KENYATTA UNIVERSITY

EFFECTS OF WORKING CAPITAL MANAGEMENT ON PROFITABILITY OF SELECTED FIRMS QUOTED IN THE NAIROBI STOCK EXCHANGE.

BY:

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DECLARATION

This project is my original work and has not been presented for the award of any diploma or degree course in any other institution or university

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LECTURERS’ APPROVAL

This research proposal has been submitted for presentation with our approval as the course supervisors.

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DEDICATION

This work is dedicated to my dear wife Linner Terer and my children for their continued support and inspiration that has made this work a success.
ACKNOWLEDGEMENT

I sincerely wish to thank God for his unforeseen guidance and for providing me with wisdom and strength to do my project. I wish to acknowledge my supervisors DR. Mbewa Martin and Mr. Muturi James for their tireless efforts in guiding me to make work a success.
ABSTRACT

Working capital management is important in the success of a business because of its effect on the firm's profitability and risk and consequently its value (Smith, 1980). Maintaining high inventory levels reduces the possible interruptions on the production process or loss of business due to the scarcity of products (stock-outs), reduces supply costs of business due to the scarcity of products, reduces the supply costs and protects against price fluctuations among other advantages (Blinder and Mancine, 1991). Granting trade credit favors the firm's sales in various ways and helps to strengthen long term customers and supplier relationship (Smith and Smith 1999). However firms that invest heavily in inventory and trade credit can suffer reduced profitability. Every company has to make arrangements for adequate funds to meet the day-to-day expenditure apart from investment. The main objective of the study was to examine the effects of working capital management (WCM) on profitability of selected firms quoted in the Nairobi Stock Exchange (NSE). Specific objectives were to analyze the effects of cash conversion cycle on profitability of the firm, to analyze the effects of account payable on profitability, to analyse the effects of account receivable on profitability and to establish how inventory turn over affects profitability of the firm. Exploratory study design was used to conduct the study in Nairobi province. The primary data was collected using both closed and open-ended questionnaires. The secondary data was also collected from sampled listed companies financial statements, thesis, documented information on these companies by the Kenya Capital Authority and other library resources. To analyze the WCM efficiency of the selected companies in NSE, statistical techniques viz Minimum, Maximum, Mean, Standard Deviation and Coefficient of Variation, Correlation, and Regression Matrix was used to ascertain the linear trend and sign of growth in various components of working Capital (WC) ratios. This was done by the use of Statistical Package for Social Science (SPSS) to facilitate the analysis. The processed data was presented using figures, graphs, tables and percentage to ensure ease of interpretation, clarity and preciseness. The study targeted selected 30 quoted companies from the NSE representing different market segments. Stratified random sampling was used to pick large and small companies. The collected data was later keyed in, analyzed to come out with the research findings, recommendations and study conclusions.
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ACRONYMS AND ABBREVIATION

The following are the acronyms and abbreviation used in this document:

CAS          Current Assets,
CCC          Cash Conversion Cycle,
CLS          Current Liabilities
C.R          Current Ratio
EBIT         Earnings before Interest & Taxes
EI           Efficiency Index
K.R.A        Kenya Revenue Authority
NSE          Nairobi Stock Exchange
R.O.C.E      Return in Capital Employed
R.O.I        Return on Investment
R.O.E        Return on Owners Equity
T.A          Total Assets
PI           Performance Index,
R.E          Retained Earnings
ROA          Return on assets.
UI,          Utilization Index
USL          Uchumi supermarket Ltd
WC           Working Capital
WCME         Working Capital Management Efficiency
DEFINITION OF TERMS

Account payable: Is how long it takes to pay accounts due to suppliers in days

Account receivable turnover: Is how long the revenues that have fallen due from credit customers take to be collected in days.

Cash flow: Refers to the net cash flow from operating activities.

Current Assets: Assets which in the ordinary course of business can be turned into cash within a short period without undergoing diminishing in value and without disruption of the organization.

Current Liabilities: Obligations which are intended to be paid in the ordinary course of business within a short time.

Financial Performance: The financial performance of a company usually relates to how well a company can use its assets to generate revenue.

Inventory turnover: It's the number of times the average inventory is sold

Liquidity: The liquidity of an asset means how quickly it can be transformed into cash at low cost. When referring to company liquidity one usually means its ability to meet its current liabilities and is usually measured by different financial ratios.

Profit: The excess of revenues over expenses

Policies: Are broad precedent-setting decision that guide or substitute for repetitive managerial decision-making

Networking Capital: This is the difference between current assets and current liabilities and it roughly measures the reservoir of cash
Working Capital: The flow of ready funds necessary for the working of a concern.
CHAPTER ONE

1.0 INTRODUCTION

1.1 Background of the Study

According to the theory of Deloof (2003), other theories and empirical studies, it is strongly pointed out that there is a relationship between Working Capital Management (WCM) and profitability of the firm. Working Capital Management is one area which requires increased attention because it accounts for more than 60% of liquidity position of any business firm. The impact of internal and external factors on policies and controls designed to manage working capital needs to be assessed periodically to identify strengths versus weaknesses and opportunities versus threats to the working capital management in place.

Working Capital (WC) is the flow of ready funds necessary for the working of a concern. It comprises funds invested in Current Assets (CAS), which in the ordinary course of business can be turned into cash within a short period without undergoing diminishing in value and without disruption of the organization. Current Liabilities (CLS) are those which are intended to be paid in the ordinary course of business within a short time. Every company has to make arrangements for adequate funds to meet the day-to-day expenditure apart from investment. The internal resources of a business organization often are insufficient for meeting all its needs. Also it is not always possible for the owners, promoters or the entrepreneurs to mobilize finance from their personal resources. Resources, therefore, have had to be financed through borrowing, keeping in view the short, medium and or long term requirements of trade or industry for funds.

Working capital management is important because of its effects on the firm's profitability and risk and consequently its value (Smith, 1980). On the one hand maintaining high
inventory levels reduces the possible interruptions in the production process or of loss of business due to the scarcity of products, reduces supply costs of business due to the scarcity of products, reduces supply costs and protects against price fluctuations, among other advantages (Blinder and Mancinni, 1991). On the other hand granting trade credit favors the firm's sales in various ways. Trade credit can act as an effective price cut (Brennan, Marks Moris and Zechnner, 1988; Petersen and Rajan, 1997) incentivizes customers to acquire merchandise at times of low demand (Emery, 1987) allows customer to check that the merchandise they received is as agreed (quantity and quality) and to ensure that service contracted are carried out (Smith, 1987) and helps firms to strengthen long-term relationship with their customer (Smith and Smith, 1999). However, firms that invest heavily in inventory and trade credit can suffer reduced profitability. Thus, the greater the investment in current assets, the lower the risk, but also the lower the profitability obtained.

Decisions about how much to invest in the customer and inventory accounts, and how much credit to accept from suppliers are reflected in the firm's cash conversion cycle, which represents the average number of days between the date when the firm must start paying its supplier and the date when it begins to collect payments from its customers. This study is focused on the effect of liquidity on profitability of a group of firms selected from the companies listed on the Nairobi Stock Exchange.

1.2 Statement of the Problem

Granting trade credit favors the firm in various ways and helps to strengthen long term customer and supplier relationship (Smith and Smith 1999). However firms that invest heavily in inventory and trade credit can suffer reduced profitability. The companies experience frequent dwindling demands and low profits. They are highly capital intensive while some which require proper infrastructure suffer from inadequate infrastructure facilities such as
lack of trained manpower, transportation and sustained power supply, the failure of industry in maintaining adequate liquidity leading to imbalanced capital structure, thereby affecting profits.

