THE EFFECT OF WORKING CAPITAL MANAGEMENT ON PROFITABILTY OF FIRMS IN THE SOFT DRINKS AND BEER INDUSTRY IN KENYA

BY

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D63/75128/2014

A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF SCIENCE IN FINANCE, SCHOOL OF BUSINESS, UNIVERSITY OF NAIROBI

2016

DECLARATION

This research project is my original work and has never been presented in any other university or College for an award of degree.

Signed…… Date……

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This research project has been submitted for examination with my approval as University Supervisor.

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ACKNOWLEDGEMENT

To God be the glory for enlightening, strengthening and guiding me through this proposal.

I would like to express my deep gratitude to all my post-graduate class mates for the advice and contributions.

I also wish to immensely appreciate my supervisor: Dr. Winnie Nyamute for her guidance and support.

To my parents: Robinson and Joyce Agasa, appreciation is also due to both of you for your endless support. God bless you. To my siblings - Benjamin, Edwin and Emma; thank you very much for your prayers and advice.

And to my Bible Study group, thanks for your prayers and support.

The far that I have reached is because I stood on the shoulders of all the above-mentioned wonderful and blessed giants.

Thank you and God bless you all.

DEDICATION

This research project is dedicated to my dear parents Mr. and Mrs. Agasa for laying the strong foundation to my life. Your unending support and love brought me this far. I am humbled to have you.

ABBREVIATIONS

ANOVA - Analysis of variance

ACP - Accounts Collection Period

APP - Accounts Payable Period

CCC - Cash Conversion Cycle

CR - Current Ratio

DR - Debt Ratio

ICP – Inventory Conversion Period

ITID - Inventory Turnover in Days

NSE – Nairobi Stock Exchange

NTC - Net Trading Cycle

JIT - Just In Time

ROA - Return on Assets

WCM - Working Capital Management

TCE - Transaction Cost Economic Theory

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ABSTRACT

This study set to explore and also analyze the impact of working capital management (on firms in the soft drinks and beer industry in Kenya) and its effect on these firms profitability. Working capital management could be measured either by the operating cycle, cash conversion cycle or the net-trade cycle. The study hypothesized that there is a significant relationship between working capital variables and profitability of these firms. This study was descriptive and quantitative in approach. The population of interest in this study constituted soft drinks and beer companies for the period of 2012-2015. It comprised both listed and non-listed firms. Data collected from 15 firms was analyzed using both descriptive and inferential statistics Furthermore testing of the null hypothesis is undertaken. The dependent variables were six (Average Collection Period, Debt Ratio Average Payment Period, Inventory period, Cash Conversion Cycle and, Current Ratio). The dependent variable in this study was Return on Assets. F-test was used to test the hypothesis. In this regard, an F-test value (4.05) which was significant (0.002) was obtained. Seeing that the significance value of F was below 0.05, it can be deduced that there was overall significant relationship between the independent variables and the dependent variable under investigation in the study. This led to the acceptance of the alternative hypothesis. This means that there is a significant relationship between working capital variables and profitability of these firms. Furthermore, the standardized regression coefficients obtained were used to show the contribution of each variable to the model. Some of the coefficients are not significant. Only the inventory turnover (ITID) and, debt ratio (DR) are the only reliable predictors of financial performance (Return on Assets) in the selected soft drink and beer firms in Kenya since they have significant t-test values. A firm that has lower debt ratio is able to enjoy good balance between profitability and liquidity. This study recommends comparative studies in other sectors in Kenya. This study used the descriptive survey design, comparative studies could be taken on the subject under investigation using longitudinal surveys. This would be vital since they could show the nexus liquidity and profitability in the sector over longer periods of time rather that the four years focused by this study. In addition, in-depth studies could be undertaken on the various independent variables that were under investigation in this study. Since accessing secondary data is often a hard feat, it is vital to remodel this current study and undertake studies using primary sources for verification purposes of the findings obtained. It is also worth noting that government regulation affects capital management in Kenya. The signing of the interest capping law in Kenya for example may affect the level to which firms in the soft drinks and beer industry access capital. It is imperative to undertake studies that unearth the effect of such legislation on capital management and financial performance in the soft drinks and beer industry. Lastly, it is also important to undertake studies on other possible factors affecting capital management practices in the beer and soft drinks sector so as to enhance the richness of information unearthed by this current study.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The objective of this study was to analyze the impact of working capital management (on firms in the soft drinks and beer industry in Kenya) and its effect on these firms profitability. Management of working capital is the capacity to regulate successfully and productively the present resources and short term obligations in a manner that gives the company the most extreme profit for its benefits and minimizes payments for its liabilities. Shin and Soenen (1998) cited that by being more efficient in managing working capital, a firm can actually increase its profits.

The more efficient a firm is in managing its working capital the higher its profitability and liquidity. It is a vital component in finance that directly influences the profitability and liquidity of firms (Raheman & Nasr, 2007). This implies the firm can proceed with its operations and that it has sufficient income to cover fleeting obligation and up and coming operational costs. It deals with liquid assets and short term obligations. Firms fewer current assets may bring about deficiencies and challenges in keeping up smooth operations whereas excessive levels of current resources lowers returns on those assets and increases the firm’s cost of capital.

With respect to the short term obligations, the firm is in charge of paying these commitments on a timely basis. Efficient firms eliminates the inability to meet these obligations. A well-managed working capital advances an organization's liquidity and increases the value of shareholders (Jeng-Ren, Li & Han-Wen, 2006)

1.1.1 Working Capital

Working capital is what a business needs in its day to day operations. It entails managing inventories, accounts receivables, payables, and cash. The above components are crucial for the performance of a company. Working capital is viewed as the aftereffect of the time slack between the purchase of raw materials and sale of completed goods. Thus for an effective system, a firm should shorten its accounts receivables, lengthen accounts payables and maintain a low level of inventory. Basically a company has to sell inventories and collect receivables.

Proper management of working capital helps a firm run its business productively and for a firm to be competitive it has to be efficient in its working capital management (Alshubiri, 2011).It is regarded as life when it comes to any economic activity. Efficient working capital entails an effective plan that controls and manages the liquid assets and short term liabilities (Eljelly, 2004).Thus there is no risk of failure to pay the creditors. As he indicated, maintaining proper liquidity levels of a company is significant if the firm is make bumper profits.

Various ratios such as current and quick ratios are used when it comes to computing the working capital. Osisioma (1997) is of the opinion that, for a firm to achieve the desired levels of working capital it needs to have a resourceful mix of all the working capital components thus assuring sufficient capital in a company that will enable it to meet the short term needs and invest in any profitable opportunities.

