THE EFFECT OF WORKING CAPITAL MANAGEMENT PRACTICES ON THE RISK-RETURN TRADE OFF OF COMPANIES LISTED ON THE NAIROBI SECURITIES EXCHANGE.

BY

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STRATHMORE UNIVERSITY

DECEMBER, 2019

DECLARATION

Student's Declaration

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

Signed _____ Date 6th Dec 2019.

Akinyi Michelle Nina

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Supervisor's Declaration

This research project has been submitted with my approval as the appointed supervisor.

Signed _____ Date 6th Dec. 2019

Supervisor's Name: Dr. David Mathuva

DEDICATION

I would like to devote this project to my parents who have supported me throughout my educational journey financially and walked with me whenever I was faced with challenges.

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ABSTRACT

The purpose of this study was to investigate the impact that working capital has on risk return trade-off of firms on the Nairobi Securities Exchange. The study also explored whether the different industries of the firms had any effect on the trade-off between risk and return. This topic had not been widely explored since many studies have focused on the impact of working capital management on accounting profit of firms rather than on risk return trade-off.

The study analysed the risk levels of different firms in comparison to their returns to determine the trade-off that the firms were exposed to. Risk was determined using the current ratios of these firms as well as using the current assets to fixed assets ratios. On the other hand, return was analysed using the rate of return on total assets. The risk vis-à-vis the returns helped determine the trade-off that exists in each situation.

To come up with answers to this research, quantitative research was used and data was collected from the companies listed on the Nairobi Securities Exchanges' annual reports and financial statements. A database with all numbers was then constructed in Excel to easily transform the numbers for analysis. The data was then input into the Statistical Package for Social Sciences (SPSS) for analysis.

There was a negative relationship between the current liabilities and the return on assets whereas a positive relationship existed between current assets and the return on assets. An increase in the current labilities resulted in a decrease of the returns on assets while an increase in the current assets brought about a corresponding increase in the return on assets.

ACKNOWLEDGEMENTS

First I would like to thank the Almighty God for His enabling grace and for guiding me through as I did this project. Second, I would like to recognize and appreciate my supervisor, Dr. David Mathuva, who has assisted and encouraged me during my progress with the project. I also appreciate the University faculty and staff for providing me with a conducive environment that facilitated my studies. God Bless you all.

LIST OF ABBREVIATIONS

CR: Current ratio

CCC: Cash Conversion Cycle

CMA: Capital Markets Authority

DIO: Days Inventory Outstanding

DPO: Days Purchases Outstanding

DSO: Days Sales Outstanding

EBIT: Earnings before Interest and Tax

NSE: Nairobi Securities Exchange

ROA: Return on Assets

SPSS: Statistical Package for Social Sciences

WCM: Working Capital Management

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CHAPTER ONE: INTRODUCTION

1.1 Background

Management of working capital is a key element that helps a company carry out its activities on a regular basis. The ultimate objective of every enterprise is to make profit. For profits to be realized, inputs such as raw materials and labour are required so as to come up with products that can be introduced into the market (Adediran *et. al.,* 2012).

Once profit is made, the money is ploughed back into the business to make more products as they realize even higher profits. However when the product or service is sold to the market, payment may not be made immediately. Businesses plough back their profits from sales to increase production but at times it takes some time before payment is received after sales have been made. This may be problematic for the company because production will be delayed due to lack of sufficient funds. To prevent this from happening, businesses have to manage their capital effectively to enable smooth running of their operations.

Omondi (2016), reported in a study that many small businesses fail while others die every year due to a rise in operating costs which lead to in losses being incurred by businesses. Additionally, instead of re-investing business income, business owners channel funds out of their businesses for personal use.

According to (Matar & Eneizan, 2018) analysing and evaluating a firm's performance helps get important information on cash inflow, expenditure and efficiency in how the business uses resources.

1.1.1 Working Capital Management (WCM)

WCM involves the managing short-term investment as well as financing of a company. It allows for sufficient flow of cash to be used in operations and utilization of resources efficiently. Managing working capital assists adjust a company's liquidity in accordance with its strategy to enable achievement of business objectives (Sharma, 2017).

The two concepts used for working capital include current assets and current liabilities. Current assets are those resources of an organization which may be sold through the company's operations within a financial year whereas current liabilities refer to amounts to be paid off in monetary terms during a financial period of a company (Shma, 2012).

Utilizing working capital efficiently includes preparing as well as regulating amounts of current assets and current liabilities to minimize risk a business faces if it is unable to fulfil obligations

over a short period of time. Better working capital is an indication of a firms' resources being sufficient to satisfy the liabilities owing whereas an unfavourable working capital illustrates that a firm may be unable to cover its debts when they fall due. Effective WCM is therefore an important measure and sign of an organization's sound financial health that demands eliminating inappropriate obstruction of capital so as to reduce the expense associated with leveraging (Sahib, 1997).

1.1.2 Risk-return trade off

This refers to the trade off faced by an investor when making investment decisions on whether to consider risk or returns. Usually, high risk is associated with higher returns and low risk is related to lower returns. To generate high return an investor should be willing to take on subsequent high risk. This is referred to as trade off. This trade off faced by a stakeholder between risk and return as they contemplate which decisions to make pertaining their investments is called risk return trade off (Bennett, 2019).

It will be determined using the rate of return on assets that measures revenues without taking interest and tax into consideration with regards to the firm's assets. It illustrates how best an enterprise is able to utilize its assets to foster its earnings (Kenton, 2019) .

1.1.3 Nairobi Securities Exchange (NSE)

This is Kenya's leading African Exchange, establishes in 1954, which delivers a universal platform for trade to domestic and local shareholders seeking access to Kenya and Africa's productivity growth. It includes information on market participants, listed companies, market statistics, products and services, regulatory framework, investor relations and media centre.

It is monitored by the Capital Markets Authority (CMA) and has companies listed on it that trade publicly. Organizations on the securities exchange are expected to publicly disclose all information that involves them and financial results for easy access to the public especially for investors and shareholders. There are different sectors under which companies are listed on depending on the products or services they offer (Nairobi Securities Exchange - NSE Kenya).

1.1.4 Importance of NSE to the economy

It brings together those who borrow and lend money at low cost by helping pool idle money including that which had been saved to become generative. Those who borrow do so and pledge to pay back with a profit whereas lenders share out money and anticipate a reward in return for compensation for foregoing their current consumption.

The Nairobi Securities Exchange also helps companies provide accurate information in their financial statements on how they are performing with accuracy and transparency. Provision of information on how the companies listed are performing on a daily basis gives investors the opportunity to know how their investments are performing. The NSE also helps those companies listed to raise capital for them to be able to expand their businesses and also make a profit which will eventually contribute to the overall growth of the economy.

1.1.5 The relationship between working capital and Risk-return trade off

The way working capital is handled has an effect on a company's risk and return. Proper control of working capital ensures stability linking risk and return as shareholder's wealth is maximized. It also involves ensuring a firms' current assets are adequate to support its current liabilities (Abdusalam, 2013).

A company with a large current ratio is said to be of low risk compared to one with a low current ratio. High current ratio is due to more current assets being available in the firm to pay off current liabilities. This is an indicator that a firm is highly liquid and is less prone to insolvency. As a result of the company's low risk, the rates of return will be low because investors are not exposed to high uncertainty (Ponsian, Chrispina, Tago, & Mkiibi, 2014).

A firm with a lower current ratio is said to be of high risk compared to that with a high current ratio. The low current ratio is as a result of a firm not having enough current assets to repay its short term obligations when they arise. It therefore suggests that an enterprise is less liquid and is more vulnerable to insolvency in the long run. High risks correspond to high rates of return to enable investors be compensated for the high risk they are exposed to.

Working capital provides a projection of the economic situation of a firm and the flow of cash represents what a firm is able to accumulate over a certain period. If a company's working capital is low but their cash flows are strong, it may be able to generate enough cash flow over time but if creditors are not willing to allow them more time, the company will face financial difficulties and may even run into bankruptcy (Quain, 2018).

It is therefore important for a company to devise regulations which will guide them in handling their working capital well ensuring enough cash to run and operate the business is available. This has an overall impact on the liquidity of an enterprise (Shin & Soenen, 1998).