Past studies have indicated gaps in areas of Working Capital Management (wcm) especially in the Kenyan listed companies. Therefore, the present study is a research to analyze the effects of working capital management on the profitability of companies quoted at NSE.

According to records at NSE (2010) three companies are currently suspended because of poor performance related to working capital management and profitability. One of them is Uchumi supermarket Ltd.

1.3 Objectives of the Study

The objective of the study is to examine the relationship between the working capital management efficiency (WCME) and earning before interest and taxes (ebit) of some selected firms quoted on the Nairobi Stock exchange.

The following are the specific objectives:

1). To analyse the effects of cash conversion cycle on profitability of the firm.

2). To analyse the effects of accounts payable on the profitability of the firm.

3). To analyse the effects of accounts receivable on the profitability of the firm.

4) To analyse the effects of inventory turnover on profitability of the firm.
1.4 Research Questions

The research questions which are intended to establish whether liquidity management system affects profitability are:-

1) What is the effect of cash conversion cycle on the profitability of the firm.
2) What is the effect of accounts payable on the profitability of the firm.
3) What is the effect of accounts receivable on the profitability of the firm.
4) What is the effect on inventory turnover on profitability of the firm.

1.5 Significance of the Study

The study empirically examined the relationship between working capital management efficiency and profitability. The study would be of significance to the government policy makers and to the Business firms themselves as it would bring to light the extent to which liquidity management policy in place affects the profitability of business firms in Kenya.

This is expected to happen in the following ways:

Management: The findings would point out the dark areas which deny the firms opportunity to balance the profitability-liquidity equation through efficient working capital management.

Suppliers: Suppliers are interested in firms which make payments as they fall due- solvent firms.

Customers: Are interested in availability of the right expectations.

Employees: Are interested in well managed firms with job security.

Researchers: Recommendations and suggestions would also add to the body of knowledge and stimulate further research.
1.6 Justification for the Study

Working Capital Management is a very sensitive area in the field of financial management. It involves the decision of the amount and composition of current assets and the financing of these assets. The Working Capital Management of a firm in part affects its profitability. However, there is limited empirical information on Working Capital Management and how it affects the profitability of firms in Kenya. This study therefore intends to contribute to the existing knowledge and fill the gaps by understanding and documenting the challenges experienced in business operations.

1.7 Scope of the Study

The study was designed to examine the effect of efficient working capital management on profitability of firms listed on the Nairobi stock exchange. The sample included firms that have been in operation for more than 5 years. The study was conducted the period between August 2005 and September 2010.

1.8 Limitations

The study was limited to five years data only, i.e. from 2005–2010, therefore, a detailed analysis covering a lengthy period, which may give slightly different results has not been made.

The study was based on secondary data collected from the NSE and CMA, therefore the quality of the study depends purely upon the accuracy, reliability and quality of the secondary data source. Approximation, and relative measures with respect to the data source might impact the results.

The study was based on only 30 (saunders) companies that are drawn from the companies listed in NSE. Therefore, the accuracy of results is purely based on the data of sample units.
CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

This contains the information on the relevant literature reviewed and a conceptual framework analysis model illustrating diagrammatically the variable relationships.

2.2 Review of the Literature

Houston and James (1996), Johnson (1997), Krishnaswami et al., (1999) and Dennis and Mihor (2002) all found that the relationship between working capital management and the profitability of a firm is negative. Maintenance of adequate working capital is an essential condition for efficient financial management (Mohan 1991). Working capital offers huge cash opportunities that could be released with sustainability within a relative short period of time (Loneux 2004). Inventory, receivables, cash and working finance are the four problem areas of working capital management (wcm) (Mishra 1975). Inventory represents more than 61% of the total current assets (cas) of the firm (Swamy 1987).

Working capital has been financed from internal as well as external sources (Fazeeria 2002). Companies have increasingly been relying on short-term funds particularly short-term bank credit and trade credit (Gupta and Sharma 2003). Working capital ratios are useful tools in appraising the financial strength and; immediate solvency of a firm (Sagan 1955). Current and quick ratios registered insignificant associations whilst the comprehensive liquidity index indicated significant associations with return on investment (roi) (Smith and Bahaman 1997). The lower the level of liquid assets, the greater will be the risks of not being able to meet current obligations (Van Horne 1969).
The major reason for slow progress of an undertaking is shortage or wrong management of working capital (Siddarth and Das 1993). Due to lack of a proper plan for working capital requirements most firms often experience excess working capital or shortage of working capital (Agarwal 1977). Firms are able to reduce financing costs/or increase the funds available for expansion by minimizing the amount of funds tied up in current assets (cas). There is a significant difference among industries in working capital measures across time (Krueger 2002).

The way in which working capital is managed will have a significant impact on the profitability of companies. This is a significant (-) ve relation between gross operating income and the number of days of accounts receivable, inventories and accounts payables. The (-)ve relation between account payables and profitability is consistent with the view that less profitable companies wait longer to pay their bills (Deloof 2003). The chief executives properly recognize the role of efficient use of working capital in liquidity and profitability, but in practice they could not achieve it due to suboptimum utilization of working capital (Prasad 2001). The Public Sector Enterprises (psus) could improve the working capital management efficiency by reducing their dependence on outside funds (Jain 1988).

Efficient working capital management is necessary for achieving both liquidity and profitability of a company. A poor and inefficient working capital management leads to tie up funds in idle assets and reduces the liquidity and profitability of a company (Reddy and Kameswari 2004). Efficient liquidity management involves planning and controlling current asset and current liabilities in such a manner that eliminates the risk of inability to meet due short-term obligations and avoids excessive investment in these assets.

The Cash Conversion Cycle (ccc) has been one of the more important measures of liquidity than the current ratio that affects profitability. There is a (-)ve relationship between
profitability and liquidity indicators such as current ratio and cash gap (Eljelly 2004). WCM could vitally affect the health of the firm (Sagan 1955). Industry practices, company size, future sales growth of company, the proportion of outside directors on a board, executive compensation (current portion), and chief executive officer share ownership significantly influence the working capital management efficiency of a company (Kieschnick 1960). For measuring working capital management efficiency, performance, utilization, and overall efficiency indices were used, instead of some common working capital management ratios (Gosh and Maji 2003).

There is a strong (−)ve relation between CCC and corporate profitability of a large sample of listed American companies during 1975–1994 (Shin and Soenen 1998). There is a significant +ve relationship between profitability, measured through gross operating profit, and Cash Conversion Cycle. Profit can be created by handling correctly the Cash Conversion Cycle and keeping each of the different components (accounts receivables, accounts payables, inventory) to an optimum level (Lazaridis and Tryfonidis 2006). There is a significant (−)ve relationship between WCM and profitability. The greater the Cash Conversion Cycle the lesser will be the profitability. There is a significant (−)ve relationship between liquidity and profitability. There is also (−)ve relationship between debt used by the firm and its profitability (Rehmann 2007). More recently, Deloof (2003) analyzed a sample of larger South African firms during 1992-1996. His results confirmed that South African firm's can improve their profitability by reducing the number of days accounts receivable are outstanding and reducing inventories.
2.3 A Conceptual Framework Analysis Model

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Dependent Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash Conversion Cycle</td>
<td>Firms Profitability</td>
</tr>
<tr>
<td>Accounts Payable Days</td>
<td></td>
</tr>
<tr>
<td>Accounts Receivables Days</td>
<td></td>
</tr>
<tr>
<td>Inventory Days</td>
<td></td>
</tr>
</tbody>
</table>

Figure 1.1: A Conceptual Framework Analysis Model

Source: Author (2011)

2.4 Main Review of Past Studies

Many researchers have studied working capital from different views and in different environments. The following ones were very interesting and useful for our research: Eljelly (2004) elucidated that efficient liquidity management involves planning and controlling current assets and current liabilities in such a manner that eliminates the risk of inability to meet due short-term obligations and avoids excessive investment in these assets. The relation between profitability and liquidity was examined, as measured by current ratio and cash gap (cash conversion cycle) on a sample of joint stock companies in Saudi Arabia using correlation and regression analysis. The study found that the cash conversion cycle was of more importance as a measure of liquidity than the current ratio that affects profitability. The size variable was found to have significant effect on profitability at the industry level. The results were stable and had important implications for liquidity management in various Saudi companies.
First, it was clear that there was a negative relationship between profitability and liquidity indicators such as current ratio and cash gap in the Saudi sample examined. Second, the study also revealed that there was great variation among industries with respect to the significant measure of liquidity.