A company can have positive working capital ensures a company can cover its short-term liabilities but having too much working capital in unsold inventories or uncollected accounts

receivables from past sales shows a company is ineffective in using its resources. A company can have negative working capital maybe in a case where a company has invested in non-current assets. Though this makes the use of funds seemingly more effective it's is risky as these assets cannot be easily liquidated for cash to meet short term obligations.

1.1.2 Profitability

Profitability is the ability of a company to use its resources to generate revenues in excess of its expenses. A profit is the reward or return for taking risks and making investments. Thus we look at ways companies optimize their working capital so that it doesn't compromise future sales and profits. The profitability liquidity tradeoff is imperative in light of the fact that if management of this capital is neglected then the organizations are probably going to come up short and even terminate their business (Kargar & Bluementhal, 1994). By minimizing working capital, a firm might miss out on a sudden demand on their product thus missing out on revenues and profits.

Profitability is measured in various ways

Gross profit margin

Net profit margin

Operating Profit Margin

Return on Assets

Owners and managers should carefully watch these vital profitability ratios. Firms that are liquid pay their creditors in time and might take advantage of new business opportunities.

1.1.3 Relationship between Working Capital & Profitability

Thus we need a striking balance or a tradeoff between profitability and liquidity and this has always been a dilemma in working capital management. According to (Raheman & Nasr, 2007) the major objective of a firm is to maximize profits but by doing so it should preserve liquidity. If a company wants bumper profits, it should minimize its working capital levels and if it wants liquidity, it should then raise the level of working capital, but this would reduce sales and reduce profitability. Too much liquidity highlights the existence of used or idle funds which do not yield any returns (Smith 1980). This excess capital will be detrimental to the company because unused funds bring no revenue and this in turn, will lead to fall in share prices.

Working capital also need to be funded and the interest on this financing is a carrying cost that reduces the company's profitability. On the other hand insufficient liquidity, deferring payments due to insufficient liquidity has consequences, for example missing out on discounts granted for immediate payments. This may cause bankruptcy which might lead to insolvency. Therefore, the key is to maintain an optimal level of working capital that balances the needed financial strength with satisfactory investment effectiveness. Investing idle cash but not losing out on liquidity. However Hirigoyen (1985) contends that overtime profitability and liquidity relationship could be positive.

1.1.4 Context of Study

This study aims to deduce if there is any relationship between liquidity and profitability of firms in the soft drinks and beer industry in Kenya. Statistical analysis of these companies will be helpful in figuring out whether the relationship is significant or not. If such relationship exist then how beneficial is the optimization of working capital management to

these companies considering the fact that sales volume has grown over the years. Since the products of this industry are fast moving consumer goods, efficiency is key and the least efficient companies can be easily pushed out of business.

1.2 Research Problem

Working capital management is essential to a company's success. The main objective of firm is maximization of profits and thus the growth of earnings will in turn enhance shareholder value. The major dilemma in managing working capital is to accomplish the sought tradeoff between profitability and liquidity. If profits are increased at expense of liquidity then the company might lack sufficient working capital to cover its obligations and this can lead to legal troubles, liquidation of assets and potential bankruptcy. Most companies have different collection and payment policies. Therefore for each, there is need to identify the key areas that require focus in order to maintain liquidity, profitability and even solvency of the company. Working capital management is a metric for efficiency and general performance of any company. Companies with high liquidity maybe due to accumulation of idle funds, may yield low profits which will in turn damage it's goodwill and credit standings whereas if it lack's liquidity it might be forced to shut down as it will be unable to pay its creditors.

Deloof (2003) investigated the Belgian non-financial firms from 1992 – 1996. He established a negative relationship between payables, receivables cash conversion cycle and profitability. Raheman and Nasr (2007) examined Pakistani firms and determined that working capital management directly affects liquidity and profitability of any firm. Though the main goal of a company is to enhance its profitability, preserving liquidity is also a key objective. In his research firms don't need too much and shouldn't risk by having too less working capital. A manager can actually create good profits by proper management of their cash conversion

cycle, accounts receivables, inventory levels and accounts payables. Bankruptcy is likely for companies that do have inaccurate working capital procedures. WCM according to (Lazardis & Tryfonidis, 2006) is the management of accounts receivables in the most effective way so as to maximize the return. They determined that if a firm is more liquid, the easier it is for it to invest its capital in profitable opportunities rather than working capital.

There are also some local studies on corporate performance and management of working capital. Mathuva (2010) concentrated on the impact of working capital management on corporate returns of listed firms at the NSE. On the other hand, Mwangi (2013) broke down the same relationship but concentrated on assembling firms listed at the Nairobi's securities exchange.

However such relationship have not been identified for firms in the soft drinks and beer industry in Kenya. In other words there have been little research done on firms in this industry thus my problem statement "the effect of working capital management on profitability of firms in the soft drinks and beer industry in Kenya". Therefore my study intended to provide key recommendations that will improve the firms' use of working capital management.

1.3 Research Objectives

The main objectives of this research

To establish working capital management practices of firms in the soft drinks and beer industry in Kenya. How these firms manage their cash, stock and their approaches in receivables and payables management.

To establish the relationship between profitability and liquidity i.e. if the relationship is significant or not.

1.4 Value of the Study

This study could be beneficial to the company under study i.e. by effectively managing their working capital the company ensures that timely and prompt payments is made to the creditors thus building trust and reputation. Furthermore a good credit history will help the company get fast approvals of loans from lenders. Sufficient liquidity that ensures solvency and uninterrupted flow in production is also an advantage.

To the management of the company, this study is beneficial in that the manager will be able to apply the best working capital practices thus enhancing the company's financial performance.

Other beneficiaries are the shareholders. Efficient management of working capital will guarantee profits and the ability of the company to make regular payment of dividends in cash.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This section represents literature relating to working capital management and financial performance. It will capture contributions made by various researchers in this field. It will cover the empirical and theoretical studies used by the researchers relating to working capital and profitability.

2.2 Theoretical Review

Working capital management could be measured either by the operating cycle, cash conversion cycle or the net-trade cycle. The most popular is the cash conversion cycle and it best indicates how efficient a firm is in managing its working capital.

2.2.1 Operating Cycle Theory

The operating cycle is the average period of time required for a business to make an initial outlay of cash to produce goods, sell the goods, and collecting the money from the same operating activity. It is the period between the start of production process to the time cash is collected from debtors in a typical business (Gitman, 2009).