CHAPTER FOUR: RESULTS AND ANALYSIS

4.1 Introduction

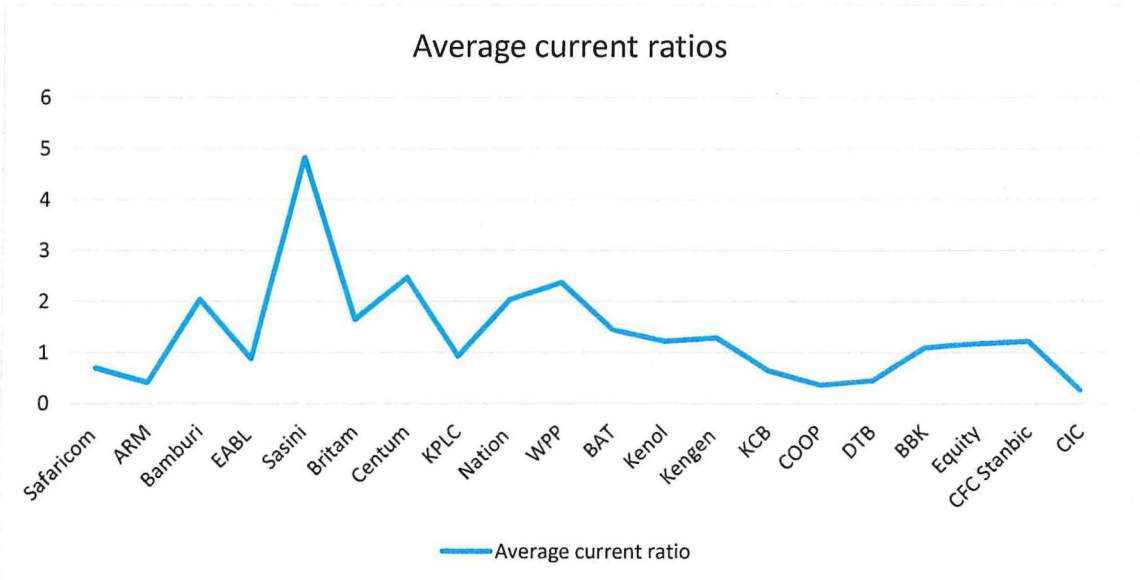
This chapter included analysis of data, discussion and interpretation of the findings of the study. The objective of this research was to determine the effect of working capital management on the risk return trade off of firms listed on the Nairobi Securities Exchange. Quantitative data was used to determine the current ratio, current assets to fixed assets ratio as well as the components of the cash conversion cycle.

4.2 Sample Representation

A sample of 20 companies were used for the research. They were: Sasini Ltd, Safaricom Ltd, Centum Investments Ltd, CIC Insurance Group, British American Investments Company Ltd, East African Breweries Ltd, Athi River Mining, Bamburi Cement Ltd, Nation Media Group, WPP Scangroup Ltd, Kenol Kobil Ltd, Kengen Ltd, Kenya Power & Lighting Ltd, Kenya Commercial Bank, The Cooperative Bank, Diamond Trust Bank, Equity Bank Ltd, Barclays Bank Ltd and lastly CFC Stanbic Holdings Ltd. The current ratios, current assets to fixed assets ratios as well as cash conversion cycles of these organizations were determined. The values were averaged over a period of four years which was considered for this research. The resultant data was then presented in graphs to help come up with the enterprises with the highest and lowest ratios and days.

4.2.1 Effect of the current ratio on the risk return trade off of firms listed in the NSE

Figure 2: Average current ratio for the NSE 20 companies

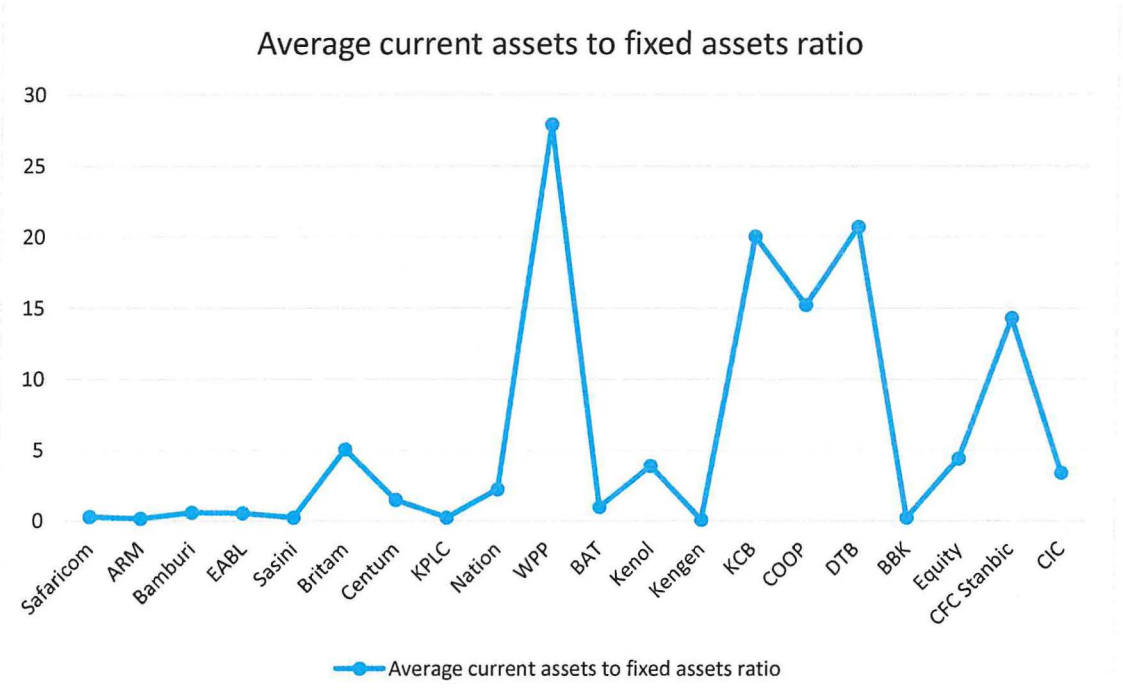


Company with maximum current ratio value is Sasini at 4.8206 during the four years studied. One possible reason for this could have been the firm being able to cover its short term obligations as a result of its high current assets. It was a sign of the firms' risk was low since it had enough current assets to cushion against any liabilities. The rate of returns on assets were, therefore, lower since investors were not exposed to high risk levels. The company's current ratio was highest in 2017 and this could have been because of an increase in the production of tea as well as better prices of the same.

Company with minimum current ratio value is CIC Insurance at 0.2644 during the four years studied. It signified the firm being unable to repay its short term obligations when they fell due because of its low current assets. The company's risk was highest because of inadequate current assets to cover the liabilities. The returns were however, higher to compensate investors for the high risk levels they were exposed to. The company's current ratio was lowest in 2016 and this could have attributed to competition from other insurance companies in the industry which affected their premiums.

4.2.2 Effect of the current assets to fixed assets ratio on the risks return trade off of firms listed in the NSE

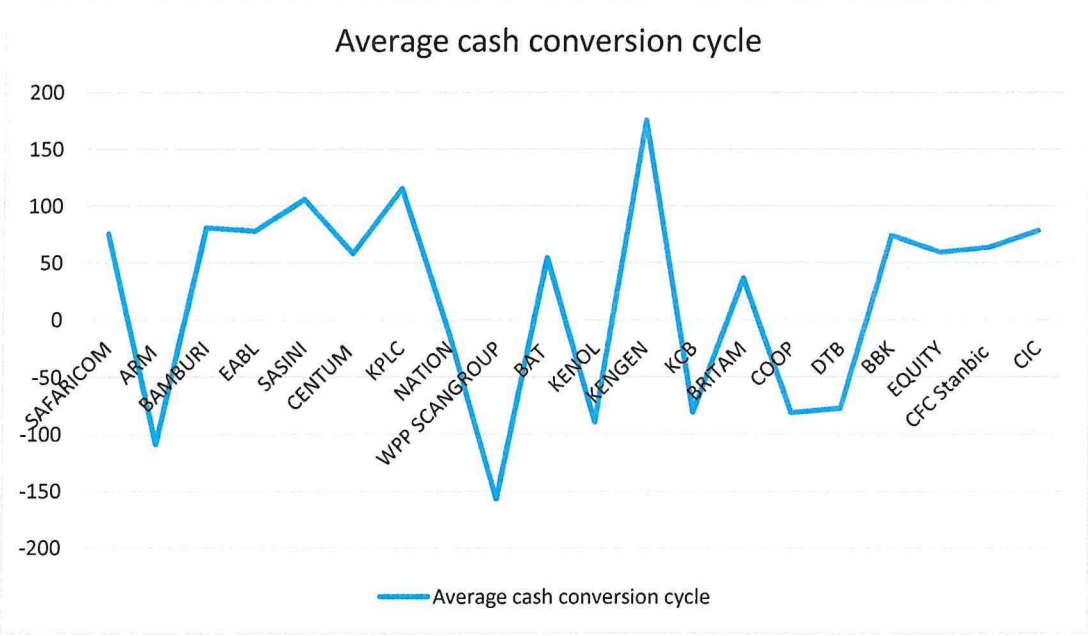
Figure 3: Average current assets to fixed assets ratio for the NSE 20 companies



Company with maximum current assets to fixed assets ratio is WPP Scangroup at 27.9129. The listed company with the highest average ratio was WPP Scangroup at 27.9129. This means that the company had more assets to meet its obligations. On the other hand KenGen had the lowest average ratio during the four year period studied.

4.2.3 Effect of the cash conversion cycle on the risk return trade off of firms listed in the NSE

Figure 4: Average cash conversion cycle for the NSE 20 companies



Company with maximum average cash conversion cycle was WPP Scangroup (-157.1360 days). WPP Scangroup had the best positive average cash conversion cycle during the four years studied. This meant that the company was taking a less duration to liquidate its inventory purchases. The company's risk was low since it had a lower cash conversion cycle. The rate of returns on assets were, therefore, lower since investors were not exposed to high risk levels.