Deloof (2003) discussed that most firms had a large amount of cash invested in working capital. It can therefore be expected that the way in which working capital is managed will have a significant impact on profitability of those firms. Using correlation and regression tests he found a significant negative relationship between gross operating income and the number of days accounts receivable, inventories and accounts payable of Belgian firms. On basis of these results he suggested that managers could create value for their shareholders by reducing the number of days' accounts receivable and inventories to a reasonable minimum. The negative relationship between accounts payable and profitability is consistent with the view that less profitable firms wait longer to pay their bills.

Ghosh and Maji (2003) in this paper made an attempt to examine the efficiency of working capital management of the Indian cement companies during 1992 – 1993 to 2001 – 2002. For measuring the efficiency of working capital management, performance, utilization, and overall efficiency indices were calculated instead of using some common working capital management ratios. Setting industry norms as target-efficiency levels of the individual firms, this paper also tested the speed of achieving that target level of efficiency by an individual firm during the period of study. Findings of the study indicated that the Indian Cement Industry as a whole did not perform remarkably well during this period.

Shin and Soenen (1998) highlighted that efficient Working Capital Management (WCM) was very important for creating value for the shareholders. The way working capital was managed had a significant impact on both profitability and liquidity. The relationship between the
length of Net Trading Cycle, corporate profitability and risk adjusted stock return was examined using correlation and regression analysis, by industry and capital intensity. They found a strong negative relationship between lengths of the firm's net trading Cycle and its profitability. In addition, shorter net trade cycles were associated with higher risk adjusted stock returns.

Smith and Begemann (1997) emphasized that those who promoted working capital theory shared that profitability and liquidity comprised the salient goals of working capital management. The problem arose because the maximization of the firm's returns could seriously threaten its liquidity, and the pursuit of liquidity had a tendency to dilute returns. This article evaluated the association between traditional and alternative working capital measures and return on investment (ROI), specifically in industrial firms listed on the Johannesburg Stock Exchange (JSE). The problem under investigation was to establish whether the more recently developed alternative working capital concepts showed improved association with return on investment to that of traditional working capital ratios or not. Results indicated that there were no significant differences amongst the years with respect to the independent variables. The results of their stepwise regression corroborated that total current liabilities divided by funds flow accounted for most of the variability in Return on Investment (ROI). The statistical test results showed that a traditional working capital leverage ratio, current liabilities divided by funds flow, displayed the greatest associations with return on investment.

Working capital management is a very important component of corporate finance because it directly affects the liquidity and profitability of the company. It deals with current assets and current liabilities. Working capital management is important due to many reasons. For one thing, the current assets of a typical manufacturing firm accounts for over half of its total
assets. For a distribution company, they account for even more. Excessive levels of current assets can easily result in a firm's realizing a substandard return on investment. However firms with too few current assets may incur shortages and difficulties in maintaining smooth operations (Horne and Wachowicz, 2000). Efficient working capital management involves planning and controlling current assets and current liabilities in a manner that eliminates the risk of inability to meet due short term obligations on the one hand and avoid excessive investment in these assets on the other hand (Eljelly, 2004). Many surveys have indicated that managers spend considerable time on day-to-day problems that involve working capital decisions.

Having enough money in the form of cash, or near cash assets, to meet business financial obligations or alternatively the ease with which assets can be converted onto cash, marketable securities, accounts receivable, inventory and fixed assets form the liquidity of an organization. Working capital is the most common measure of liquidity.

Working capital management is important because of its effects on the firm's profitability and risk and consequently its value (Smith, 1980). On the one hand maintaining high inventory levels reduces the possible interruptions in the production process or of loss of business due to the scarcity of products, reduces supply costs of business due to the scarcity of products, reduces supply costs and protects against price fluctuations, among other advantages (Blinder and Mancini, 1991). On the other hand granting trade credit favors the firm's sales in various ways. Trade credit can act as an effective price cut (Brennan, Marks Moris and Zechner, 1988; Petersen and Rajan, 1997) incentivizes customers to acquire merchandise at times of low demand (Emery, 1987) allows customer to check that the merchandise they received is as agreed (quantity and quality) and to ensure that service contracted are carried out (Smith, 1987) and help s firms to strengthen long-term relationship
with their customer (Smith and Smith, 1999). However, firms that invest heavily in inventory and trade credit can suffer reduced profitability. Thus, the greater the investment in current assets, the lower the risk, but also the lower the profitability obtained.

Decision about how much to invest in the inventory accounts, and how much credit to accept from supplies, are reflected in the firm's cash conversion cycle, which represent the average number of day between the date when the firm must start paying its suppliers and the date when it begins to collect payments from its customers. Some previous studies have used this measures to analyze whether shortening the cash conversion cycle has positive or negative effects on the firm's profitability. Specifically, Shin and Soenen (1998) analyzed the relation between the cash conversion cycle and profitability for a sample of firms listed on the US stock exchange during the period 1974-1994. Their results show that reducing the cash conversion cycle to a reasonable extent, increases a firm's profitability.

Deloof (2003) analyze a sample of large South African firms during the period 1992-1996. His results confirm that South African firms can improve their profitability by reducing the number of days the number of days accounts receivable are outstanding and reducing inventories.

Also the current liabilities are one of the main sources of external finance in the view of their difficulties in obtaining the funding long-term capital markets (Pestersen and Rajan, 1997) and financing the constraints that they face (Whited, 1992, Fazzari and Pestersen, 1993.) In this respect, Elliehausen and Woken (1993), Petersen and Rajan (1997) and Danielson and scott (2000) show that small and medium sized US Firms use vendor financing when they have to run out of debt. Thus efficient working capital management is particularly important for smaller companies (Peel and Wilson, 1996).
2.5 Critical Review of Major Issues

Decisions about how much to invest in the customer and inventory accounts, and how much credit to accept from suppliers are reflected in the firm's cash conversion cycle, which represents the average number of days between the date when the firm most start paying its supplier and the date when it begins to collect payments from its customers.

This study focused on the effect of liquidity on profitability of selected firms in the Nairobi stock exchange. Some previous studies have used this measure to analyze whether shortening the cash conversion cycle has positive or negative effects on the profitability specifically Shin and Soenen (1998) analyzed the relation between the cash conversion cycle and profitability for a sample of firms listed on the US stock exchange during the period 1974 -1974. Their results show that reducing the cash conversion cycle to a reasonable extent increase firm's profitability.

More recently, Deloof (2003) analyzed a sample of larger South African firms during 1992-1996. His results confirmed that South African firm's can improve their profitability by reducing the number of days accounts receivable are outstanding and reducing inventories.