The total time taken to hold the inventory and collection of cash from customers is the operating cycle of the company. Most companies try to keep their operating cycles at a year or less. The cumulative days per turnover for accounts receivable and inventory investments approximates the length of a firm's operating cycle.

However, Park and Gladson (1963) are of the view that the one year temporal standard explaining currentness of assets is simply arbitrary, because operating cycle may be as short as 2 or 3 months i.e. mostly in case of a food industry or 2-3 years in shipping building industry thus the term 'natural business year' should be used instead of one year. According to Park and Gladson a natural business year is a period where an activity cycle is completed. The operating cycle continues as long as the firm remains in operation.

Thus for effective management of working capital a firm must incorporate both inventory holding period and accounts receivables measures into its operating cycle. Pricing of raw materials and stock valuation is also a critical area in inventory management.

Receivables Management

The main objective is to reduce the period between the day of sale and the day cash from the goods sold was received from customers. Average collection period is that time expected to receive cash from customers. It's when a firm's average receivables investment is converted to cash. The unpaid credit that a firm has extended to its customers. This might include trade credit which in turn leads to increase in sales but the firm must be cautious when deciding the time allocated for payment of purchases (Prasana, 2000). Extending a credit period has opposite effect as it is likely to reduce sales. Management of receivables is crucial as it might prevent the firm from incurring large losses from bad debts.

Inventory Management

Inventory consists of finished goods, supplies, work in progress and raw materials. Raw materials are inputs in making the final product whereas work in progress refers to goods in

stages of production. Finished goods are final products ready for sale. Having too much or too less stock incurs costs.

Proper management of inventory ensures a stable working capital, which ultimately increase profitability. It is critical for business to maintain an adequate and sufficient level of inventories (Lazaridis & Tryfonidis, 2006). Thus the firm must take two factors into consideration

a) Size of the inventory-determines the holding costs (costs associated with storing inventory or assets that remain unsold)
b) The level an order is placed as this determines the ordering costs (expenses incurred to create and process an order to a supplier).

A classical production scheduling model called the Economic Ordering Quantity (EOQ) is used to determine that optimum order quantity that minimizes both the holding and ordering costs.

2.2.2 Transaction Cost Economic Theory

A transaction cost is a cost for making a monetary trade. This theory accounts for the real cost of outsourcing production of products, transaction costs, contracting costs, coordination costs, and search costs. The inclusion of all costs are considered when making a decision and not just the market prices.

With regard to working capital management these costs include the cost of holding inventories (costs associated with storing inventory or assets that remain unsold), ordering

costs (expenses incurred to create and process an order to a supplier) and carrying costs (cost incurred due to maintenance of inventory).

Therefore by looking at the costs and benefits of having different levels of inventory a firm should determine the optimum level it should hold. Though this depends on what industry or business the firm is in.

This theory is based on the work of two authors, Oliver Williamson (1975) & Ronald Coase (1937) who argued that a firm can make a more efficient allocation of resources than a market (a bargaining system). According to TCE the fundamental role of a firm is to minimize the costs and understanding of these costs will enable firms to grow and incorporate additional activities.

2.2.3 Net Trade Cycle Theory

This theory tells us the amount of time it will take for cash to go through the trade cycle back to cash. To estimate or derive the Net Trade Cycle, one factors the days funds are tied up in receivables, inventory, and accounts payable. Once the days are tabulated for each, we add account receivable days to inventory days then we subtract account payables days. The result can either be positive (usually) or negative.

In the studies conducted by Shin & Soenen (1998), Deloof (2003), Raheman & Nasr (2007) and Teruel & Solano (2007) it was deduced that even though results might be different from one sector to another, the relationship between profitability and the cash conversion cycle of a firm is mostly negative. Thus, by being more efficient in managing working capital, a firm can actually increase its profits.

2.2.4 Cash Conversion Cycle Theory

The cash conversion cycle is a basic tool that is applied in the evaluation of the efficiency of working capital management (Richard & Laughlin, 1980). It is a metric used to evaluate how quick an organization can change over money available into stock and record payables, then collect cash from sale of the goods. Basically it's that period where money is held up in stock before receipt of the same from debtors.

According to (Gitman 1974) we can calculate the minimum cash balance needed by looking at the total cash cycle (period in days from the time a company pays its suppliers to the time it receives payment from debtors for the goods sold). This cycle shows the time taken once purchase is made from suppliers to when money has been collected from customers (Padachi, 2006).

A negative CCC especially if the trade payables is high means the firm is receiving cash from debtors faster than it's paying its creditors thus generating cash flows.

A longer cycle increases sales thus increase in profitability while at the same time this longer cycle means a firm will have to invest more working capital. Thus the firm needs to ensure that the increase in working capital investment doesn't rise faster than the increase in profitability.

This might be the case especially if cash is held up in accounts that don't yield interest such as accounts receivables. That why researchers and authors have argued that if firms intend to increase the shareholders' value they must shorten the CCC to a reasonable minimum.

2.3 Determinants of Profitability

Profitability is the ability of a business to earn a profit. There are various determinants of profitability.

2.3.1 Leverage

Leverage can be measured and characterized from multiple points of view such as the debt to equity ratio. It shows the degree to which a business is utilizing borrowed money. Companies that are highly leveraged may face bankruptcy if they are unable to make payments on their debt.

Leverage is more prominent in concentrated ventures and has a far much impact on survival of firms (Opler and Titman, 1994). The advantage of using leverage to finance business operations is that it provides tax breaks. The amount of the interest paid on the loan reduces the total amount of taxable income for the business. Thus profitability is enhanced since the effective cost associated with borrowing is reduced.

2.3.2 Size of the Firm

The firm's size affects financial performance in many ways. Smaller companies tend to encounter higher unpredictability in their rate of return than their bigger partners (Baumol, 1962). Past studies on bankruptcy models suggests that bigger organizations are more solvent than the littler ones even if they have the same numerical estimations of their financial ratios (Beaver, 1966). Smaller firms can't exploit economies of scale that large firms exploit. On the hand the larger a firm is the higher the probability of inefficiency thus leading to inferior financial performance.