Company with minimum average cash conversion cycle is KenGen (175.1219). KenGen had the lowest average cash conversion cycle during the four years studied. It was an indication that the firm was least able to liquidate its inventory investments quickly. The company's risk was highest because they paid their creditors faster than they collected debts from their debtors. As a result, the returns were higher to compensate investors for the high risk levels they were exposed to.

4.3 Descriptive analysis

Table 2: Descriptive analysis

	Mean	**Median**	**Standard deviation**	**Min**	**Max**
Return on assets	(0.0961)	0.0482	0.8064	(3.4590)	0.4346
Current ratio	1.3728	1.1974	1.0425	0.2644	4.8206
Current assets to fixed assets ratio	6.1008	1.8595	8.5228	0.0816	27.9129
DSO	52.3013	37.6073	32.7411	36.5506	143.6645
DIO	43.2531	57.5594	176.0678	(378.705)	530.2633
DPO	75.2501	43.0092	187.1821	(416.228)	578.8832
Cash conversion cycle (CCC)	22.4799	58.8384	90.1521	175.1219	(157.1360)

The table indicates returns on assets average for the 20 firms used from the period 2014 to 2017 at -9.61% and varied between – 3.459 and a maximum 0.4346. The current ratio on average was 1.3728:1 with a standard deviation of about 1.0425, minimum of 0.2644 and maximum of 4.8206. The current assets to fixed assets ratio averaged was at 6.1008:1 with a standard deviation of 8.5228, a minimum of 0.0816 and a maximum of 27.9129. The average DSO was 52.3013 with a standard deviation of 32.7411, minimum and maximum range of 36.5506 to 143.6645 days respectively. It suggests for all companies 36 days was the least time period they took to collect money from their debtors whereas 143 days was the most time taken to collect money from those who owe them. The DIO on average was at 43.2531 days with a standard deviation of about 176.0678, minimum and maximum range of -378.705 to 530.2633 days to turn stock they had into money via sales. The DPO on average was at 75.2501 days with a standard deviation of about 187.1821, minimum and maximum range of -416.228 days to 578.8832 days to pay money to those they owe. The CCC on average was at 22.4799 days with a standard deviation of about 90.1521, minimum and maximum range of 175.1219 days to -157.1360 days.

4.4 Correlation analysis

Table 3: Pearson Correlation

Variables		ROA	CCC	Current assets	Current liabilities	Fixed assets
ROA	Pearson Correlation	1				
CCC	Pearson Correlation	-0.008	1			
Current assets	Pearson Correlation	0.022	0.839	1		
Current liabilities	Pearson Correlation	-0.004	-0.066	0.908	1	
Fixed assets	Pearson Correlation	0.074	-0.2366	0.034	-0.1751	1

There existed a weak negative association that linked return on assets to the cash conversion cycle (-.008). This implied that return on assets declined with an increase in the cash conversion cycle where the cash conversion cycle increase depicted declining efficiency which may have resulted in reduced profits as shown by return on assets.

There is a correlation that existed linking current ratio and the other parameter estimates. A weak but positive relationship linking rate of returns on assets and current assets, whereas a weak negative association with current liabilities was depicted. A rise in current liabilities resulted in a reduction on the rate of returns on assets. The converse is true with current assets.

There existed a weak but positive correlation linking returns on assets to both current and fixed assets. This indicated that a rise in fixed and current assets lead to a corresponding rise in returns.

There existed a strong positive correlation linking the CCC to current assets (0.839) therefore an increase in current assets lead to a corresponding increase in the cash conversion cycle while a decline in current assets lead to a corresponding reduction in the CCC.

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THE EFFECT OF WORKING CAPITAL MANAGEMENT PRACTICES ON THE RISK-RETURN TRADE OFF OF COMPANIES LISTED ON THE NAIROBI SECURITIES EXCHANGE. BY AKINYI MICHELLE NINA 089481 A RESEARCH MANAGEMENT PROJECT SUBMITTED TO THE STRATHMORE UNIVERSITY BUSINESS SCHOOL IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF BACHELOR OF COMMERCE, FINANCE OPTION. STRATHMORE UNIVERSITY DECEMBER, 2019 DECLARATION Student's Declaration This research project is my original work and has not been presented for award of a degree in any other University. Signed _____ Date _____ Akinyi Michelle Nina Registration number - 089481 Supervisor's Declaration This research project has been submitted with my approval as the appointed supervisor. Signed _____ Date _____ Supervisor's Name: Dr. David Mathuva ii ACKNOWLEDGEMENTS First I would like to thank the Almighty God for His enabling grace and for guiding me through as I did this project. Second, I would like to recognize and appreciate my supervisor, Dr. David Mathuva, who has assisted and encouraged me during my progress with the project. I also appreciate the University faculty and staff for providing me with a conducive environment that facilitated my studies. God Bless you all. iii DEDICATION I would like to devote this project to my parents who have supported me throughout my educational journey financially and walked with me whenever I was faced with challenges. iv ABSTRACT The purpose of this study was to investigate the impact that working capital has on risk return trade-off of firms on the Nairobi Securities Exchange. The study also explored whether the different industries of the firms had any effect on the trade-off between risk and return. This topic had not been widely explored since many studies have focused on the impact of working capital management on accounting profit of firms rather than on risk return trade-off. The study analyzed the risk levels of different firms in comparison to their returns to determine the trade-off that the firms were exposed to. Risk was determined using the current ratios of these firms as well as using the current assets to fixed assets ratios. On the other hand, return was analyzed using the rate of return on total assets. The risk vis- à-vis the returns helped determine the trade-off that exists in each situation. To come up with answers to this research, quantitative research was used and data was collected from the companies listed on the Nairobi Securities Exchanges' annual reports and financial statements. A database with all numbers was then constructed in Excel to easily transform the numbers for analysis. The data was then input into the Statistical Package for Social Sciences (SPSS) for analysis. There was a negative relationship between the current liabilities and the return on assets whereas a positive relationship existed between current assets and the return on assets. An increase in the current labilities resulted in a decrease of the returns on assets while an increase in the current assets brought about a corresponding increase in the return on assets. v LIST OF ABBREVIATIONS CR: Current ratio CCC: Cash Conversion Cycle CMA: Capital Markets Authority DIO: Days Inventory Outstanding DPO: Days Purchases Outstanding DSO: Days Sales Outstanding EBIT: Earnings before Interest and Tax NSE: Nairobi Securities Exchange ROA: Return on Assets SPSS: Statistical Package for Social Sciences WCM: Working Capital Management vi LIST OF TABLES Table 1: Operationalization of variables ..... 15 Table 2: Descriptive analysis ..... 22 Table 3: Pearson Correlation ..... 23 Table 4: Testing coefficients using regression..... 25 Table 5: Model summary ..... 26 Table 6: Analysis of variance ..... 26 Table 7: Testing coefficients using regression..... 27 Table 8: Model Summary ..... 28 Table 9: Analysis of variance ..... 28 Table 10: Testing coefficients using regression..... 28 Table 11: Model summary ..... 30 Table 12: Analysis of variance .....

Management of working capital is a key element that helps a company carry out its activities on a regular basis. The ultimate objective of every enterprise is to make profit. For profits to be realized, inputs such as raw materials and labour are required so as to come up with products that can be introduced into the market (Adediran et. al., 2012). Once profit is made, the money is ploughed back into the business to make more products as they realize even higher profits. However when the product or service is sold to the market, payment may not be made immediately. Businesses plough back their profits from sales to increase production but at times it takes some time before payment is received after sales have been made. This may be problematic for the company because production will be delayed due to lack of sufficient funds. To prevent this from happening, businesses have to manage their capital effectively to enable smooth running of their operations. Omondi (2016), reported in a study that many small businesses fail while others die every year due to a rise in operating costs which lead to in losses being incurred by businesses. Additionally, instead of re-investing business income, business owners channel funds out of their businesses for personal use. According to (Matar & Eneizan, 2018) analysing and evaluating a firm's performance helps get important information on cash inflow, expenditure and efficiency in how the business uses resources. 1.1.1 Working Capital Management (WCM) WCM involves the managing short-term investment as well as financing of a company. It allows for sufficient flow of cash to be used in operations and utilization of resources efficiently. Managing working capital assists adjust a company's liquidity in accordance with its strategy to enable achievement of business objectives (Sharma, 2017). The two concepts used for working capital include current assets and current liabilities. Current assets are those resources of an organization which may be sold through the company's operations within a financial year whereas current liabilities refer to amounts to be paid off in monetary terms during a financial period of a company (Shma, 2012). Utilizing working capital efficiently includes preparing as well as regulating amounts of current assets and current liabilities to minimize risk a business faces if it is unable to fulfil obligations over a short period of time. Better working capital is an indication of a firms' resources being sufficient to satisfy the liabilities owing whereas an unfavourable working capital illustrates that a firm may be unable to cover its debts when they fall due. Effective WCM is therefore an important measure and sign of an organization's sound financial health that demands eliminating inappropriate obstruction of capital so as to reduce the expense associated with leveraging (Sahib, 1997). 1.1.2 Risk-return trade off This refers to the trade off faced by an investor when making investment decisions on whether to consider risk or returns. Usually, high risk is associated with higher returns and low risk is related to lower returns. To generate high return an investor should be willing to take on subsequent high risk. This is referred to as trade off. This trade off faced by a stakeholder between risk and return as they contemplate which decisions to make pertaining their investments is called risk return trade off (Bennett, 2019). It will be determined using the rate of return on assets that measures revenues without taking interest and tax into consideration with regards to the firm's assets. It illustrates how best an enterprise is able to utilize its assets to foster its earnings (Kenton, 2019) . 1.1.3 Nairobi Securities Exchange (NSE) This is Kenya's leading African Exchange, establishes in 1954, which delivers a universal platform for trade to domestic and local shareholders seeking access to Kenya and Africa's productivity growth. It includes information on market participants, listed companies, market statistics, products and services, regulatory framework, investor relations and media center. It is monitored by the Capital Markets Authority (CMA) and has companies listed on it that trade publicly. Organizations on the securities exchange are expected to publicly disclose all information that involves them and financial results for easy access to the public especially for investors and shareholders. There are different sectors under which companies are listed on depending on the products or services they offer (Nairobi Securities Exchange - NSE Kenya). 1 .1. 4 Importance of NSE to the economy It brings together those who borrow and lend money at low cost by helping pool idle money including that which had been saved to become generative. Those who borrow do so and pledge to pay back with a profit whereas lenders share out money and anticipate a reward in return for compensation for foregoing their current consumption. The Nairobi Securities Exchange also helps companies provide accurate information in their financial statements on how they are