Access to loans, increased consumer demands general improvement in the economy has led to rapid growth of business firms (Onyango 2005). Although the growth of business has been rapid some business firms in Nairobi are experiencing tight cash flow and slow moving stock due to a decline in customer spending.

According to Onyango (2005), inventory management directly impact on profitability and liquidity in the large supermarkets in Nairobi. That is, the level of liquidity and profitability depends on how inventory is managed.
2.6 Summary and Gaps

A lot of studies have been done on many aspects of working capital but none has been done on how efficient management of the same would help in improving profitability. Companies operate businesses to get income to expand and to grow business. This can be achieved with proper management of working capital elements. This research is aimed at establishing the effect of efficient working capital management on the firms' profitability.
3.0 RESEARCH METHODOLOGY

3.1 Introduction

This chapter dealt with the research methodology and explains the study design, study population and sample design, data collection methods and Procedures, data processing, analysis, interpretation and reporting procedures as used in the study.

3.2 Research Design

The study used an exploratory study design that employs a mixed-mode method of data collection. This design involved the use of both quantitative and qualitative approaches to investigate the research problem. The study focused on the liquidity management policies which include working capital, accounts receivable, accounts payable and inventory turnover as independent variables with profitability as the dependent variable.

The use of the qualitative method in this study was appropriate as it allowed the researcher to first identify the variables for quantitative testing and where quantitative measures cannot adequately describe or interpret the situation, the study employed the qualitative inquiry strategy to come up with the most suitable conclusion on the subject matter. Secondly, this approach allowed the researcher to reframe the research problem and use open-ended questions which assisted in the discovery of new knowledge. Thirdly, a review of quantitative studies about a particular phenomenon combined with a review of qualitative studies about the same phenomenon provided a richer insights and raise more interesting questions for future research than if only a linear approach is considered. The researcher was also mindful of the fact that no single research method provided all of the answers to the research questions. The design was expected to generate rich data about the phenomenon in question.
3.3 Target Population

This study targeted all companies quoted and listed at the Nairobi stock exchange and have been operating for the last 5 years. This target population consists of 53 companies whose particulars were obtained from the NSE.

3.4 Sources of Data and Sampling Design

Originally the sample for this study were planned to choose from the list of companies listed in Nairobi Stock Exchange (NSE). Since the number of companies listed in the NSE reasonably big (53 companies), the sample of 30 companies (saunders) was chosen for the study.

The general form of the model was;

\[ \text{EBIT}_{it} = \beta_1(P_{it}) + \beta_2(U_{it}) + \beta_3(E_{it}) + \beta_4(\text{CCC}_{it}) + \beta_5(\text{FFAR}_{it}) + \beta_6(\text{FDR}_{it}), \]

where \( \text{EBIT}_{it} \) = Earnings Before Interest & Tax \((i\text{ at time } t; i = 1, 2, 30 \text{ companies})\), \( \text{CCC} \) = Cash Conversion Cycle = No. of Days \( a/r \) + No. of Days Inventory - No. of days \( a/p \); \( \text{FDR} \) = Financial Debt Ratio = \((\text{Fixed Financial Assets})/(\text{Total Assets})\); \( \text{FFAR} \) = Fixed Financial Assets Ratio = \((\text{Short Term Loans} + \text{Long Term Loans})/(\text{Total Assets})\).

This study was based on 30 companies quoted and listed at the Nairobi stock exchange and have been operational for over 5 years. The sample size was arrived at based on the statistical theory that allows 30 per cent as a representative sample of any population under study. The unit of analysis was a company quoted at the Nairobi stock exchange and has been operating for over 5 years and the sampling design was simple random sampling method.
3.5 Data Collection Instruments and Procedures

Data collection for this study adopted two main approaches i.e. secondary and primary approaches. The study used appropriate designated data capture tools to collect the secondary and primary data. This method used various tools for data collection; integration of document analysis and questionnaires administration that lead to adequate data collection procedure.

Document Analysis

Document analysis was used to gather secondary data involving perusal of documents such as government policies regarding the companies quoted at the Nairobi stock exchange and have been operating for over 5 years. A review of secondary data sources including the company’s annual financial statements, Annual operation Plans (AOP), Strategic Plans (SP) books, manuals, journals, and other relevant documents from authoritative sources was done to comprehensively come up with the most accurate data.

Questionnaires

Questionnaires were administered to help in collecting the primary data. Whenever there was any difficulty in reaching the relevant parties for face-to-face interview, mail survey questionnaires was used to complement.

3.6 Validity and Reliability

There were no statistical tests to measure validity. All assessments on validity was a subject to opinions based on the judgment of the researcher. Nevertheless, at least three types of validity test addressed and stated regarding what steps was taken to assess validity. These were:

Face validity, which looked at the likelihood that a question was misunderstood or misinterpreted. Pre-testing of survey instruments was a better way to increase the likelihood of face validity. Content validity also aimed at checking whether the instruments to be used
provided adequate coverage on the impact on financial performance of the sampled listed companies in Kenya. This was done by use of expert opinions, literature searches, and pretest open-ended questions in order to help establish content validity. Construct validity looked at the underlying theories or constructs that explain the electronic banking phenomena. The technique also known as confirmatory factor analysis was used to explore how individual survey items contributed to an overall construct measurement of working capital management strategy.

A test-retest measure of reliability was carried out by administering the same instrument to the same group of respondents at two different points in time. The degree to which both administrations are in agreement was a measure of the reliability of the instrument. The second method of determining reliability was called the equivalent-form technique. The researcher created two different instruments designed to measure identical constructs. The degree of correlation between the instruments as a measure of equivalent-form reliability was used to test the reliability.

3.7 Tools to be used for Analysis

To analyze the working capital management efficiency of the selected companies, statistical techniques viz Minimum, Maximum, Mean, Standard Deviation and Coefficient of Variation, Correlation, and Regression Matrix was used. To ascertain the linear trend and sign of growth in various components of working capital ratios, the simple regression technique was also incorporated.

3.8 Data Analysis:

To measure the working capital management efficiency three index values viz., Performance Index (pi), Utilization Index (ui), and Efficiency Index (ei) was computed, and associated with explanatory variables, viz., Cash Conversion Cycle (ccc), Accounts Payable Days
(apdays), Accounts Receivables Days (ardays), Inventory Days (invdays). Further, Fixed Financial Assets Ratio (fixdfara), Financial Debt Ratio (findbtra) and Size (Natural log of Sales) was considered as control variables in the analysis, and are associated with the EBIT.
4.0 DATA PRESENTATION AND ANALYSIS

4.1 Introduction

This chapter presents the analysis of the data collected from the study. The data was presented by means of tables, bar charts, histogram and pie chart. By analysis is meant the act of noting relationship and aggregating the set of variables with similar attributes and also breaking the unit of their components. The findings were qualitatively and quantitatively analyzed and the factual information from the data can be used as a basis for reasoning, calculation and discussion.