2.3.3 Corporate Governance

“Corporate governance is positively related with operating performance and business survival, therefore firms with sound corporate governance will be better placed to survive economic downturns” (Gibbs, 1993). Managers at times pursue an investment opportunity for their own sake even if the company doesn’t yield substantial return for the risk involved. That’s why most companies have external directors acting like professional referees who administer and supervise the management of the company,

2.3.4 Growth of a Firm

Firms that develop encounter expanding benefits while those making loses in the end leave the market. In this way firms at one point must alter their sizes to various financial conditions. However for adjustments, firms will have to incur costs but as Frank (1988) found out, growth is a decent sign of a firm’s performance expectations and thus infers a positive connection between a company's existence and the current growth.

2.3.5 Working Capital

This is the capital of a business which is utilized as a part of its everyday operations. It is the net of current resources less present liabilities. It ensures whether or not a business organization has adequate cash flow to cater for its short term needs. Efficient management of working capital increases the liquidity of a firm thus meeting its short term obligations quickly and invest in profitable opportunities keeping in mind that the interest on working capital financing is a carrying cost that reduces the company’s profitability. That tradeoff is the dilemma that needs to be addressed.

2.4 Empirical Studies

Different studies have broken down the relationship of working capital management (WCM) and firm profitability in different markets. Raheman, Afza, Qayyum and Bodla (2010) dissected the effect of managing working capital on companies' performance in Pakistan for the period 1998 to 2007. They examined 204 manufacturing firms listed on Karachi Stock Exchange. The outcomes indicated that all the working capital components including cash significantly affect the performance of the firms. They reasoned that most assembling firms encounter various challenges when it comes to their payment and collection policies. The study recommended that useful and strong policies should be developed for each working capital component.

Deloof (2003) explored the relationship between management of working capital and performance of Belgian firms, where he concentrated on 1009 vast Belgian non-budgetary firms for the time of 1992 to 1996.Using regression and correlation tests he established a noteworthy negative relationship between gross operating income and account receivables, inventories and payables of Belgian firms. On the basis of these outcomes he proposed that managers could make value for their shareholders by diminishing the receivable and inventories days to a sensible minimum.

Padachi (2006) investigated the pattern in working capital needs and performance of firms to identify the causes for any noteworthy disparity between the industries. He used the return on total assets as the dependent variable as a measure of profitability. He sampled 58 small manufacturing firms for the period between 1998 –2003. The regression results demonstrated that huge investment in stock and high debtors is yields lower return. The working capital

components used in the analysis were inventories days, accounts receivables days, accounts payable days and cash conversion cycle.

Huynh & Su (2010) examined the relationship existing between the cash conversion cycle, profitability, and its components for firms in Vietnam Securities Exchange. The findings demonstrated that the relationship between profitability and the cash conversion cycle is negative. This means that the lower the cycle the higher the profitability of firm. Therefore for managers to achieve a desirable return on shareholders' investment then they should ensure the cash cycle is optimum i.e. keep all the components of working capital to a reasonable minimum.

Ikpefan, Ailemen and Folashade (2014) inspected working capital administration and its impact on productivity of the assembling sector. Settle Nigeria Plc and Cadbury Nigeria Plc utilized as contextual investigations. The study used correlation and regression analysis to analyze data. Quick ratio was utilized to gauge liquidity, current proportion, trade receivable accumulation and trade payables installment periods were used as efficiency factors to catch the working capital administration strategy embraced by these organizations while return on equity was used as the benefit variable. Liquidity and efficiency variables were correlated against return on equity. The study found that the relationship was negative between liquidity and return on equity for Nestle Nigeria Plc and a positive relationship for Cadbury Nigeria Plc. Key recommendations from the study was; companies to eliminate old stock by writing them off and by improving on the quality of their assets. This will grant the companies the opportunity to enhance their investments at least in the short-term.

Mathuva (2010) in his study he examined the influence of working capital management on corporate profitability. He sampled firms (30) listed on the Nairobi Stock Exchange (NSE) between years 1993-2008.

The key findings from the study were:

1. The relationship between profitability and collection of receivables from customers is highly negative. He clarified that the highly profitable companies collect money from the debtors within the shortest period possible.
2. Another finding from the study is that the relationship between profitability and the time taken to convert stock into finished goods is significantly positive. It was clarified that firms, which keep up adequately high stock levels are least likely to face stoppages in the production process thus not losing out on business. It was also found out that the longer the firm delays payments the higher the profits it would make.

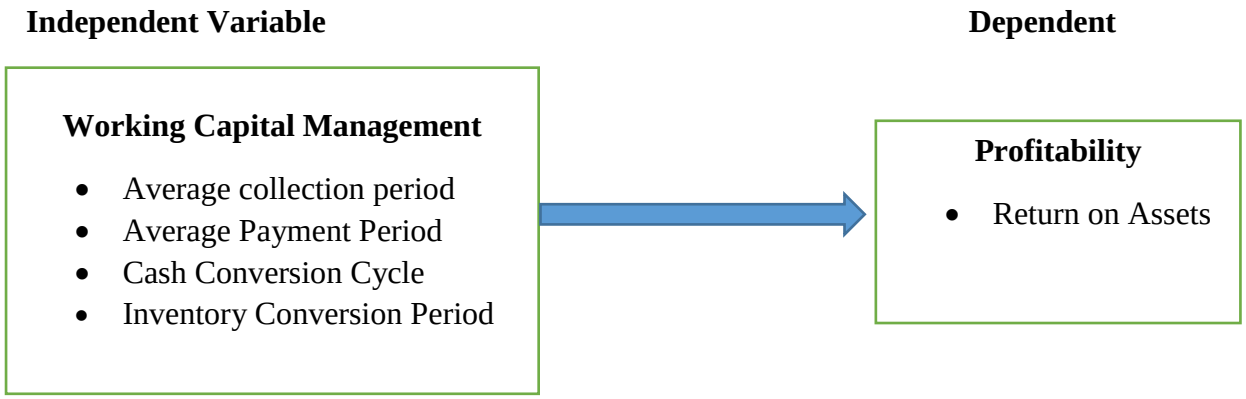
2.5 Summary

Working capital management is an essential component as it affects both liquidity and profitability. To achieve the right balance managers ought to regulate the tradeoff between the current cash flows and future profits.

The key findings in these studies show that the cycles i.e. (cash and the net trade cycle), and stock conversion period had a huge effect on the performance of the firms. The outcomes are quite mixed, however a larger part of studies have found out that there exists a negative relationship between a firm's performance and the management of its working capital. Besides WCM, leverage, increasing sales and the nature of the firm (size) had huge impact on the firm's profitability.

However it's important to note that working capital levels differ depending on the industry a firm operates in and little research has been done on Kenyan firms in the soft drinks and beer industry. Therefore due to lack of empirical evidence this study will focus on firms in this industry (soft drinks and beer industry) and their management of working capital and how it affects their performance.