performing with accuracy and transparency. Provision of information on how the companies listed are performing on a daily basis gives investors the opportunity to know how their investments are performing. The NSE also helps those companies listed to raise capital for them to be able to expand their businesses and also make a profit which will eventually contribute to the overall growth of the economy. 1.1.5 The relationship between working capital and Risk -return trade off The way working capital is handled has an effect on a company's risk and return. Proper control of working capital ensures stability linking risk and return as shareholder's wealth is maximized. It also involves ensuring a firms' current assets are adequate to support its current liabilities (Abdusalam, 2013). A company with a large current ratio is said to be of low risk compared to one with a low current ratio. High current ratio is due to more current assets being available in the firm to pay off current liabilities. This is an indicator that a firm is highly liquid and is less prone to insolvency. As a result of the company's low risk, the rates of return will be low because investors are not exposed to high uncertainty (Ponsian, Chrispina, Tago, & Mkiibi, 2014). A firm with a lower current ratio is said to be of high risk compared to that with a high current ratio. The low current ratio is as a result of a firm not having enough current assets to repay its short term obligations when they arise. It therefore suggests that an enterprise is less liquid and is more vulnerable to insolvency in the long run. High risks correspond to high rates of return to enable investors be compensated for the high risk they are exposed to. Working capital provides a projection of the economic situation of a firm and the flow of cash represents what a firm is able to accumulate over a certain period. If a company's working capital is low but their cash flows are strong, it may be able to generate enough cash flow over time but if creditors are not willing to allow them more time, the company will face financial difficulties and may even run into bankruptcy (Quain, 2018). It is therefore important for a company to devise regulations which will guide them in handling their working capital well ensuring enough cash to run and operate the business is available. This has an overall impact on the liquidity of an enterprise (Shin & Soenen, 1998). 1.1.6 Measurement of risk-return trade off Risk-return trade off will be analysed using the return on assets vis-à-vis the risk it poses. Return will be determined using the rate of return on assets. It measures return shareholders are expected to receive as compensation for the risk they are exposed to. It's measured by dividing net income by average total assets (Chen, 2019). On the other hand, risk will be analysed using the current ratio and the current assets to fixed assets ratio. The current ratio establishes how able a company is in paying its obligations and will therefore tell whether a company is more risky or less risky in terms of the current assets they hold. The current assets to fixed assets ratio will measure how successful a company will be able to use its assets to meet obligations (Bragg, 2019). 1.2 Problem Statement One of the key goals of any organization is to ensure profits increase. Sustaining liquidity is also an essential goal. The issue is at the cost of liquidity, profits may be realized but this can result in huge issues to the company and therefore, a firms' plan should create equilibrium between these two goals of the firm. One goal shouldn't be achieved at the detriment of another. Some firms have not been able to manage their assets properly and as a result have struggled to gain profit over the years. This is because they have not maintained a balance between their profit and liquidity. Failure to understand the effect of working capital on returns, lack of detail on its determining factors and the lack of management being able to organize and regulate its elements have contributed to a lack of solvency and collapse of the business, such that substantial number of losses in companies has 4 resulted from managers being unable to monitor assets and liabilities of various companies (Gill, 2011). The presence of these concerns is the primary reason why this research will be conducted. Therefore, the query to this research is: what is the correlation linking working capital and the risk-return trade off of firms listed on Nairobi' s Securities Exchange. 1.3 Objectives of the study 1.3.1 General Objectives To analyse the effect of working capital on the risk-return trade off of firms listed on the Nairobi Securities Exchange. 1.3.2 Specific Objective These objectives guided the research: i. To analyze the effect of current assets on risk and return trade off of firms listed in the NSE ii. To analyze the effect of the current assets to fixed assets ratio on the risk return trade off of firms listed in the NSE iii. To analyze the effect of the cash conversion cycle on the risk return trade off of firms listed in the NSE 1. 4 Research Questions The research responded to these questions generated from objectives above: i. What is the effect of current assets on the risk and return trade off of firms listed in the NSE? ii. What is the effect of the current assets to fixed assets ratio on the risk and return trade off of firms listed in the NSE? iii. What is the effect of the cash conversion cycle on the risk return trade off of firms listed in the Nairobi Securities Exchange? 1.5 Significance of the Research This information should be helpful to consultancy companies when advising their clients who will be more efficient in decision making to help them determine how to manage their investments. The research can also be used as document of reference for students or researchers who will be conducting research on how working can be managed

or further studies in regards to the same. Potential investors will also benefit from this research. This research material will be used by potential investors who may want to gain past information on the performance of companies listed to analyse and determine the trends which will help in making investment decisions. Financial analysts will be able to analyse the economic environment by examining how bonds, stocks and other investments perform to provide guidance to individual and business investors before making investments decisions. CHAPTER TWO: LITERATURE REVIEW 2. 1 Introduction This chapter involves reviewing literature which is in line with the research. It covers the theoretical framework, the empirical review, the correlation linking working capital management practices and risk return trade off, determinants of financial performance, the research gap, conceptual framework and operationalization of variables. 2.2 Theoretical Framework The theoretical framework reviews existing knowledge to help in understanding and explaining this phenomena. Practices that manage working capital as well as firm's performance can be explained using the following theories: shareholder theory and the pecking order theory. 2.2.1 Shareholder's Theory This theory states that the key objective of a company is to increase the gains of their shareholders. An organization is expected to generate value for their shareholders. Shareholder can be defined as any persons who may be affected by the operations of a company. Value creation can be enhanced by reducing risk that investors are exposed to through their investments (Saint & Tripathi, 2006). According to Friedman (2013), a business should engage in activities that tend to raise their profits by using their available resources and engage in operations without being fraudulent or deceptive. Companies through management should not act in their own interests at the detriment of the investors. This means that they should ensure that they create value for shareholders whose best interests may not be met in the event of fraudulent actions. In relation to this study, managing working capital components properly will contribute to creating wealth for shareholders' because when companies have an adequate current ratio they should be able to fulfil short term responsibilities. It can be attained by making sure they have a good amount of current assets. Doing these results in higher profits which translates to higher returns being paid to shareholders for compensation depending on how much they injected into the business. 2.2.2 The Pecking Order Theory This theory tries to explain the decisions a firm may consider in terms of financing. It provides an estimate for profits effectively. It was created in 1984 by Stewart Myers and shows that it is more preferable to use internal sources of finance to finance new investments within a business since internal financing does not attract any costs neither does it have financial requirements to be met like for debt financing (Myers, 1984). If you regard these sources of funding that could be used by companies: retained earnings, equity and debt, retained earnings are a better source compared to acquiring external funding. This is because acquiring external funding such as loans may attract extra costs in the form of interest rates on the principal amount. Doing so will ultimately affect an enterprise's returns in terms of on productivity hence reducing the total amount of capital available to carry out operations (Frank & Goyal, 2009). In a study by Myers (1984), there is a negative correlation between debt and return. Firms that use external funding will have an effect on return because of the costs to be incurred while repaying the loan. Firms that generate more revenue depend more on internal funding such as retained earnings and as a result a positive association between return and retained earnings exists. Firms with more retained earnings compared to debt are more profitable (Dunn & Cheatham, 1993) According to this theory a firm should take up internal funding as opposed to external funding. External sources of financing can be taken up in the event that retained earnings run out and usually short-term debt is most recommended rather than the long- term. Internal sources of finance also reduce the risk levels associated with borrowing which may arise as a result of a corporation's inability to repay its debts. Using internal sources of financing also increases a company's returns and their profit margin levels by eliminating costs such as interest rates from borrowing, and this will help firms focus on production to generate sales (L. Chen & Management, 2011). 2.3 Empirical Review This refers to analysing data acquired from observations and experiments to try and explain results. The study by Peel et al., (2000), revealed companies appear to have a relatively high allocation of current assets, less liquidity and rely highly on short-term debt. Considering their exposure to variations in the amount of working capital, they cannot afford to lack money. 8 There's a discourse on risk return trade off between policies on working capital (Moyer et. al. 2005, Gitman 2005). The aggressive policy on working capital is related to high risks and corresponding high returns and conservative policy on working capital is linked to low risks and subsequent return. Working capital is significant as a result of its impact on a firms' risk and return and as a result its price (Smith, 1997). The more investment in current assets, the smaller the risks as well as the returns. The association between the working capital and returns for a sample of irganziations listed on the securities exchange was examined by Shin and Soenen (1998) within a 20 year period. The outcomes revealed that