4.2 Qualitative Data Analysis

Quantitative data analysis refers to a scientific method of investigation that is based on the numeric data. The data is presented in form of numbers; numeric values numeric levels and categories. This is to describe, predict and explain the research findings. This was achieved through collection of numerical data on the observable behavior and subjecting such data to statistical analysis. The data used in this study was acquired from Nairobi Stock Exchange (NSE), internet and web sites of different firms. Data of firms listed on the NSE for the most recent six years formed the basis of calculations. The period covered by the study extends to five years starting from 2004 to 2009.
4.2.1 Rate of Response

Table 4.1: Rate of response

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid Responded</td>
<td>26</td>
<td>86.7</td>
<td>92.9</td>
<td>92.9</td>
</tr>
<tr>
<td>Non Response</td>
<td>2</td>
<td>6.7</td>
<td>7.1</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>93.3</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>Missing System</td>
<td>2</td>
<td>6.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>100.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 4.1: Rate of response

Source: Author (2011)

The data in the table 4.1 indicates that 93% of the respondents responded positively by returning the questionnaires for analysis. Only 7% of the respondents did not return their questionnaires for analysis. This clearly arose as a result of receiving more questionnaires from the male respondents than the female respondents.
4.2.2 Age of the Respondents

Table 4.2: Respondents Age

<table>
<thead>
<tr>
<th>Respondents Age</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid 18 to 25 Years</td>
<td>2</td>
<td>6.7</td>
<td>7.1</td>
<td>7.1</td>
</tr>
<tr>
<td>26 to 33 Years</td>
<td>8</td>
<td>26.7</td>
<td>28.6</td>
<td>35.7</td>
</tr>
<tr>
<td>34 to 45 Years</td>
<td>6</td>
<td>20.0</td>
<td>21.4</td>
<td>57.1</td>
</tr>
<tr>
<td>Above 45 Years</td>
<td>12</td>
<td>40.0</td>
<td>42.9</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>93.3</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>Missing System</td>
<td>2</td>
<td>6.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>100.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 4.2: Respondents Age

According to the table and figure 4.2 above, the majority (29%) of the respondent's were above 45 years age bracket having 43%. This is followed by those in the age bracket of 26 to 33 years having 29%. Only 7% of the respondents were in the age bracket of 18 to 25 years.
4.2.3 Gender of the Respondents

Table 4.3: Analysis of respondent's Gender

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid Male</td>
<td>17</td>
<td>56.7</td>
<td>60.7</td>
<td>60.7</td>
</tr>
<tr>
<td>Female</td>
<td>11</td>
<td>36.7</td>
<td>39.3</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>93.3</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>Missing System</td>
<td>2</td>
<td>6.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>100.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 4.3: Analysis of respondent's Gender

Source: Author (2011)

The table and the bar chart above shows that 61% of the respondents were male while 39% of the respondents were female. This clearly arose as a result of receiving more questionnaires from the male respondents than the female respondents.
4.2.4 Level of Education of the Respondents

Table 4.4 Level of education

<table>
<thead>
<tr>
<th>Level of Education</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>College Diploma</td>
<td>2</td>
<td>6.7</td>
<td>7.1</td>
</tr>
<tr>
<td></td>
<td>Bachelor degree</td>
<td>14</td>
<td>46.7</td>
<td>50.0</td>
</tr>
<tr>
<td></td>
<td>Masters degree</td>
<td>12</td>
<td>40.0</td>
<td>42.9</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>28</td>
<td>93.3</td>
<td>100.0</td>
</tr>
<tr>
<td>Missing</td>
<td>System</td>
<td>2</td>
<td>6.7</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>30</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Figure 4.4 Level of education

Source: author (2011)

The results indicate that the employees who have attained the bachelor degree level are the majority having 50% followed by master's degree holders having 43% while who are having college level of education were represented by 7%.
4.2.5 Information on Respondents Working Experience

Table 4.5: Respondents working experience

<table>
<thead>
<tr>
<th>Respondents working experience</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid 5 years and below</td>
<td>2</td>
<td>6.7</td>
<td>7.1</td>
<td>7.1</td>
</tr>
<tr>
<td>6 - 10 years</td>
<td>7</td>
<td>23.3</td>
<td>25.0</td>
<td>32.1</td>
</tr>
<tr>
<td>11 - 15 years</td>
<td>13</td>
<td>43.3</td>
<td>46.4</td>
<td>78.6</td>
</tr>
<tr>
<td>16 years and above</td>
<td>6</td>
<td>20.0</td>
<td>21.4</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>93.3</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>Missing System</td>
<td>2</td>
<td>6.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>100.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 4.5: Respondents Working Experience

Source: Author (2011)

The table 4.5 above shows that majority of the respondents have a working experience of 11 to 15 years having 47%, those with 6 to 10 years work experience having 25% while those who had a work experience of over 16 years and 5 years and below were represented by 21% and 7% respectively.
4.2.6 Number of Years in Operation

Table 4.6: The Number of Years in Operation

<table>
<thead>
<tr>
<th>The Number of Years in Operation</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid 6 to 10 Years</td>
<td>3</td>
<td>10.0</td>
<td>10.7</td>
<td>10.7</td>
</tr>
<tr>
<td>11 to 15 Years</td>
<td>6</td>
<td>20.0</td>
<td>21.4</td>
<td>32.1</td>
</tr>
<tr>
<td>Over 16 Years</td>
<td>19</td>
<td>63.3</td>
<td>67.9</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>93.3</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>Missing System</td>
<td>2</td>
<td>6.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>100.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 4.6: The Number of Years in Operation

![Bar Chart](chart.png)

Source: Author (2011)

Table 4.6 shows that the 68% of the surveyed companies listed by NSE have over 16 years in operation, 21% of these companies have 11 to 15 years, 11% have 6 to 10 years. No company among the surveyed had 1 to 5 years in operation.
4.2.7 Operational Headquarters

Table 4.7 Companies Operational Headquarters

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid Nairobi</td>
<td>23</td>
<td>76.7</td>
<td>82.1</td>
<td>82.1</td>
</tr>
<tr>
<td>Outside - Nairobi</td>
<td>5</td>
<td>16.7</td>
<td>17.9</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>93.3</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>Missing System</td>
<td>2</td>
<td>6.7</td>
<td>6.7</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>100.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 4.7 Companies Operational Headquarters

Source: author (2011)

The table above shows that 82% of the listed companies trading within NSE have their operational headquarters in Nairobi. Only 18% of these companies have their operational headquarters outside-Nairobi.
4.2.8 Information on Trade Category

Table 4.8 Trade Sectors

<table>
<thead>
<tr>
<th>Trade Sectors</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agricultural</td>
<td>2</td>
<td>6.7</td>
<td>7.1</td>
<td>7.1</td>
</tr>
<tr>
<td>Commercial</td>
<td>5</td>
<td>16.7</td>
<td>17.9</td>
<td>25.0</td>
</tr>
<tr>
<td>Financial</td>
<td>8</td>
<td>26.7</td>
<td>28.6</td>
<td>53.6</td>
</tr>
<tr>
<td>Industrial</td>
<td>9</td>
<td>30.0</td>
<td>32.1</td>
<td>85.7</td>
</tr>
<tr>
<td>Alternative</td>
<td>4</td>
<td>13.3</td>
<td>14.3</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>93.3</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td>2</td>
<td>6.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>100.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 4.8 Trade Category

The information in the above table shows that 47% of the sampled companies are service oriented companies, 32% are manufacturing companies while 21% are listed as others.

