawi Meghji Patel & Company Ltd. **NAIROBI** A 5. Masosa Construction Ltd. **NAIROBI** A 6. Oriental Construction Company Limited **NAIROBI** Α 7. N. K. Brothers **NAIROBI** A NAIROBI 8. Ongata Works Ltd. A 9. Victory construction Company Ltd. Α **NAIROBI NAIROBI** 10. China Huashi Enterprises Corporation Α

18. Gracan construction Company	С	NAIROBI
19. Kamirithu Building contractors Company Ltd.	С	NAIROBI
20. La Femme Engineering Services	С	NAIROBI
21. Patsam General Building contractors	С	NAIROBI
22. Athi river marble and granite ltd	С	NAIROBI
23. Bosiogo construction company ltd.	С	NAIROBI
24. Cow ford general contractors.	С	NAIROBI.
25. Frankin construction	С	NAIROBI
26. Aruhn builders and general contractors	D	NAIROBI
27. Eastern general mechanize	D	NAIROBI
28. Gem ventures ltd	D	NAIROBI
29. Imaginative building services	D	NAIROBI
30. Kahnes builders (k)ltd	D	NAIROBI
31. Kwanza construction company ltd.	D	NAIROBI
32. Power pump technical company.	D	NAIROBI
33. Simori enterprises.	D	NAIROBI
34. True north construction works.	D	NAIROBI
35. Wainaina kimani building contractors.	D	THIKA
36. Careful construction company ltd	D	KIAMBU
37. Lunao enterprises	D	NAIROBI

APPENDIX 3

QUESTIONNAIRE

PAR	T A: Firm profile
1.	Name of the firm
2.	In What category is your firm registered in the Ministry of Public Works list
	of building contractors?
	A[] B[] C[] D[]
3.	What type of business organization is your firm?
	Sole proprietor [] Partnership [] Limited company []
	Other (Specify)
,	
PAR	Г В: Cash Management
1.	Do you have any written statement of deciding on the amount of cash to hold
	(both petty cash and cash at bank) which can be withdrawn at will at any one
	particular time?
	Yes []
	No []-Go to 3
2.	Briefly explain the salient features of the written statement you have indicated
	in (1) above e.g. we must hold Kshs 1 million at all times and petty cash must
	not exceed Kshs 100,000.

3.	Give the reason(s) as to why you don't have a written statement on the amount
	of cash to hold at any one particular time.
4.	Do you ever reach a situation where the firm has idle funds i.e. funds which do
	not have immediate use?
	Yes[]
	No [] Go to 6
5.	How do you invest these idle funds
	A put the money in a savings A/C []
	B put the money in the money market []
	C put the money in a fixed deposit A/C []
	D other (Specify)
6.	Does the firm prepare a cash budget? I.e. a plan of cash inflows and cash
	outflows?
	Yes []
	No []
7.	Who is responsible for preparing the cash budget?
8.	What is the time span (plan horizon) for your cash budget?
	Less than one month []
	Three months []
	Six months []
	One year []
	Over one year []

	Other (Specify)
9.	Indicate the problems (if any) that you encounter in managing or
	administering cash in your firm?
10.	. Does your firm get short-term loans from the bank?
	Yes []
	No []
11.	. If yes, state the kind of short term loans
	Overdraft []
	Other (Specify)
PAR	ΓC: Receivables management and credit management
1.	When are clients expected to pay up?
2.	What percentage of revenue is not received when due?
	0 – 10 []
	11-20 []
	21 – 30 []
	31 – 40 []
	Other (Specify)
3.	Are any attempts made to evaluate the credit worthiness of would be clients?
	Yes []
	No []

4.	If yes, please explain how this is done
5.	At what point in time, after a clients bill is past due will the client be reminded
	of the amount due?
	0-10 days []
	11 – 20 days []
	21 – 30 days []
	Other (Specify)
6.	How is this reminder done?
	Letter to client []
	Phone call to client []
	Other (Specify)
7.	What action (s) do you employ after the first reminder is not heeded?
8.	Please indicate the problems, if any, encountered in the collection of overdue
	debts from clients and in determining the credit-worthiness of the firm.

PART D: Inventory Management

(Inventory here implies building materials)

1.	Do you have any written statement as to the amount of stock you should hold
	at any one particular time?
	Yes []
	No []
2.	Who is responsible for making decisions regarding the amount of inventory to
	hold?
3.	Give some factors you take into consideration while determining the level of
	inventory to hold.
4.	Does your firm use any of the inventory control models e.g. Economic order
	Quantity (EOQ) model?
	Yes []
	No []
	If yes, please indicate the model.
PART	E: Creditors Management
1.	Does the firm purchase some of its requirements on credit?
	Yes []
	No []
	f - 1

2.	If yes, what percentage of the purchases is made on credit?
	0 – 20 []
	21 – 40 []
	41 – 60 []
	Other (Specify)
3.	Does the firm take advantage of cash discounts that are offered by creditors?
	Yes []
	No [] Go to 5
4.	If yes in (3) above, what considerations do you take into account?
5.	If no, why not?
6.	Does the firm practice stretching accounts payable ?i.e. paying bills as late as
	possible without damaging its credit rating.
	Yes []
	No [] Go to 8
7.	If Yes in (6) above, please explain how you do it

8.	If No, please explain why not?																								
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Thank you for your cooperation.