minimizing the amount of current assets within a certain range maximized the companies' returns. Filbeck and Krueger (2005), emphasized the importance of effective working capital by assessing working capital of 32 non-financial sectors in the America. Results showed a notable contrast between industries in working capital practices over time which are greatly changing in sectors over time. Research by Deloof (2003), to determine how working capital impacts returns on firms in Belgium proves that businesses can minimize costs as well as reduce the total cash held in property by selling their inventory. However, a firm will need to determine their reorder point so that they have a specific time as to when they will acquire new materials. On the other hand, holding inventory will prevent the firm from experiencing shortages during production. Some studies show a good correlation linking returns and working capital ratio indicating as firms' current ratio increase, the returns increase as well (Naimulbari (2012). 2.4 Correlation between working capital components and risk-return 2.4.1 Current assets and risk-return Current assets refer to a firm's resources that can be easily changed to money. They are the resources anticipated to provide money that will be necessary to recompense current liabilities. The correlation linking current assets and current liabilities are therefore essential. Controlling current assets in a proper and efficient manner will lead to an achievement of an optimal level of assets. This results in company's being prepared for uncertainty and leads to reduced risk that the organization will be subjected to because their assets are able to buffer against losses and contribute to a firms performance. Increased firm performance will be evident through increased stock returns to shareholders and increased profits by the organization (Sugathadasa, 2018). 2.4.1.1 Account receivables and return This refer to customers who have not yet paid up their debts to an organization. The customers therefore had goods sold to them on credit. When companies make sales on credit, they benefit from the fact that they are able to generate a lot of sales because customers do not have to pay promptly or upfront. Gill & Biger & Mathur (2010), carried out a study with an aim of extending the work by Lazaridis and Tryfonidis. They found that there was a negative correlation linking debtors and return. This shows that if the days sales outstanding goes up, a negative effect will be realized on a firms' returns. According to a study by Waema & Nasieku (2016), there exists a negative association linking debtors and returns. As organizations decrease their days sales outstanding from sales, they will increase their profits because they will have more cash to continue production. Deloof (2003), stated organizations can increase profits by minimizing the time they take to accumulate funds generated from sales made on credit. The longer they take to collect their cash the lower their chances of making higher profit. A company with a lower days sales outstanding (DSO) is most favourable and less risky compared to one with a negative DSO. This is because a company with a positive days sales outstanding period has cash to continue with its operations. It would therefore be advisable to invest in such a company because the risks of such a company are lower than the risks of a company with a lower average collection period. 2.4.2.2 Inventory and risk & return Inventory refers to goods that are in various stages of being made ready for sale. Finished goods inventories exist mainly to satisfy customer needs by making goods and services accessible to customers easily. Offering goods to customers upon their request may not be possible and this is why it is important to hold goods. It will also prevent losing customers to competitors by serving customer requests (TradeGecko, 2017). Low inventory turnover means that firms have converted their inventory into cash few times. It is as a result of too much capital tied up in inventory and signifies that a firm is not doing well in terms of sales. A high inventory turnover signifies that a form has converted its stock into cash many times giving them enough cash available to continue production (Li, 2013). According to Mansoor (2012), managers of firms can maximize return by seeking to shorten their inventories as much as possible meaning they will have less cash tied up in capital. This can be done by increasing sales to make cash available. Niresh (2012), suggests a strong negative association linking the times organizations sell their stock and returns. It's attributed to the fact that firms take more time to convert inventory to cash through sales the more the lower their chances of increasing profits. According to Deloof (2003), firms can minimize costs, increase the total cash held in their resources by selling their inventory. However, a firm will need to determine their reorder point so that they have a specific time as to when they will acquire new materials. On the other hand, holding inventory will prevent the firm from experiencing shortages during production. A high inventory turnover is recommended since it means that the number of times a firm has converted its inventory to cash is high. These firms therefore have more liquid cash to use to continue with production. As inventory turnover decreases, profitability increases and storage costs increase. A business is expected to keep enough resources for production. A positive inventory turnover illustrates a firm's capability to change its stock into money quickly. The more cash available the less risky a firm is and consequently low returns. A negative inventory turnover means that a firm converts its stock into cash more slowly and the less cash flow available, the more risky a firm is because a firm may be

unable to repay its obligations as they arise. This results in higher returns. 2.4.2 Current Liabilities and risk return Current liabilities refer to responsibilities that arise during the coming year or during the usual period of operations in the event that it is be greater by a year. They are strongly linked to current assets because current assets are expected to generate money required for repaying current obligations (Horngren, 2012, p. 166). The liabilities accounts include: 11 2.4.2.1 Account payables and risk & returns Creditors come about as a result of a company's regular operations on a daily basis. When organizations buy products for the use of manufacturing and don't settle payments instantly, this debt will be classified under creditors. The products are purchased on credit then utilized to raise generate revenue prior to payment of invoices. Management of working capital stipulates that companies must attempt to slow down paying their account payables as slowly as they can but ensuring they don't damage the relationship with their suppliers. Therefore, increasing the payment period of their debts by a day will help increase a firms return (Ponsian et al., 2014). According to Sahib (1997), there exists a positive correlation linking the period taken to pay back creditors and a firms' return. This is attributed to by firms taking longer to pay its creditors making more money accessible for them for their daily operations. Also the more it takes to repay suppliers the higher capital currently available for use in production to maximize returns. Taking longer to pay creditors can be beneficial since it is deemed an inflexible source of finance and it also helps firms evaluate the product quality of their suppliers. It can be deemed unbeneficial when discounts are offered for making early payments. This explains the positive correlation existent that links the period taken to pay back creditors and profits. A positive average payables period means a firm is slow in paying its creditors. This gives a firm more time to engage in any short term investments that may realize higher profits (Waema & Nasieku, 2016). 2.5 Determinants of risk-return trade off Profitability and liquidity will be used to analyse the trade off of firms risk and return. According to Bratland & Hornbrinck (2013), a firms liquidity is how able the organization can easily convert its resources into cash. Firms with greater current ratio are highly liquid. This is because of the high number of current assets available which will make it easier for the firm to cover its short term liabilities. This make it less prone to insolvency whereas firms with a lower current ratio have inadequate current assets to cover their obligations making them more prone to insolvency. The profitability of a firm's may be determined by how much more they make over and above their cost of production. Firms should ensure they have enough stock/ inventory to enhance production that will generate sales. If a company continuously makes losses they may need to borrow to continue financing their working capital operations if they are not able to convert enough cash from their operations. This eventually slows down their growth potential (Popa & Ciobanu, 2014). According to Zaryawati, Annuar, & Rahim (2009), a company needs to ensure that there is a balance between profit and liquidity. The two are relatively essential and neither should be achieved at the expense of the other. A firm that does not focus on creating a balance for its liquidity may end up being bankrupt. On the other hand, a firm may be unable to survive for a while if it does not emphasize on its profitability (Eljelly, 2004). A high level of current assets could result in a negative impact on a company's return this is due to large amounts of cash tied up in stock whereas a low amount of current assets may bring about a low degree of liquidity because there may not be enough assets to cover current liabilities when they arise (Bratland & Hornbrinck, 2013). 2.6 Research gap Studies have been undertaken determining the influence of working capital practices on a firm's productivity but not much exists on what impact working capital has on risk return trade off. Authors have not identified much to investigate the relationship therefore a gap exists. The forthcoming research should develop findings on influencing factors that have an impact on the risk return trade off. The research will be centered around working capital components that affect the risk return trade off on firms listed in the Nairobi Securities Exchange. The limited existence of accurate and relevant information remains to be among the main barriers to understanding companies within the country. The research should assist develop the sparse data that is existent locally. 2.7 Conceptual Framework This is a tool used to organize ideas (Ipermeeta, 2010). Figure 1: Conceptual Framework Independent variable Dependent variable Current ratio Current assets to fixed assets ratio Rate of return on assets Cash conversion cycle 2.8 Operationalization of Variables 2.8.1 Dependent or Explained variable This can be defined as the variable whose outcome relies on the result of another, the independent variable (Helmensrtine, 2018). Risk & return will be the explained variable and will be determined using the rate of return on assets. This was deemed best suitable because it can be used to determine how much return will be generated for compensation to investors. Rate of return on assets = Earnings before interest and tax (EBIT) /average total assets 2.8.2 Independent variables This can be defined as the variable whose outcome does not depend on another but rather explains the outcome for another variables. The results of this variable are used to check the influence of the explained variable (Helmenstine, 2018). Table 1: Operationalization of