Figure 1: Conceptual Framework



Hypotheses

There is a significant relationship between working capital variables and profitability of Kenya beverage firms.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter will focus on the research methods used in this study. The steps include research design, techniques used in sampling, data collection instruments and methods are also discussed, procedures and data analysis.

3.2 Research Design

Research design is the overall strategy that aims to address the research problem. It involves collection, estimation and investigation of information or data. The purpose of this research was to assess the impact of efficient management of working capital on performance of firms in the soft drinks and beer industry. Therefore a descriptive and quantitative research is used. Descriptive research is used to portray the characteristics of a phenomenon being studied. Descriptive research cannot be used as the basis of a causal relationship but it provides a knowledge base which can go about as a springboard for different sorts of quantitative research methods i.e. what variables are to be tested quantitatively.

3.3 Population

A research population is a well-defined collection of individuals or objects known to have similar characteristics. The population of interest in this study constitutes soft drinks and beer companies for the period of 2012-2015. It comprises both listed and non-listed firms. This study limits itself to firm's operating in the Kenyan market. New entrants in the market will also not be studied due to lack of past historical information. Furthermore firms with negative values in their total assets will not be included in the sample.

3.4 Data Collection

Data collection is the accumulation of information on variables of interest, keeping in mind the end goal is to answer expressed research questions, test theories, and assess results. We have two types of data. Primary data is data collected by the investigator for a specific purpose while secondary data refers to data that was previously compiled and passed through the statistical process. Zikmund (2003) defined secondary data as information not collected by the researcher but gathered prior to the current research by another person.

This study will be based on secondary data which will be obtained from financial statements. The advantage of using secondary data is that it's economical, time saving and a researcher is able to make out the gaps and deficiencies and what additional information needs to be collected. These financial statements will be obtained from NSE, CMA library and companies website.

3.5 Data Analysis

Data Analysis is the procedure of deliberately applying measurable or potentially legitimate strategies and techniques to depict and illustrate, gather and recap, and assess information. The whole process which begins promptly after information gathering and ends at interpretation is data analysis (Cooper & Schindler, 2003).

The quantitative research approach was employed to arrive at the findings of the study. Regression analysis and correlation was used in the study to recognize the nature and degree of the relationship between working capital management variables and financial performance. The impact of management of working capital on financial performance of firms are

modelled adapted by Maina (2013) using the following OLS regression equations to obtain the estimates:

Analytical Model

ROA = f (ACP, ITID, APP, DR, CR,)

$$ROA_{it} = \beta 0 + \beta 1 ACP_{it} + \beta 2 ITID_{it} + \beta 3 APP_{it} + \beta 4 CCC_{it} + \beta 5 CR_{it} + \beta 6 DR_{it} + \varepsilon$$

Where:

ROA: Return on Assets (ROA) to measure corporate financial performance

ROA = Net Income/ Average Total Assets.

ROA it: Return on Assets of firm i at time t (i = 1, 2… 14 firms,)

$\beta 0$, 1….6: Constants representing the course and degree to which every variable impacts the performance of a firm

ACP: The average collection period

ITID: Inventory turnover period

APP: The average payment period

CCC: Cash conversion period

CR: Current ratio

DR: Debt ratio

ε: The error term that is a surrogate for all other variables influencing performance

A correlation analysis is carried out to analyze the relationship between these variables and the firms' financial performance. Test of significance is carried out for all variables using t-test.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND INTERPRETATION

4.1 Introduction

The purpose of this study was to find out the effect of working capital management on profitability of firms in the soft drinks and beer industry in Kenya. This chapters presents the findings of the study. Both descriptive and inferential statistics are presented. Furthermore testing of the null hypothesis is undertaken. Finally, the summary of the findings and interpretations is presented.

4.2 Descriptive Statistics

Various measures that show good working management practices in a firm were assessed. To this end, data was collected from 14 firms. The following financial performance variables were assessed: Average Collection Period, Debt Ratio, Average Payment Period, Inventory Conversion Period, Current Ratio, Cash Conversion Cycle and Return on Assets. The findings obtained are presented in Table 4.1.

Table 4.1 Summary Statistics of the Financial Performance Variables

Variables	Minimum	Maximum	Mean	Std. Deviation
Average Collection Period (ACP) in days	24	40	33.38	4.54
Inventory Turnover Period (ITID) in days	20	36	28.75	4.33
Average Payment Period (APP)	540	625	592.25	19.28
Cash Conversion Period (CCC)	20	42	29.58	4.40
Current Ratio (CR)	1.2	1.9	1.54	0.16
Debt Ratio (DR)	0.2	0.82	0.44	0.15
Return on Assets (ROA) %	6	18	12.28	2.77

Table 4.1 gives information on the maximum and minimum value, the mean (central tendency) and the standard deviation of each variable. It is clear from the findings that the average collection period within the four years for the 15 firms was 33.38 days. The

inventory turnover period was slightly lower (28.75 days). On its part, the average payment period was 592.25 days while cash conversion period was 29.58 days. The mean current ratio was 1.54. Lastly the debt ratio and the return on assets were 0.44 and 12.28% respectively.

4.3 Correlation Analysis

Under this section, the relationship between the independent and depended variables is assessed. The dependent variables were six (Average Collection Period, Debt Ratio, Average Payment Period, Inventory Conversion Period, Current Ratio, Cash Conversion Cycle). Return on Assets was the dependent variable. The results obtained after correlation analysis are presented in Table 4.2.

Table 4.2: Pearson Correlation

Variables		Return on Assets (ROA)%
Average Collection Period (ACP) in days	Pearson Correlation	-.362**
	Sig. (2-tailed)	0.005
Inventory Turnover Period (ITID) in days	Pearson Correlation	-.476**
	Sig. (2-tailed)	0.000
Average Payment Period (APP)	Pearson Correlation	0.116
	Sig. (2-tailed)	0.379
Cash Conversion Period (CCC)	Pearson Correlation	-.381**
	Sig. (2-tailed)	0.003
Current Ratio (CR)	Pearson Correlation	-0.155
	Sig. (2-tailed)	0.236
Debt Ratio (DR)	Pearson Correlation	-.351**
	Sig. (2-tailed)	0.006

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

The significance level for this study is 0.01. In this case all correlation (r) values who significance value exceeds 0.01 are deemed not significant. In this regard, and as presented in Table 4.2, there were significant relationship between return on assets (ROA) and average correction period albeit negative (r=-0.362, sig=0.005) and, inventory turnover period (r=-0.476, sig=0.000). The relationship between average payment period and ROA was not significant (r=0.116, sig=0.379). There was negative and significant relationship between ROA and cash conversion cycle (-0.381, sig=0.003). The relationship between ROA and current ratio was not significant (r=-0.155, sig=0.236). Lastly, there was significant negative relationship between ROA and debt ratio (r=-0.351, sig=0.006).