Source: author (2011)
4.2.9 Information on the Respondents Awareness of Cash Conversion Cycle

Table 4.9: Awareness of Cash Conversion Cycle

<table>
<thead>
<tr>
<th>Information on Cash Conversion Cycle</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>24</td>
<td>80.0</td>
<td>80.0</td>
<td>80.0</td>
</tr>
<tr>
<td>No</td>
<td>4</td>
<td>13.3</td>
<td>13.3</td>
<td>93.3</td>
</tr>
<tr>
<td>Missing</td>
<td>2</td>
<td>6.7</td>
<td>6.7</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Figure 4.9: Awareness of Cash Conversion Cycle

At has been observed that majority of the sampled listed companies respondents agreed that they are fully aware of the importance of cash conversion cycle having 80% representation while only 20% of them said that they are not aware.
4.2.10 Information on the Description of the Cash Conversion Cycle

Table 4.10: Description of the Company Cash Conversion Cycle

<table>
<thead>
<tr>
<th>Description of Cash Conversion Cycle</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid Very Satisfactory</td>
<td>9</td>
<td>30.0</td>
<td>30.0</td>
<td>30.0</td>
</tr>
<tr>
<td>Satisfactory</td>
<td>17</td>
<td>56.7</td>
<td>56.7</td>
<td>86.7</td>
</tr>
<tr>
<td>Unsatisfactory</td>
<td>2</td>
<td>6.7</td>
<td>6.7</td>
<td>93.3</td>
</tr>
<tr>
<td>Missing</td>
<td>2</td>
<td>6.7</td>
<td>6.7</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Figure 4.10: Description of the Company Cash Conversion Cycle

Source: Author (2011)

From the table and figure 4.10 above, it can be seen that 56% of the respondents of the sampled listed companies within Nairobi Stock exchange argued that they have satisfactory cash conversion cycle, 30% of the respondents said that their cash conversion cycle is very satisfactory while only 7% of the respondents said that it is unsatisfactory.
4.2.11 Information on the effects of Accounts Payable on Firms Profitability

Table 4.11: Effects of Accounts Payable on Firms Profitability

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Highly</td>
<td>16</td>
<td>53.3</td>
<td>53.3</td>
<td>53.3</td>
</tr>
<tr>
<td>Averagely</td>
<td>8</td>
<td>26.7</td>
<td>26.7</td>
<td>80.0</td>
</tr>
<tr>
<td>Low</td>
<td>1</td>
<td>3.3</td>
<td>3.3</td>
<td>83.3</td>
</tr>
<tr>
<td>No Effects</td>
<td>1</td>
<td>3.3</td>
<td>3.3</td>
<td>86.7</td>
</tr>
<tr>
<td>Missing</td>
<td>4</td>
<td>13.3</td>
<td>13.3</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Figure 4.11: Effects of Accounts Payable on Firms Profitability

Source: Author (2011)

From the table 4.11 above, 53% of the respondents argued that the firm’s accounts payable highly affects the profitability level, 26% said that it has average effect, 35% said that it has low effect while those who felt that it has no effect on the firms profitability were also represented by 3%.
4.2.12 Ratings of the Service level on Effective Management of Account Receivables

Table 4.12 Service level on Effective Management of Account Receivables

<table>
<thead>
<tr>
<th>Ratings of the Firms Service Level</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid Very Effective</td>
<td>16</td>
<td>53.3</td>
<td>53.3</td>
<td>53.3</td>
</tr>
<tr>
<td>Fairly Effective</td>
<td>8</td>
<td>26.7</td>
<td>26.7</td>
<td>80.0</td>
</tr>
<tr>
<td>Not Effective</td>
<td>1</td>
<td>3.3</td>
<td>3.3</td>
<td>83.3</td>
</tr>
<tr>
<td>Not Sure</td>
<td>2</td>
<td>6.7</td>
<td>6.7</td>
<td>90.0</td>
</tr>
<tr>
<td>Missing</td>
<td>3</td>
<td>10.0</td>
<td>10.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Figure 4.12 Service level on Effective Management of Account Receivables

As indicated in the table 4.12 above, 53% of the respondents said that the service level has been very effective due to effective management of Accounts receivables of the firm, 27% said that it is fairly effective, 3% of the respondents argued that it is not effective while 7% were not sure.
4.2.13 Information on the effects of Accounts Receivables on firms profitability

Table 4.13: Effects of Accounts Receivables on firm’s profitability

<table>
<thead>
<tr>
<th>Valid</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>27</td>
<td>90.0</td>
<td>90.0</td>
<td>90.0</td>
</tr>
<tr>
<td>No</td>
<td>1</td>
<td>3.3</td>
<td>3.3</td>
<td>93.3</td>
</tr>
<tr>
<td>Missing</td>
<td>2</td>
<td>6.7</td>
<td>6.7</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Figure 4.13: Effects of Accounts Receivables on firm’s profitability

Source: Author (2011)

The majority of the respondents cited that account receivable has effects on the firms profitability. This is represented by 90% while 10% of the respondents argued that has no effect of the firms working capital and profitability level.
4.2.14 Information on the existence of firms Inventory Management

Table 4.14: Existence of firms Inventory Management

<table>
<thead>
<tr>
<th>Response Category</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid Yes</td>
<td>23</td>
<td>76.7</td>
<td>76.7</td>
<td>76.7</td>
</tr>
<tr>
<td>No</td>
<td>5</td>
<td>16.7</td>
<td>16.7</td>
<td>93.3</td>
</tr>
<tr>
<td>Missing</td>
<td>2</td>
<td>6.7</td>
<td>6.7</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Figure 4.14: Existence of firms Inventory Management

Source: Author (2011)

The table and figure 4.14 above shows that 76% of the respondents supported that their firm has inventory management procedures in place while 16% of the respondents declined that their firms does not have inventory management procedures and plans in place.
4.2.15 Information on the effects of inventory turnover on the firms profitability

Table 4.15: Effects of Inventory Turnover on the firms Profitability

<table>
<thead>
<tr>
<th>Level of Effects of Inventory Turnover on Profitability</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid Highly</td>
<td>15</td>
<td>50.0</td>
<td>50.0</td>
<td>50.0</td>
</tr>
<tr>
<td>Average</td>
<td>11</td>
<td>36.7</td>
<td>36.7</td>
<td>86.7</td>
</tr>
<tr>
<td>Low</td>
<td>1</td>
<td>3.3</td>
<td>3.3</td>
<td>90.0</td>
</tr>
<tr>
<td>No Effect</td>
<td>1</td>
<td>3.3</td>
<td>3.3</td>
<td>93.3</td>
</tr>
<tr>
<td>Missing</td>
<td>2</td>
<td>6.7</td>
<td>6.7</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Figure 4.15: Effects of Inventory Turnover on the firms Profitability

Source: Author (2011)

According to table 4.15 above, it is clear that inventory turnover highly affects the level firms profitability having 50%. This is followed by 37% of the respondents who were to the opinion that inventory turnover averagely affect firms profitability, 3% of the respondents argued that inventory turnover has low effect on profitability while 7% of the respondents said it has no effect.
4.3 Descriptive Statistics

Descriptive analysis shows the mean, and standard deviation of the different tested variables of the study. The table 4.11 presents descriptive statistics for 30 sampled NSE listed firms for a period of five years from 2004 to 2009. The mean value of Gross profitability is 53.3% of total assets, and standard deviation is 27.5%. It means that value of the listed companies' profitability index can deviate from 27.5% to both positive and negative side.