variables Variable Operation definition Source Dependent Rate of return on total assets An organizations revenues excluding interest and tax in relation to its assets (Bragg, 2019) Independent Current ratio The ratio of a company's current assets to its current liabilities (Peavler, 2018) Current assets to fixed assets ratio The ratio of a firm' s current assets to its fixed assets (Peavler, 2018) Cash conversion cycle This is how much time an organization will use to it takes a company to turn its investments as well as resources to money. (Mansoor, 2012) CHAPTER THREE: RESEARCH METHODOLOGY 3.1 Introduction This chapter includes the research design, target population, empirical model, and data collection methods as well as data analysis. 3.2 Research design It refers to a strategy used to incorporate various parts of research to ensure that the problem at hand is addressed (Hassan, 2014). The descriptive research design was selected for use in this study. It allowed numerical data to be gathered and analysed using the relevant statistical tools. The approach helped assess the importance of the relationship and effect of working capital variable on the returns which enabled assessment of the risk return trade off of firms listed in the NSE. 3.3 Population for research It is defined as a big group of objects, individuals or subjects who are the main focus of a scientific question (Thomas, 2017). The target population included companies listed in the Nairobi Securities Exchange (NSE). 3.4 Empirical model Regression analysis was used to assess the correlation linking working capital and the risk return trade off. Return on assets will be the explained variable and different working capital variables will be the independent variables. They will be expressed as: $Yi= a+\beta_1X_1 +\beta_2X_2+\beta_3X_3+ \beta_4X_4+e$ Where yi= Return on Assets (ROA) β represents the beta X1 represents the current ratio (current assets / current liabilities) X2 represents the current assets to fixed assets ratio Using this model was viable because it followed the regression assumptions which include: 16 A linear correlation linking the two variables, the explained and the explanatory variable. Homoscedasticity meaning that the error term/residual between the explanatory and explained variable is similar across the explanatory variable figures/ have the same variance at each level. Independence of observations which means that there should not exist a pattern the errors in the model or the errors should not be highly correlated. Normality which means that the explained variable is usually expressed for any set amount of the explanatory variable/ the errors in the models are random normally distributed variables with a mean of 0. There isn't meant to have outliers that are noticeable since they may present negative impacts for the regression analysis (Green, 2017). 3.5 Sample size selection The sample size included the 20 companies listed in the NSE 20 share index (appendix 1). Convenient sampling approach was used to identify organizations used in the research. This is because only the first twenty companies that perform best in the Nairobi Securities Exchange were taken into consideration. 3.6 Data Collection Methods The research depended on secondary sources. Audited financial statements were used to gather data from the balance sheet and income statements. From the financial statements secondary data on return on assets, fixed assets, current assets, current liabilities, the number of days it takes to collect money from debtors (DSO), the number of days an organization uses to sell its stock (DIO) and the number of days it takes to pay off creditors (DPO) will be extracted. The DSO was determined by dividing the average receivables by the amount of sales on credit and multiplying the output by 365 days whereas the DIO was obtained by dividing the cost of average stock by the cost of goods sold and multiplying the output by 365 days. The DPO was determined by dividing the average payables by the credit purchases and multiplying the output by 365 days. Current assets and current liabilities were used to calculate the current ratio whereas the current assets and fixed assets were used to come up with the current assets to fixed assets ratio and the DSO, DIO and the DPO were used to determine the cash conversion cycle. The cash conversion cycle was determined by adding the DSO to the DIO then deducting the DPO. The financial statements used covered the period 2014 to 2017. 17 3.7 Data Analysis Descriptive analysis was first used in carrying out the analysis and it was useful in setting out the various components of measuring working capital and produced relevant information on each of the variables. Inferential statistics which included correlation analysis and regression analysis was also used. The data was analysed using Microsoft excel and the Statistical Package for Social Sciences (SPSS) software version 20.0. This software was used to carry out statistical analysis on data. 3.7.1 Variables The dependent variables included the return on assets (ROA) whereas the explanatory variable were the current ratio, current assets to fixed assets ratio as well as the cash conversion cycle (DSO, DIO, and DPO). 3.7.2 Regression model The study looked at the effect the current ratio, the current assets to fixed assets ratio as well as the CCC had on the risk return trade off. When the model $ROA = \beta0 + \beta nXn + \dot{e}$ was interpreted into the variables used the resultant equation was: Model 1: $ROA= \beta0 + \beta1(DSO) + \beta2 (DIO) + \beta3 (DPO) + \dot{e}$ Model 2: $ROA= \beta0 + \beta1(CCC) + \dot{e}$ ROA= Return on assets DSO = Days sales outstanding DPO = Days purchases outstanding DIO = Days inventory outstanding CCC = Cash conversion cycle $\dot{e}$ = error term CHAPTER FOUR: RESULTS 4.1 Introduction This chapter includes the analysis of

data, discussion and interpretation of the findings of the study. The objective of this research was to determine the effect of working capital management on the risk return trade off of firms listed on the Nairobi Securities Exchange. Quantitative data was used to determine the current ratio, current assets to fixed assets ratio as well as the components of the cash conversion cycle. 4.2 Sample Representation A sample of 20 companies were used for the research. The current ratios, current assets to fixed assets ratios as well as cash conversion cycles of these organizations were determined. The values were averaged over a period of four years which was considered for this research. The resultant data was then presented in graphs to help come up with the enterprises with the highest and lowest ratios and days. 4.2.1 Effect of the current ratio on the risk return trade off of firms listed in the NSE Figure 2: Average current ratio for the NSE 20 companies 6 5 4 3 2 1 0 Average current ratios Average current ratio Company with maximum current ratio value is Sasini at 4.8206 during the four years studied. One possible reason for this could have been the firm being able to cover its short term obligations as a result of its high current assets. It was a sign of the firms' risk was low since it had enough current assets to cushion against any liabilities. The rate of returns on assets were, therefore, lower since investors were not exposed to high risk levels. The company's current ratio was highest in 2017 and this could have been because of an increase in the production of tea as well as better prices of the same. Company with minimum current ratio value is CIC Insurance at 0.2644 during the four years studied. It signified the firm being unable to repay its short term obligations when they fell due because of its low current assets. The company's risk was highest because of inadequate current assets to cover the liabilities. The returns were however, higher to compensate investors for the high risk levels they were exposed to. The company's current ratio was lowest in 2016 and this could have attributed to competition from other insurance companies in the industry which affected their premiums. 4.2.2 Effect of the current assets to fixed assets ratio on the risks return trade off of firms listed in the NSE Figure 3: Average current assets to fixed assets ratio for the NSE 20 companies 30 25 20 15 10 5 0 Average current assets to fixed assets ratio Average current assets to fixed assets ratio Company with maximum current assets to fixed assets ratio is WPP Scangroup at 27.9129. The listed company with the highest average ratio was WPP Scangroup at 27.9129. This means that the company had more assets to meet its obligations. On the other hand KenGen had the lowest average ratio during the four year period studied. 4.2.3 Effect of the cash conversion cycle on the risk return trade off of firms listed in the NSE Figure 4: Average cash conversion cycle for the NSE 20 companies Average cash conversion cycle 200 150 100 50 0 -50 -100 -150 -200 Average cash conversion cycle Company with maximum average cash conversion cycle is WPP Scangroup (- 157.1360 days). WPP Scangroup had the best positive average cash conversion cycle during the four years studied. This meant that the company was taking a less duration to liquidate its inventory purchases. The company's risk was low since it had a lower cash conversion cycle. The rate of returns on assets were, therefore, lower since investors were not exposed to high risk levels. Company with minimum average cash conversion cycle is KenGen (175.1219). KenGen had the lowest average cash conversion cycle during the four years studied. It was an indication that the firm was least able to liquidate its inventory investments quickly. The company's risk was highest because they paid their creditors faster than they collected debts from their debtors. As a result, the returns were higher to compensate investors for the high risk levels they were exposed to. 4.3 Descriptive analysis Table 2: Descriptive analysis Mean Median Standard deviation Min Max Return on assets (0.0961) 0.0482 0.8064 (3.4590) 0.4346 Current ratio 1.3728 1.1974 1.0425 0.2644 4.8206 Current assets to fixed assets ratio 6.1008 1.8595 8.5228 0.0816 27.9129 DSO 52.3013 37.6073 32.7411 36.5506 143.6645 DIO 43.2531 57.5594 176.0678 (378.705) 530.2633 DPO 75.2501 43.0092 187.1821 (416.228) 578.8832 Cash conversion cycle (CCC) 22.4799 58.8384 90.1521 175.1219 (157.1360) The table indicates returns on assets average for the 20 firms used from the period 2014 to 2017 at -9.61% and varied between – 3.459 and a maximum 0.4346. The current ratio on average was 1.3728:1 with a standard deviation of about 1.0425, minimum of 0.2644 and maximum of 4.8206. The current assets to fixed assets ratio averaged was at 6.1008:1 with a standard deviation of 8.5228, a minimum of 0. 0816 and a maximum of 27.9129. The average DSO was 52.3013 with a standard deviation of 32.7411, minimum and maximum range of 36.5506 to 143.6645 days respectively. It suggests for all companies 36 days was the least time period they took to collect money from their debtors whereas 143 days was the most time taken to collect money from those who owe them. The DIO on average was at 43.2531 days with a standard deviation of about 176.0678, minimum and maximum range of -378.705 to 530.2633 days to turn stock they had into money via sales. The DPO on average was at 75.2501 days with a standard deviation of about 187.1821, minimum and maximum range of - 416.228 days to 578.8832 days to pay money to those they owe. The CCC on average was at 22.4799 days with a standard deviation of about 90.1521, minimum and maximum range of 175.1219 days to