4.4 Regression Analysis

Multiple regression analysis was undertaken between the various study variables, the model summary, Analysis of Variance and regression coefficients are presented under this section.

4.4.1 Model Summary

The model summary is presented in Table 4.3.

Table 4.3: Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.56[a]	.31	.24	2.42
a. Predictors: (Constant), DR, CR, APP, ITID, CCC, ACP				

As shown in Table 4.3, the regression model adopted in this study accounts for variability in the data by 31%. This is shown by the R Square value of 0.31. This means that although the model is not so strong, it can still be relied upon to predict the relationship between the variables under investigation in this study.

4.4.2 Analysis of Variance

The Analysis of Variance (ANOVA) was also computed. The findings obtained are presented in Table 4.4.

Table 4.4: Analysis of Variance

ANOVA[b]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	142.16	6	23.69	4.05	.002[a]
	Residual	310.03	53	5.85		
	Total	452.18	59			

a. Predictors: (Constant), DR, CR, APP, ITID, CCC, ACP

b. Dependent Variable: ROA

In Table 4.4 the Analysis of Variance (ANOVA) is presented. As presented under the F and Sig. columns, an F-test value (4.05) which was significant (0.002) was obtained. Seeing that the significance value of F was below 0.05, it can be deduced that there was overall significant relationship between the independent variables and the dependent variable under investigation in the study. As such, the alternative hypothesis is accepted. This means that there is a significant relationship between working capital variables and profitability of Kenya beverage firms.

4.4.3 Regression Coefficients

The coefficients obtained in this regression model are presented in Table 4.5

Table 4.5: Regression Coefficients

Coefficients[a]						
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	10.647	9.932		1.072	.289
	ACP	.014	.106	.023	.135	.893
	ITID	-.234	.106	-.365	-2.200	.032
	APP	.023	.017	.160	1.365	.178
	CCC	-.045	.097	-.071	-.462	.646
	CR	-1.501	2.164	-.089	-.694	.491
	DR	-4.752	2.291	-.255	-2.074	.043

a. Dependent Variable: ROA

The standardized regression coefficients show under the Beta column show the contribution of each variable to the model. Some of the coefficients are not significant. These include: average collection period (ACP); Average payment period (APP), cash conversion period (CCC) and, current ratio (CR). This means that inventory turnover (ITID) and debt ratio (DR) are the only reliable predictors of financial performance (Return on Assets) in the selected soft drink and beer firms in Kenya since they have significant t-test values (-2.2, sig 0.032 and -2.074, sig 0.043 respectively). As a result of these findings, the analytical model for this study, i.e. ROA$\boldsymbol{it}$ = $\boldsymbol{\beta 0}$+$\boldsymbol{\beta 1 ACPit}$ +$\boldsymbol{\beta 2 ITIDit}$ +$\boldsymbol{\beta 3 APPit}$ +$\boldsymbol{\beta 4 CCCit}$ +$\boldsymbol{\beta 5 CRit}$ +$\boldsymbol{\beta 6 DRit}$+$\boldsymbol{\varepsilon}$ was modified.

All the variables with coefficients that are not significant are dropped. In this regard, the modified model goes thus:

ROA$\boldsymbol{it}$ = $\boldsymbol{\beta 0}$+$\boldsymbol{\beta 2 ITIDit}$ +$\boldsymbol{\beta 6 DRit}$+$\boldsymbol{\varepsilon}$.

When the coefficients are added, the equation goes thus:

ROA$\boldsymbol{it}$ = 10.647 + (-2.2$\boldsymbol{ITIDit}$) + (-2.074$\boldsymbol{DRit}$) + 9.932.

4.5 Summary of Findings and Interpretations

The purpose of this study was to find out the effect of working capital management on profitability of soft drinks and beer firms in the Kenyan industry. Both descriptive and inferential statistics are presented. Furthermore testing of the null hypothesis is undertaken. Various measures that show good working management practices in a firm were assessed. To this end, data was collected from 15 firms. The following financial performance variables were assessed: Average Collection Period, Debt Ratio, Average Payment Period, Inventory Conversion Period, Current Ratio, Cash Conversion Cycle and Return on Assets. In this regard, information on the maximum and minimum value, the mean (central tendency) and the standard deviation of each variable was established. It is evident from the findings that the average collection period within the four years for the 15 firms was 33.38 days. The inventory turnover period was slightly lower (28.75 days). On its part, the average payment period was 592.25 days while cash conversion period was 29.58 days. The mean current ratio was 1.54. Lastly the debt ratio and the return on assets were 0.44 and 12.28% respectively.

Correlation analysis was also undertaken. Herein, the relationship between the independent and depended variables is assessed. The dependent variables were six (ACP, ICP, APP, CCC, DR and CR). The dependent variable in this study was Return on Assets. This is in line with Ikpefan, et al. (2014) in their study in Nigeria who posit that return on equity can be used as the profitability variable. The significance level for the correlation was 0.01. In this case all correlation (r) values who significance value exceeds 0.01 are deemed not significant. In this regard, and as presented in Table 4.2, there were significant relationship between return on assets (ROA) and average correction period albeit negative (r=-0.362, sig=0.005) and, inventory turnover period (r=-0.476, sig=0.000). The relationship between average payment

period and ROA was not significant (r=0.116, sig=0.379). There was negative and significant relationship between ROA and cash conversion cycle (-0.381, sig=0.003). The relationship between ROA and current ratio was not significant (r=-0.155, sig=0.236). Lastly, there was significant negative relationship between ROA and debt ratio (r=-0.351, sig=0.006).

Multiple regression analysis was undertaken between the various study variables. The regression model adopted in this study accounts for variability in the data by 31%. This is shown by the R Square value of 0.31. This means that although the model is not so strong, it can still be relied upon to predict the relationship between the variables under investigation in this study.

Analysis of Variance (ANOVA) was also computed. An F-test value (4.05) which was significant (0.002) was obtained. Seeing that the significance value of F was below 0.05, it can be deduced that there was overall significant relationship between the independent variables and the dependent variable under investigation in the study. As such, the alternative hypothesis is accepted. This means that there is a significant relationship between working capital variables and profitability of Kenya beverage firms.