Table 4.16 Descriptive Statistics

<table>
<thead>
<tr>
<th>Variables</th>
<th>ALL</th>
<th>AGRI</th>
<th>COMM</th>
<th>FINAN</th>
<th>INDUST</th>
<th>ALTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>AP MEAN</td>
<td>74.403</td>
<td>97.457</td>
<td>42.719</td>
<td>114.058</td>
<td>51.758</td>
<td>48.807</td>
</tr>
<tr>
<td>AP STD DEV</td>
<td>43.291</td>
<td>0.1896</td>
<td>0.2443</td>
<td>0.5424</td>
<td>0.2207</td>
<td>0.1690</td>
</tr>
<tr>
<td>INV MEAN</td>
<td>87.746</td>
<td>69.692</td>
<td>52.114</td>
<td>69.968</td>
<td>35.361</td>
<td>42.547</td>
</tr>
<tr>
<td>INV STD DEV</td>
<td>64.420</td>
<td>1.1663</td>
<td>3.6037</td>
<td>2.2241</td>
<td>4.5263</td>
<td>2.5113</td>
</tr>
<tr>
<td>CCC MEAN</td>
<td>73.217</td>
<td>45.551</td>
<td>61.173</td>
<td>10.010</td>
<td>54.737</td>
<td>77.0168</td>
</tr>
<tr>
<td>CCC STD DEV</td>
<td>102.150</td>
<td>104.427</td>
<td>50.622</td>
<td>59.611</td>
<td>41.948</td>
<td>34.416</td>
</tr>
<tr>
<td>AR MEAN</td>
<td>59.914</td>
<td>73.3450</td>
<td>61.0750</td>
<td>54.0524</td>
<td>71.0615</td>
<td>83.307</td>
</tr>
<tr>
<td>AR STD DEV</td>
<td>78.621</td>
<td>0.0718</td>
<td>0.1003</td>
<td>0.1077</td>
<td>0.0680</td>
<td>0.0720</td>
</tr>
<tr>
<td>GROSP MEAN</td>
<td>0.533</td>
<td>0.3501</td>
<td>0.2550</td>
<td>0.5240</td>
<td>0.1615</td>
<td>0.1218</td>
</tr>
<tr>
<td>GROSP STD DEV</td>
<td>0.275</td>
<td>0.4162</td>
<td>0.1003</td>
<td>0.1077</td>
<td>0.1680</td>
<td>0.1526</td>
</tr>
</tbody>
</table>

Source: Calculations Based on Annual reports of the Listed Companies for 5 years from 2004 to 2009

N/B

- Number of days accounts receivable (AR)= Average of accounts receivable / Sales* 365
- Number of days accounts payable (AP)= Average of accounts payable / Cost of goods sold * 365
- Number of days inventory (INV) = Average of inventory / Cost of goods sold * 365
- Cash conversion cycle (CCC) = AR+ INV- AP
- Gross operating profitability (GROSSPR)= (Sales – Cost of goods sold)/(Total assets – Financial assets)
The cash conversion cycle used in checking the efficiency in working capital management is on average 73 days and standard deviation is 81 days. Firms receive payment against sales after an average of 60 days and standard deviation is 79 days. Table also gives the average profitability (GROSP) for the financial sector having the highest profit of 52% and the lowest is alternative investment sector with 12%.

Financial Sector has the lowest CCC with 10 days and 60 days standard deviation. On average firms collect their receivables after 60 days while they take on average 74 days to pay suppliers. The average Cash Conversion Cycle for the listed Companies within NSE is 102 days. The lower the value is better due to reveal that firm has high liquidity which easily converts its short term investment in current asset to cash. However, longer value of CCC indicate greater investment in current assets, and hence the greater the need for financing of current assets. This supports the reason why Financial and investment sector made higher profits during the examined trade period.

Alternatively, AP measures the average time a firm takes to pay their suppliers. The higher the value, the longer firms take to settle their payment commitments to their suppliers. From the above table it is evidenced that commercial sector used the lowest i.e. 42 days to pay their suppliers while the financial sector used the highest number of days i.e. 114 days to settle their payments to their suppliers. Consequently, financial sector used the least number of days (i.e. 54 days) to collect payments from its customers. This was followed by the commercial sector which had a 61 days collection period.
CHAPTER FIVE

5.0 RESEARCH FINDINGS, RECOMMENDATIONS AND CONCLUSION

5.1 Introduction

This chapter presents the study findings, recommendations and conclusions. The main purpose of the study was to analyze the effects of working capital on NSE listed company profitability.

5.2 Research Findings

The study established that the composition of working capital depends on a multiple of factors, such as business operational level, operational efficiency, inventory policies, debt policies, technology used and nature of the industry since the major components of working capital include stocks (raw materials, work-in-progress and finished goods), debtors, cash and bank balances.

The study revealed that the Cash Conversion Cycle (CCC) is used as a comprehensive measure of working capital as it shows the time lag between expenditure for the purchases and the collection of sales of finished goods. The longer the cycle, the larger the funds blocked in working capital.

The study also established that Management of working capital means management of current assets and current liabilities, if the NSE listed companies properly manage their cash, accounts receivables and inventories in a proper way, this will ultimately increase profitability.
It also emerged that less profitable firms wait longer to pay their bills. In that case, profitability affects the account payables policy and vice versa. Therefore speeding up payments to suppliers might increase profitability because firms often receive a substantial discount for prompt payment.

The goal of working capital management is to ensure that a firm is able to continue its operations and that it has sufficient ability to satisfy both maturing short-term debt and upcoming operational expenses.

The study established that the management of working capital involves managing inventories, accounts receivable and payable, and cash. The ability of the firm to continuously operate in longer period depends on how they deal with investment in working capital management. The optimal of working capital management could be achieved by companies that manage the trade off between profitability and liquidity.

The collection of accounts receivable becomes a disruptive force in day-to-day business operations. The costs associated with collections directly decreases profitability.

5.3 Answers to Research Questions

The findings of the research study and stated questions in chapter one were tested against the findings and the following observations were made:

The results of the study showed that cash conversion cycle play a very effective role on firm’s profitability. Working capital management of the listed companies was measured by cash conversion cycle (CCC) which focuses on the length of time between when a firm makes payment and when firm receives cash inflow. It is evidenced from the research that the agricultural sector has a cash conversion cycle (CCC) of 46 days and recorded a gross profit
margin of 35%, the Commercial sector had a 61 days cash conversion cycle and made a
gross profit margin of 25%. The financial sector of NSE listed companies had the lowest cash
conversion cycle of 10 days and made a gross profit margin of 52%. The lower the value is
better due to reveal that firm has high liquidity which easily converts its short term
investment in current asset to cash. However, longer value of CCC as in the case of
alternative investment sector who recorded a 77 days cash conversion cycle had the lowest
gross profit margin of about 12%. This shows that the greater the firm invests in current
assets, the greater the need for financing of current assets.

The analysis in chapter four also indicate that account payable being the average time firm
takes to pay their suppliers has effects on the firm's profitability. The higher the value, the
longer firms take to settle their payment commitments to their suppliers. The NSE listed
companies averagely takes 74 days to pay their suppliers and 59 days to collect the firms
debts. This shows that both accounts payable and accounts receivable has influence on the
firm's profitability meaning that the profit increase as the collection period is decrease. Cash
conversion cycle (CCC) and profitability, measured through gross operating profit.

It follows that managers create profits for their companies by handling correctly the cash
conversion cycle and by keeping accounts receivables at an optimal level. Slow collection of
accounts receivables is somehow related to low profitability and that can be improved by
reducing the credit collection period.

The research also indicates that the firm's inventory turnover period has both positive and
negative influence on its profitability. This means that inventory turnover period lead to
increased profits to the company. The firm management should therefore make more profit
by maintaining optimal Inventory level and reduce the firm's cash conversion period.
5.4 Study Recommendations

Efficient management of working capital plays an important role of overall firms' performance strategy. Working capital is regarded as the result of the time lag between the expenditure for the purchase of raw material and the collection for the sale of the finished good. Therefore the way a firm's working capital is managed have a significant impact on both the liquidity and profitability of the company. The main purpose of any firm is to maximize profit. Conversely, if the firm does not care about liquidity, it may face the problem of insolvency. For these reasons working capital management should be given proper consideration and will ultimately affect the profitability of the firm.