-157.1360 days. 4.4 Correlation analysis Table 3: Pearson Correlation Variables ROA CCC Current assets Current liabilities Fixed assets ROA Pearson Correlation 1 CCC Pearson Correlation -0. 008 1 Current assets Pearson Correlation 0. 022 0. 839 1 Current liabilities Pearson Correlation -0. 004 -0. 066 0. 908 1 Fixed assets Pearson Correlation 0. 074 -0. 2366 0. 034 -0. 1751 1 There existed a weak negative association that linked return on assets to the cash conversion cycle (-.008). This implied that return on assets declined with an increase in the cash conversion cycle where the cash conversion cycle increase depicted declining efficiency which may have resulted in reduced profits as shown by return on assets. There is a correlation that existed linking current ratio and the other parameter estimates. A weak but positive relationship linking rate of returns on assets and current assets, whereas a weak negative association with current liabilities was depicted. A rise in current liabilities resulted in a reduction on the rate of returns on assets. The converse is true with current assets. There existed a weak but positive correlation linking returns on assets to both current and fixed assets. This indicated that a rise in fixed and current assets lead to a corresponding rise in returns. There existed a strong positive correlation linking the CCC to current assets (0.839) therefore an increase in current assets lead to a corresponding increase in the cash conversion cycle while a decline in current assets lead to a corresponding reduction in the CCC. A weak and negative association between current liabilities (-0.006) was depicted to indicate the CCC declined with a rise in the amount of current assets whereas the CCC went up with a reduction in current assets. A weak negative correlation linking the CCC to fixed assets (-0.2366) was realised and indicated that an increase in fixed assets resulted in a decline of the CCC while a decrease in fixed assets caused the CCC to increase in days. A strong positive correlation linking current assets to current liabilities indicating current assets decline with a reduction in current liabilities reason being when current assets are used to repay an enterprises obligations, current liabilities tend to go down as well. There was weak but positive correlation linking current assets to fixed assets which indicated a rise in current assets brought about corresponding increase in fixed assets and when current assets declined, fixed assets also went down. A weak negative correlation was realised linking current liabilities to fixed assets (- 0.1751) to suggest a rise in fixed assets lead to a decrease in current liabilities whereas reduction in fixed assets lead to an increment in current liabilities. 4.5 Regression analysis 4.5.1 Effect of the current ratio on the risk return trade off of firms listed in the NSE Table 4: Testing coefficients using regression Model Unstandardized Coefficients B Std. Error Standardized Coefficients Beta t Sig. 1 (Constant) -0. 144 0.229 -0. 631 0. 530 Current assets 4.117 3.431 0.144 0.519 0.606 Current liabilities -1.528 -1.030 -0.135 -0.486 0.628 a. Dependent Variable: Rate of return on total assets As shown in the table above, the constant term for the regression is -0.144, current assets had a positive impact on rate of returns on assets to mean, a unit change in the current assets lead to 0.144 unit change on the rate of return on total assets. Current liabilities alternatively had a negative impact on the rate of return, with a beta of - 0.135, showing a unit increase in current liabilities lead to a decrease in return on assets. This relationship can be represented as below: ROA = α + β1X1 + β2X2 + έ Which can further be written as; ROA = – 0.144 + 4.117X1 – 1.528X2 + 0.229 Where: ROA is the rate of returns on total assets α represents a constant value έ is the error term β1 and β2 are beta estimates X1 is the variable for current assets X2 is the variable for current liabilities Table 5: Model summary The model has the value of R square as 0. 004, adjusted R square as -0. 024 and standard error of the estimates as 1.604211 as shown in the table below. Model R R Square Adjusted R Square Std. Error of the Estimate 1 .061a .004 -.024 1. 604211 a. Predictors: (Constant), Current liabilities, Current assets b. Dependent Variable: Rate of return on assets Table 6: Analysis of variance Model Sum of Squares df Mean Square F Sig. 1 Regression .696 2 .348 .135 .874b Residual 187.865 73 2.573 Total 188.561 75 a. Dependent Variable: Rate of return on total assets b. Predictors: (Constant), Current liabilities, Current assets The analysis of variance gave an F statistic of 0.135 and the significance of F statistic as 0.874 as shown in the table above. 4.5.2 Effect of the current assets to fixed assets ratio on the risk return trade off of firms listed in the NSE Table 7: Testing coefficients using regression Return on assets Model Unstandardized Coefficients B Std. Error Standardized Coefficients Beta t Sig. 1 (Constant) .055 .254 .219 .827 Current assets 5.417 1.950 .019 .163 .871 Fixed assets 1.324 .907 .073 .626 .533 a. Dependent Variable: Rate of return on total assets Fixed assets and current assets have a positive effect on returns on assets. Current assets with a beta of 1.950 shows a unit change in the value of current assets leads to a 1.950 unit change in the rate of returns on. Also, fixed assets with a beta coefficient of 0. 907 indicate a 0.907 unit change in rates of return on assets for every unit change in fixed asset value. The relationship can be represented as below ROA = α + β1X1 + β2X2 + έ Which can further be written as ROA = 0.055 + 5.417X1 + 1.324X2 + 0.254 ROA is the Rate of return on assets α represents a constant value έ is the error term β1 and β2 are parameter estimates X1 is the variable for current assets X2 is the variable for fixed assets The model

had an R square as 0.006, R square adjusted value of -0. 021 and standard error of the estimates as 1.602511, as shown in the table below. Table 8: Model Summary Model R R Square Adjusted R Square Std. Error of the Estimate 1 .076a .006 -.021 1.602511 a. Predictors: (Constant), Fixed assets, Current assets b. Dependent Variable: Rate of return on assets Table 9: Analysis of variance Model Sum of Squares df Mean Square F Sig. 1 Regression 1.094 2 .547 .213 .809b Residual 187.467 73 2.568 Total 188.561 75 a. Dependent Variable: Rate of return on total assets b. Predictors: (Constant), Fixed assets, Current assets The analysis of variance gave an F statistic of 0.213 and the significance of F statistic of 0.809 as illustrated above. 4 .5.3 Effect of the cash conversion cycle on the risk return trade off of firms listed in the NSE Table 10: Testing coefficients using regression Model Unstandardized Coefficients B Std. Error Standardized Coefficients Beta t Sig. 1 (Constant) .393 .307 3. 407 .001 Return on assets -1118.434 .813 -.272 -.220 .827 DSO -.003 .029 -.029 -.117 .907 DIO .007 .032 .287 .232 .817 DPO -.021 .012 -.455 -1.763 .082 ROA, DSO, DPO have negative effect on cash conversion cycle, with beta coefficients of -0.272, -0.029 and -0.455 respectively. It therefore suggested that a unit increment in each variable contributed to a corresponding decrease in cash conversion cycle. The relationship in this case can be represented as: CCC = α + β1X1 + β2X2 + β3X3 + ἐ Which can further be written as CCC = 0.393 – 0.003X1 + 0.007X2 – 0.021X3 + 0.307 Where: CCC is the cash conversion cycle α represents a constant value ἐ is the error term β1, β2, β3 are parameter estimates X1 is the variable for DSO X2 is the variable for DIO X3 represents the DPO Research was conducted using a two multivariate linear regression for the seven variables for the companies relating to the years 2014 all through to 2017 into the SPSS. The first multivariate model related the DSO, DIO and DPO to the rate of return on assets. The impact of the CCC on returns was assessed as a whole using the second model. The following are the results: Table 11: Model summary Model R R Square Adjusted R Square Std. Error of the Estimate 1 .474a .225 .181 .4361580 a. Predictors: (Constant), Days Suppliers Outstanding, Days Purchases Outstanding, Days Inventory Outstanding b. Dependent Variable: Return on assets The model has the value of R square as 0.225, adjusted R square as 0.181 and standard error of the estimates as .4361 as illustrated above. Table 12: Analysis of variance Model Sum of Squares df Mean Square F Sig. 1Regression .649 4 .662 5.139 .001b Residual .712 71 .855 Total .361 75 a. Predictors: (Constant), Days Suppliers Outstanding, Days Purchases Outstanding, Days Inventory Outstanding b. Dependent Variable: Return on total assets Analysis of variance gave an F statistic of 5.139and the significance of F statistic as 0.001 as shown in the table above. This means that much of variations in the explained variable was attributed to the explanatory variables. CCC as a whole and its relationship to the rate of return on assets Regression Analysis Table 13: Model summary Model R R Square Adjusted R Square Std. Error of the Estimate 1 .008a .001 -.013 1. 596230 a. Predictors: (Constant), Cash conversion cycle b. Dependent variable: Rate of return on assets Table 14: Analysis of variance Model Sum of Squares Df Mean Square F Sig. Regression .013 1 .013 .005 .944b Residual 188.548 74 2.548 Total 188.561 75 a. Dependent Variable: Rate of return on assets b. Predictors: (Constant), Cash Conversion Cycle Table 21: Testing coefficients using regression Unstandardized Standardized Coefficients Coefficients Model B Std. Error Beta t Sig. 1 (Constant) -.101 .187 -.537 .593 Cash Conversion Cycle .000 .002 -.008 -.071 .944 a. Dependent Variable: Rate of return on assets The relationship can be represented as follows: RRA= α + β1X1 + ἐ Which can further be written as ROA= -0.101 + 0.000X1 + 0.187 Where: ROA is the rate of return on assets α represents the constant ἐ is the error term β1 represents the beta X1 represent the variables for the cash conversion cycle CHAPTER FIVE: DISCUSSION, CONCLUSION AND RECOMMENDATIONS 5.1 Introduction This chapter looks at summary of findings, conclusions, recommendations of the research, limitations as well as any suggestions for research in the future. 5.2 Discussion of findings 5.2.1 Effect of the current ratio on the risk return trade off The company with the highest average current ratio was Sasini during the four years studied. One possible reason for this could have been the firm being able to cover its short term obligations as a result of its high current assets. It was a sign of the firms' risk was low since it had enough current assets to cushion against any liabilities. The rate of returns on assets were, therefore, lower since investors were not exposed to high risk levels. The company's current ratio was highest in 2017 and this could have been because of an increase in the production of tea as well as better prices of the same. CIC Insurance had the lowest ratio during the four years studied. It signified the firm being unable to repay its short term obligations when they fell due because of its low current assets. The company's risk was highest because of inadequate current assets to cover the liabilities. The returns were however, higher to compensate investors for the high risk levels they were exposed to. The company's current ratio was lowest in 2016 and this could have attributed to competition from other insurance companies in the industry which affected their premiums. Correlation data analysis shows that a rise in current liabilities resulted in a reduced return on assets. For Sasini the current liabilities increased from