Furthermore, the standardized regression coefficients obtained were used to show the contribution of each variable to the model. Some of the coefficients are not significant. These include: average collection period (ACP); Average payment period (APP), cash conversion period (CCC) and, current ratio (CR). This means that inventory turnover (ITID)and debt ratio (DR) are the only reliable predictors of financial performance (Return on Assets) in the selected soft drink and beer firms in Kenya since they have significant t-test values (-2.2, sig 0.032 and -2.074, sig 0.043 respectively). As a result of these findings, the analytical model for this study, was modified. All the variables with coefficients that are not significant are dropped. In this regard, the modified model goes thus:

$$ROA_{it} = 10.647 + (-2.2ITID_{it}) + (-2.074DR_{it}) + 9.932.$$

The Analytical model further buttresses the work of Raheman and Nasr (2007) who found out that the better the working capital management the higher the profitability and liquidity of a firm. A firm that has lower debt ratio is able to enjoy good balance between profitability and liquidity.

CHAPTER FIVE
SUMMARY CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

In this chapter, the study is summarized and conclusions made. This is done on the basis of the results of the study. The place of the findings within academic discourse is presented. Lastly, the areas for further study are identified.

5.2 Conclusion

This study focused on the impact of managing working capital and its effect on profitability of soft drinks and beer firms in the Kenyan industry. Data collected from 15 firms was analyzed using both descriptive and inferential statistics Furthermore testing of the null hypothesis is undertaken. The dependent variables were six (ACP, ICP, APP, CCC, DR and CR). The dependent variable in this study was Return on Assets. This is in line with Ikpefan, et al. (2014) in their study in Nigeria who posit that return on equity can be used as the profitability variable. F-test was used to test the hypothesis. In this regard, an F-test value (4.05) which was significant (0.002) was obtained. Seeing that the significance value of F was below 0.05, it can be deduced that there was overall significant relationship between the independent variables and the dependent variable under investigation in the study. This led to the acceptance of the alternative hypothesis. This means that there is a significant relationship between working capital variables and profitability of the soft drinks and beer firms in Kenya. These findings agrees with Shin and Soenen (1998) who pointed out that the efficiency in managing working capital is key since it has a significant influence on both the firm's liquidity and profitability . Furthermore, the standardized regression coefficients obtained were used to show the contribution of each variable to the model. Some of the coefficients are not significant. Only the inventory turnover (ITID) and, debt ratio (DR) are

the only reliable predictors of financial performance (Return on Assets) in the selected soft drink and beer firms in Kenya since they have significant t-test values. The Analytical model goes on to corroborate the work of Raheman and Nasr (2007) who found out that the better the working capital management the higher the profitability and liquidity of a firm. A firm that has a lower debt ratio is able to enjoy an optimal profitability- liquidity balance

5.3 Recommendation

Management firms need to have good working capital management practices. As such there is need to put in place ways of reducing Inventory Conversion Period and Debt Ratio which were the most important variables affecting the profitability of firms as shown in the analytical model adopted in this study. For this to happen, firms have to institute ways of reducing debts. This can work if customers (agents) are encouraged to reduce buying in credit. Better debt collection methods could also play a significant role in this regard. Companies also need to have robust management, streamlined production processes, competent staff and, reliable suppliers as well as good market strategies.

5.4 Limitations of the Study

This study focused on the working capital practices of soft drinks and beer firms in the Kenyan industry. Data was collected from secondary sources. Since most of the firms do not publish their financial reports online, it took a lot of time and effort to collect data. Some firms were of the view that their information may be made accessible to competitors and this could bring about unwarranted competition. To mitigate the associated unwillingness to provide such data, the researcher guaranteed the respondents that the information sought was for academic purposes only and would be treated confidentially.

Although findings obtained are supposed to represent the beer and soft drinks sector in Kenya, they may not be generalized to all firms in this sectors business context changes

frequently. Although some firms of the firms in the sector often find themselves grappling with access to working capital, others are multinationals with seemingly unlimited access to capital from other countries where economies could be stronger such as Coca Cola. However, as a descriptive study, this study casts a snapshot of the status quo on the subject under investigation. The results may not apply for long period of time since the various companies in the sector are faced with different mechanisms for dealing with working capital management challenges as time goes by. Furthermore, the study focused on the existing soft drinks and beer firms in the Kenyan industry which had been in operation for at least four years. This is a limitation since the market in open and new firms keep on entering and exiting the Kenyan market. As such, one may not understand fully the effects of capital management on the decision to enter, remain or exit the market. The study did not look at other factors such as government regulation, which affects capital access. This is a limitation since bottlenecks in access of capital could affect the capital management practices and financial performance in firms. The study takes cognizance of this limitation and made discussions with the acknowledgement of the fact that there are other factors that could affect working capital management practices in firms.

5.5 Suggestions for Further Studies

Comparative studies should be undertaken in other sectors in the Kenyan industry. This study used the descriptive survey design, comparative studies could be taken on the subject under investigation using longitudinal surveys. This would be vital since they could show the nexus between working capital management and profitability in the sector over longer periods of time rather that the four years focused by this study. In addition, in-depth studies could be undertaken on the various independent variables that were under investigation in this study. Since accessing secondary data is often a hard feat, it is vital to remodel this current study and undertake studies using primary sources for verification purposes of the findings

obtained. It is also worth noting that government regulation affects capital management in Kenya. The signing of the interest capping law in Kenya for example may affect the level to which firms in the soft drinks and beer industry access capital. It is imperative to undertake studies that unearth the effect of such legislation on working capital management and financial performance in the soft drinks and beer industry. Lastly, it is also important to undertake studies on other possible factors affecting capital management practices in the beer and soft drinks sector so as to enhance the richness of information unearthed by this current study.