Working capital management should involve planning and controlling current assets and current liabilities in a manner that eliminates the risk of inability to meet due short term obligations on the one hand and avoid excessive investment in these assets on the other hand.

The research also noted that working capital management has become one of the most important issues in organization, as a result, companies can minimize risk and improve their overall performance if they can understand the role and determinants of working capital. On this regard, the researched made the following recommendations:

- The company should have a well organized accounts receivable an payable probably the largest single asset on your balance sheet as turning it into a profit center requires a carefully planned and well managed credit system.

- Results of this study found that cash conversion cycle are significantly negative associated to the firm profitability. Thus, company manager should therefore be
concerned with reduction of cash conversion period so that it can maximize the profitability index.

- There should be effective and efficient listed company’s inventory control management system which can improve the cash flow of a company by focusing and adopting proper inventory management policies and procedures.

- The company should increase the sales in order to increase in their profitability as the sales are directly related to the profits the company might make over a specified trade period. Therefore the company should stretch the accounts payable so that they can reduce the cash conversion cycle period

5.5 Conclusion

Result from analysis of relationship between working capital management and profitability on Nairobi stock market also indicates that there is a negative between number of days accounts receivable, number of days inventories and profitability. So we claim that managers can increase profitability by reducing the number of days accounts receivable and inventories. Besides, our research also shows that more profitability firms wait longer to pay their bills.

The Working capital management is to manage the firm’s current accounts to achieve a required balance among profitability and risk. Working capital management is important factor as it directly affects the profitability of the firm. The main objective of this article is to determine the impact of account receivables days, inventory days, account payables days and cash conversion cycles on return on total assets and to analyze the variation in working capital needs and its impact on profitability.
Efficiency in working capital management is so vital as it directly affects company profitability. While excessive levels of working capital can easily result in a substandard return on assets; inconsiderable amount of it may incur shortages and difficulties in maintaining day-to-day business operations. Excessive levels of current assets can easily result in a company realizing a substandard return on investment. Efficient working capital management involves planning and controlling current assets and current liabilities in a manner that eliminates the risk of inability to meet due short term obligations on the one hand and avoid excessive investment in these assets on the other hand. With regard to current liabilities, the company is responsible for paying these obligations on a timely basis.

Working capital meets the short term financing requirements of any business. Lesser working capital may affect the profitability. Working capital management of the firm affects the profitability by different variables like average collection period, average payment period and cash conversion cycle. The profitability of the firm and its value is also affected through the working capital management because profitability and risk of the firm become low due to the greater increase in investment in current assets. The management creates value for the shareholders by increasing inventory level, account receivable. The firms are capable to attaining competitive advantage by using effective and efficient utilization of resources.

Working Capital Management is a very sensitive area in the field of financial management as it involves the decision of the amount and composition of current assets and the financing of these assets. The Working Capital Management of the listed companies affects its profitability. The ultimate objective of any company is to maximize the profit. Larger inventory reduces the risk of a stock-out. Trade credit may stimulate sales because it allows customers to assess product quality before paying. Delaying payments to suppliers allows a firm to assess the quality of bought products, and can be an inexpensive and flexible source
of financing for the firm. On the other hand, late payment of invoices can be very costly if the firm is offered a discount for early payment. A popular measure of Working Capital Management (WCM) is the cash conversion cycle, i.e. the time lag between the expenditure for the purchases of raw materials and the collection of sales of finished goods. The longer this time lag, the larger the investment in working capital.

5.6 Areas of further Study

The following points are suggested for further research:

(i) The Role of Cash Conversion Cycle in determining the business liquidity level

(ii) An analysis of the relationship between liquidity, working capital and profitability.
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Appendix A: QUESTIONNAIRE:

Section One: Bio Data

1. Your title. ................................................................. (Optional)

2. Department ..............................................................

3. Your Age (Please tick appropriately)

   18-25 years □  26-33 years □  34-45 years □  Above 45 years □

4. Gender (please tick appropriately)

   Male □  Female □

5. Level of Education (please tick appropriately)

   College Diploma □  First Degree □  Masters □

6. Work experience (please tick appropriately)

   Below 5 years □  6-10 years □  11-15 years □  16 and above years □

7. How old is your organization?

   6-10 years □  11-15 years □  Over 16 years □

8. Where is the registered office of your company?

   Nairobi □  Out-side Nairobi □

9. In which industry does your firm fall?

   Finance □  Industrial □  Commercial □  Agricultural □  Alternative □
Section Two

Cash Conversion Cycle

10. Do you know the meaning of Cash Conversion Cycle?

Yes  □  No  □

11. How can you describe the organizational cash conversion cycle with the existence of
effective management of working capital?

Very Satisfactory  □  Satisfactory  □  Unsatisfactory  □

12. a) Do you think the Cash Conversion Cycle period has effect on the firms
profitability?

Yes  □  No  □

b) Explain your answer

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Accounts Payable

13. a) To what level does the credit period affect the firms profitability?

Highly  □  Average  □  Low  □  No effect  □

b) Briefly explain your answer

________________________________________________________________________

________________________________________________________________________

51
Accounts Receivable

14. a) Does your firm give credit facilities to its customers?

Yes □       No □

15. How would you rate the service level as a result of effective management of accounts receivables in your organization?

Very effective □  Fairly effective □  Not effective □  Not sure □

16. Does credit provided to customers affects the profitability level of the firm?

Yes □       No □

Briefly explain

........................................................................................................................................
........................................................................................................................................
........................................................................................................................................

Inventory Turnover

17. Does your firm keep stock inventories?

Yes □       No □

18. To what level does the credit period affect the firms profitability?

Highly □  Average □  Low □  No effect □
19. Kindly volunteer any information or factor(s) that in your opinion affects the effective management of organizational working capital and profitability?

..............................................................................................................................

..............................................................................................................................

..............................................................................................................................

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Appendix B: NSE Listed Companies by Trade Sector

Agriculture

1. Rea Vipingo Ltd.
2. Sasini Tea & Coffee Ltd.
3. Kakuzi Ltd.

Commercial and Services

1. Access Kenya Group
2. Marshalls E.A. Ltd.
3. Car & General Ltd.
4. Kenya Airways Ltd.
5. CMC Holdings Ltd.
6. Nation Media Group Ltd.
7. TPS (Serena) Ltd.
8. ScanGroup Ltd.
10. Safaricom Ltd.

Finance and Investment

1. Barclays Bank of Kenya Ltd.
2. CFC Stanbic Bank Ltd.
3. Housing Finance Ltd.
4. Centum Investment Ltd.
5. Kenya Commercial Bank Ltd.
7. Pan Africa Insurance Holdings Co. Ltd
10. Standard Chartered Bank Ltd.
11. NIC Bank Ltd.
12. Equity Bank Ltd.
13. Olympia Capital Holdings Ltd
15. Kenya Re-Insurance Ltd.

Industrial and Allied

1. Athi River Mining Ltd.
2. BOC Kenya Ltd.
4. Carbacid Investments Ltd.
5. E.A. Cables Ltd.
6. E.A. Breweries Ltd.
7. Sameer Africa Ltd.
8. Kenya Oil Ltd.
9. Mumias Sugar Company Ltd.
10. Unga Group Ltd.
11. Bamburi Cement Ltd.
12. Crown berger (K) Ltd.
13. E.A Portland Cement Co. Ltd.
15. Total Kenya Ltd.
16. Eveready East Africa Ltd.
17. Kengen Ltd.

Alternative investment market segment

1. City Trust
2. Baagads
3. Express
4. Williamson Tea Kenya
5. Kapchorua Tea co.
6. Kenya Orchads
7. Limuru Tea co.