2014 to 2017 and there was a corresponding decrease in the rate of returns. For CIC, there was no correlation between the returns and liabilities. Other internal or external factors may have contributed to the observed relationship. R is the correlation between variables. From table 6 on model summary, an R = 0.061 shows the explanatory variables i.e. current assets and current liabilities do not significantly impact the dependent variable, rate of return. This is true for CIC insurance where there was no correlation. There must have been other factors that affected the rate of return which could further be investigated. The strength of the 33 correlation linking the predictors and the explained variables was determined by the R square. Value R= 0.004 indicated a weak positive correlation did exist linking the variables. There are other strong predicting factors that could be investigated. The ANOVA tests if the regression model was suitable for analysis of the data. From the results (Table 6), (F = 0.135 and p = 0.874) the significance of F statistic at 0.874 is greater than p = 0.05. It suggested the model was not suitable for analysis of the data. The variables should have been adjusted before doing analysis to give accurate information on the rate of return on assets. According to the findings on testing coefficients using regression (Table 8), the explanatory variables weren't essential in determining the dependent variable. The current assets and current liabilities have a p value of 0. 606 and 0. 628 respectively which are less than p= 0.05. Other factors could have been at play in determining the rate of return on assets. 5.2.2 Effect of the current assets to fixed assets ratio on the risk return trade off The listed company with the highest average ratio was WPP Scangroup at 27.9129. This means that the company had more assets to meet its obligations. On the other hand KenGen had the lowest average ratio during the four year period studied. The correlation linking current assets and fixed assets to rates of return on assets was a weak positive one. The current assets had been essential (p= 0.022) in determining the dependent variables whereas the fixed assets was not notable (p=0.074) determinants of the dependent variable. From (Table 13) on model summary, R was the correlation between variables. Independent variables did not significantly affect the dependent variable (R= 0.076 / 7.6%) which was an indication of around 7.6% of the independent variables being determined by the regression model. The R square of (R= 0.006 / 0.6%) indicated a weak positive correlation linking explanatory and explained variables. The independent parameters weren't strong in predicting the dependent variable. Other factors may have contributed to assessing the dependent variable values. From the analysis of variance results (Table 14), the model was not fit for analysis of the data (p = 0.809). There should have been adjustments in the variables for the model to be suitable in the analysis. From the results on testing coefficients using regression (Table 15), the explanatory indicators weren't essential in determining the explained parameter. In other words they are not predictors of the dependent variables. The current assets to fixed assets ratios have a p value of 0.871 and 0.533 respectively which are less than p= 0.05. Other factors were probably responsible in determining the rate of return. 5.2.3 Effect of the cash conversion cycle on the risk return trade off WPP Scangroup had the best positive average cash conversion cycle during the four years studied. This meant that the company was taking a less duration to liquidate its inventory purchases. The company's risk was low since it had a lower cash conversion cycle. The rate of returns on assets were, therefore, lower since investors were not exposed to high risk levels. KenGen had the lowest average cash conversion cycle during the four years studied. It was an indication that the firm was least able to liquidate its inventory investments quickly. The company's risk was highest because they paid their creditors faster than they collected debts from their debtors. As a result, the returns were higher to compensate investors for the high risk levels they were exposed to. There existed a substantial negative correlation linking returns on assets to the cash conversion cycle (R= -0.008) which implied that there were longer conversion cycles that had the potential to decrease the returns on assets. The association linking returns on assets to the cash conversion cycle was a weak and negative one. R is the correlation between variables. Model summary on table 18, (R= 0.474 / 47.4%), indicated a weak positive relation linking the variables. R square explained how strong the relation linking the predictors and the dependent variable had been. R square (R= 0.225 / 22.5%) was an indicator of a positive correlation linking the variables however, weak. Only about 22.5% of the independent variables explained the association given by the regression model. The ANOVA tested how suitable the regression model was for data analysis. According to the findings on table 19 given, (F = 5.139: p= 0.001) the model was fit for analysis of the data evidenced by the significance of F statistic at p=0.001 which was smaller than p=0.05. From the results on testing coefficients using regression (Table 20), the independent variables – DSO (p= 0.907), DIO (p=0.817) and DPO (p=0.082) were not significant in assessing the explained parameter. In other words they did not predict the dependent variables. Other factors may have been responsible in evaluation of returns on assets. 5.3 Conclusion Current assets and current liabilities are essential determinants of the current ratio on returns on assets however, there are factors other than these

variables that may also play significant roles in determining the returns on assets. According to the findings on the effect of the current assets to fixed assets ratio, it is evident that these two variable were not significant as determinants of the rate of return on assets. There are other factors that may have been stronger in determining the return on assets like the fixed asset turnover ratios. On the impact of the cash conversion cycle on the return on assets, a negative relationship was established. However, this was a weak relationship and implied that the independent variables were not strong determinants of returns on assets. A weak positive correlation linked the variables and therefore, only about 22.5% of the independent variables explained the association given by the regression model. This further showed that the independent variables were not significant predictors in determining the rate of return. 5.4 Recommendations of the study More studies should be done to determine the other factors that come in play when determining the rate of return on assets to help build to these study. Further investigations may also need to be carried out to understand the inconsistent and unique correlation between liabilities and returns in some of the listed companies like CIC. 5.5 Limitations of the study Research was done using the first 20 companies which perform best among those listed on the NSE. The study ignored the other companies that are also listed but are not among the NSE 20. It is not advisable to assume that the results in this study area the same all through the other companies since results are determined by financial statements of each independent company. 36 This study was limiting in terms of reach because it concentrated on companies that have been listed on the NSE and did not consider those that have not been listed which not bring about fair findings which may have been realized had many other companies been incorporated. The study focused on a four year period, years 2014-2017, and does not consider any further years. Increasing the time period may result in much more accurate and reliable results since there will be consistency in analysis of results. The study did not incorporate all sectors of the economy that have been listed in the NSE. Sectors such as the manufacturing and allied and the automobiles and accessories do not have any companies among the NSE 20 share index. The findings can only be applied to certain industries in the market. 5.6 Suggestions for further research Research focused on the best 20 performing companies among those listed in the NSE. Further studies can be done on the other companies that have been listed as well even though they are not among the best performing companies. The study focused in companies listed on the NSE and so, further research can take into consideration companies private companies that are not trading publicly. The study was centered on a period of four years which may not be sufficient time to determine the pattern and consistency of these companies. Other studies can take into consideration a larger period of study to improve results and findings that will be realized. The study only took into consideration the sectors that have companies among the 20 companies that perform the best and if certain companies in some sectors were not among the best then these sectors will not be incorporated in the study. 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Zaryawati, M. A., Annuar, M. N., & Rahim, A. S. A. (2009). Working capital management and corporate performance: case of Malaysia. Journal of Modern Accounting and Auditing, 5(11), 47–54. APPENDICES Appendix 1: Firms to be used in research Sector/ Industry Agriculture Sasini Telecommunicatio Safaricom n Investment Centum Insurance CIC Britam Manufacturing British American Tobacco (BAT) East African Breweries Limited (EABL) Construction ARM Bamburi Commercial and services Nation WPP Scangroup Energy Kenol Kengen KPLC Banking Kenya Commercial Bank (KCB) Cooperative Bank of Kenya (COOP) Diamond Trust Bank (DTB) Equity Bank Barclays Bank of Kenya (BBK) CFC Stanbic 1 2 3 5 6 7 9 10 12 13 14 15 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 34 35 37 38 41 42