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APPENDIX I: SOFT DRINKS AND BEER COMPANIES IN KENYA STUDIED

1. Highlands Mineral Water
2. Treetop Hotel
3. Keroche Breweries
4. Nairobi Bottlers
5. Mount Kenya Bottlers
6. East African Breweries Limited
7. Kenya Wine Agencies Ltd.
8. UDV Kenya Limited
9. London Distillers
10. SAB Millers
11. Pepsi Co-Kenya
12. Del Monte Kenya
13. Coca Cola Juices of Kenya
14. Anspar Beverage Limited

APPENDIX: RAW DATA ANALYSIS

Highlands Mineral Water	**2012**	**2013**	**2014**	**2015**	**Average**
Average Collection Period	38	24	33	26	30
Inventory Turnover Period	26	22	30	24	26
Average Payment Period	580	580	602	590	588
Cash Conversion Period	28	30	30	26	29
Current Ratio	1.5	1.4	1.4	1.3	1.4
Debt Ratio	0.64	0.66	0.56	0.47	0.58
ROA (%)	12	15	13	11	13
Keroche Breweries	**2012**	**2013**	**2014**	**2015**	**Average**
Average Collection Period	27	32	33	28	30
Inventory Turnover Period	26	22	21	24	23
Average Payment Period	590	610	602	597	600
Cash Conversion Period	26	25	24	28	26
Current Ratio	1.4	1.6	1.4	1.8	1.6
Debt Ratio	0.39	0.42	0.45	0.41	0.42
ROA (%)	13	15	14	16	15
Nairobi Bottlers	**2012**	**2013**	**2014**	**2015**	**Average**
Average Collection Period	26	30	26	26	27
Inventory Turnover Period	24	24	20	22	23
Average Payment Period	595	578	588	580	585
Cash Conversion Period	24	24	20	20	22
Current Ratio	1.4	1.6	1.4	1.3	1.4
Debt Ratio	0.24	0.32	0.26	0.24	0.27
ROA (%)	14	16	15	17	16
Mount Kenya Bottlers	**2012**	**2013**	**2014**	**2015**	**Average**
Average Collection Period	26	26	28	26	27
Inventory Turnover Period	24	22	24	24	24
Average Payment Period	590	592	590	598	593
Cash Conversion Period	24	26	26	24	25
Current Ratio	1.4	1.5	1.6	1.4	1.5
Debt Ratio	0.22	0.28	0.24	0.26	0.25
ROA (%)	16	16	17	15	16
East Africa Breweries	**2012**	**2013**	**2014**	**2015**	**Average**
Average Collection Period	40	28	30	28	32
Inventory Turnover Period	35	26	28	24	28
Average Payment Period	612	590	620	605	607
Cash Conversion Period	26	28	30	28	28
Current Ratio	1.4	1.5	1.5	1.7	1.5
Debt Ratio	0.44	0.38	0.44	0.42	0.42
ROA (%)	13	16	13	12	14

Kenya Wine Agencies	**2012**	**2013**	**2014**	**2015**	**Average**
Average Collection Period	35	35	38	34	36
Inventory Turnover Period	33	35	26	24	30
Average Payment Period	616	612	620	598	612
Cash Conversion Period	35	40	30	26	33
Current Ratio	1.5	1.6	1.4	1.7	1.6
Debt Ratio	0.55	0.65	0.64	0.72	0.64
ROA (%)	15	14	16	18	16
UDV Kenya Ltd.	**2012**	**2013**	**2014**	**2015**	**Average**
Average Collection Period	34	36	34	36	35
Inventory Turnover Period	30	32	32	26	30
Average Payment Period	580	563	540	560	561
Cash Conversion Period	32	32	34	27	31
Current Ratio	1.7	1.8	1.7	1.6	1.7
Debt Ratio	0.33	0.34	0.42	0.38	0.37
ROA (%)	11	10	12	9	11
London Distillers	**2012**	**2013**	**2014**	**2015**	**Average**
Average Collection Period	35	40	40	35	38
Inventory Turnover Period	30	35	30	28	31
Average Payment Period	590	595	625	615	606
Cash Conversion Period	30	35	30	29	31
Current Ratio	1.8	1.9	1.8	1.7	1.8
Debt Ratio	0.42	0.35	0.33	0.36	0.37
ROA (%)	14	15	14	16	15
SAB Miller	**2012**	**2013**	**2014**	**2015**	**Average**
Average Collection Period	40	35	35	38	37
Inventory Turnover Period	36	33	33	31	33
Average Payment Period	615	620	615	620	618
Cash Conversion Period	32	30	31	31	31
Current Ratio	1.7	1.6	1.6	1.5	1.6
Debt Ratio	0.73	0.66	0.71	0.82	0.73
ROA (%)	9	8	8	10	9
Pepsi Co-Kenya	**2012**	**2013**	**2014**	**2015**	**Average**
Average Collection Period	35	33	34	36	35
Inventory Turnover Period	32	31	32	32	32
Average Payment Period	580	578	585	590	583
Cash Conversion Period	32	33	33	34	33
Current Ratio	1.3	1.3	1.3	1.2	1.3
Debt Ratio	0.51	0.47	0.46	0.49	0.48
ROA (%)	6	9	8	11	9

Del Monte Kenya	**2012**	**2013**	**2014**	**2015**	**Average**
Average Collection Period	40	40	35	38	38
Inventory Turnover Period	35	33	33	35	34
Average Payment Period	590	602	610	595	599
Cash Conversion Period	35	42	33	35	36
Current Ratio	1.7	1.8	1.7	1.8	1.8
Debt Ratio	0.33	0.37	0.34	0.31	0.34
ROA (%)	10	12	12	14	12
Coca cola Juices of Kenya	**2012**	**2013**	**2014**	**2015**	**Average**
Average Collection Period	35	35	30	30	33
Inventory Turnover Period	31	32	30	35	32
Average Payment Period	575	575	588	584	581
Cash Conversion Period	32	32	30	35	32
Current Ratio	1.3	1.5	1.4	1.6	1.5
Debt Ratio	0.44	0.42	0.47	0.41	0.44
ROA (%)	11	12	12	14	12
Anspar Beverages Limited	**2012**	**2013**	**2014**	**2015**	**Average**
Average Collection Period	40	40	35	35	38
Inventory Turnover Period	35	35	30	30	33
Average Payment Period	610	605	590	585	598
Cash Conversion Period	35	35	30	30	33
Current Ratio	1.6	1.7	1.6	1.5	1.6
Debt Ratio	0.53	0.64	0.64	0.57	0.60
ROA (%)	7	9	9	8	8
Treetop Hotel	**2012**	**2013**	**2014**	**2015**	**Average**
Average Collection Period	35	35	30	35	34
Inventory Turnover Period	28	30	28	29	29
Average Payment Period	570	567	570	578	571
Cash Conversion Period	28	30	30	29	29
Current Ratio	1.4	1.7	1.5	1.4	1.5
Debt Ratio	0.33	0.31	0.29	0.26	0.30
ROA (%)	11	11	12	14	12