

**INFLUENCE OF WORKING CAPITAL MANAGEMENT ON PROFITABILITY
OF FLOUR MILLING COMPANIES IN KENYA**

KIIRU ROSEMARY MUGECHI

REG NO: D61/5140/2017

**A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF FINANCE
AND ACCOUNTING IN THE SCHOOL OF BUSINESS IN PARTIAL
FULFILMENT FOR THE AWARD OF MASTERS OF BUSINESS
ADMINISTRATION IN THE UNIVERSITY OF NAIROBI.**

2020

DECLARATION

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

Signature...R.M.K.....

Date...03/12/2020

Name: Rosemary Mugechi Kiiru

Reg no: D61/5140/2017

This research project has been submitted for review with my approval as university supervisor.



PROF. JOSIAH ADUDA

PROFESSOR OF FINANCE DATE: 21/11/2020

UNIVERSITY OF NAIROBI

DEDICATION

This project is dedicated to my husband Ken and our sons, my mum, my brothers and sisters. Thank you for all your support and encouragement throughout my academic life.

ACKNOWLEDGEMENT

My sincere gratitude goes to my supervisor **Prof. Josiah Aduda** for his guidance and direction. I am also grateful to the flour milling firms for their cooperation in providing me with records and information necessary for my research. I am grateful to administration and management staff at the flour milling firms who allowed me access to their data which enabled me carry out the research.

I wish to thank colleagues and friends at the University of Nairobi who inspired me in undertaking this study. I equally thank the management and lecturers at the University of Nairobi for their support and guidance.

Finally, I express my deepest gratitude to my family and friends for their support throughout my study. Thank you for encouraging me and giving me the morale to undertake this study.

TABLE OF CONTENTS

DECLARATION	II
DEDICATION	III
ACKNOWLEDGEMENT	IV
TABLE OF CONTENTS	V
LIST OF FIGURES	VII
LIST OF TABLES	VIII
LIST OF ACRONYMS AND ABBREVIATIONS	IX
ABSTRACT	X
CHAPTER ONE	1
INTRODUCTION	1
1.1 Background of the Study	1
1.1.1 Working Capital Management.....	2
1.1.2 Firm Profitability	3
1.1.3 Working Capital Management and Firm Profitability	4
1.1.4 Flour Milling Companies in Kenya	4
1.2 Research Problem	5
1.3 Research Objective	6
1.3.1 Specific Objectives	7
1.4 Value of the Study	7
CHAPTER TWO	8
LITERATURE REVIEW	8
2.1 Introduction.....	8
2.2 Theoretical Framework.....	8
2.2.1 Operating Cycle Theory.....	8
2.2.2 Miller-orr Model Approach	8
2.2.3 Cash Conversion Cycle Theory	9
2.2.4 Baumol Theory	9
2.3 Determinants of Profitability of Flour Milling Firms	10
2.3.1 Firm size.....	10
2.3.2 Firm Liquidity	10
2.3.3 Resources	11
2.3.4 Organizational Structure	11
2.4 Empirical Study	11
2.5 Conceptual Framework.....	13
2.6 Summary of Literature.....	14
CHAPTER 3	16
RESEARCH METHODOLOGY	16
3.1 Introduction.....	16
3.2 Research Design.....	16
3.3 Population of the Study.....	16
3.4 Sample Design	16

3.5 Data Collection Method	16
3.6 Data Analysis	17
3.7 Analytical Model	17
3.7.1 Diagnostic Test	18
3.7.2 Test of Significance	18
CHAPTER FOUR.....	19
DATA ANALYSIS, RESULTS AND DISCUSSION.....	19
4.1 Introduction.....	19
4.2 Response Rate.....	19
4.3 Demographic Characteristics	19
4.3.1 Size of the Firm.....	19
4.3.2 Years of Firm Operation	20
4.4 Descriptive Analysis	21
4.4.1 Accounts Receivables Management	22
4.4.2 Accounts Payables Management	23
4.4.3 Inventory Management	23
4.4.4 Cash Management.....	24
4.4.5 Firm Size.....	25
4.4.6 Profitability of Firms.....	26
4.5 Correlation Analysis	27
4.6 Multivariate Regression Analysis	29
4.7 Discussion of Research Findings	31
4.7.1 Accounts Receivables Management	31
4.7.2 Accounts Payables Management	32
4.7.3 Inventory Management	33
4.7.4 Cash Management.....	34
4.7.5 Profitability of Flour Milling Firms.....	35
CHAPTER FIVE	37
SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS ..	37
5.1 Introduction.....	37
5.2 Summary of Findings.....	37
5.3 Conclusion	38
5.4 Recommendations of the Study	39
5.5 Limitations of the Study.....	40
5.6 Areas for Further Research	40
REFERENCES.....	42
APPENDICES	46
APPENDIX 1: LIST OF REGISTERED FLOUR MILLING FIRMS IN KENYA	46

LIST OF FIGURES

Fig 2.1 Conceptual Framework.....	15
Fig 4.1 Response Rate.....	20
Fig 4.2 Size of the Firm.....	21
Fig 4.3 Years of Firm Operation.....	22
Fig 4.4 Firm Size and Return on Assets.....	36
Fig 4.5 Firm Size and Return on Assets.....	37

LIST OF TABLES

Table 4.1 Averages of Study Variables.....	23
Table 4.2 Descriptive Statistics for Accounts Receivables Management.....	23
Table 4.3 Descriptive Statistics for Accounts Payables Management.....	24
Table 4.4 Descriptive Statistics for Inventory Management.....	25
Table 4.5 Descriptive Statistics for Cash Management.....	25
Table 4.6 Descriptive Statistics for Profit before Tax.....	27
Table 4.7 Descriptive Statistics for Return on Assets.....	28
Table 4.8 Correlation Analysis.....	30
Table 4.9 Regression Model Summary.....	31
Table 4.10 Analysis of Variance.....	31
Table 4.11 Regression Model Coefficients.....	32

LIST OF ACRONYMS AND ABBREVIATIONS

ACP	Accounts Collection Period
ANOVA	Analysis of Variance
APP	Accounts Payable Period
CCC	Cash Conversion cycle
KEBS	Kenya Bureau of Standards
KNBS	Kenya National Bureau of Statistics
ITP	Inventory Turnover Period
NCBD	National Cereals and Produce Board
PBT	Profit before Tax
ROA	Return on Assets
ROE	Return on Equity
SPSS	Statistical Package for Social Sciences

ABSTRACT

Effective working capital management is critical for organizational growth. This study examined the influence of working capital management on profitability of flour milling firms in Kenya. The study explored how cash management, accounts receivables management, accounts payables management, and inventory management influence profitability of firms in the flour milling industry. The theories that guided this study were operating cycle theory, Miller-Orr model, Baumol model and cash conversion cycle theory. Descriptive study design was used and secondary data was collected for the study. The target population was thirty-six flour-milling firms in Kenya. Data collected was analyzed using SPSS version 21 to produce frequencies, descriptive and inferential statistics. The study conducted a multiple regression analysis to determine the relationship between working capital components and profitability of the firms. Findings from the study indicated that working capital management influenced profitability of flour milling firms and accounted for 73.8% of variations in profitability among the firms. Accounts receivables management, accounts payables management and inventory management had a negative and significant relationship with profitability of flour milling firms in Kenya. Cash management had a positive relationship with profitability of the firms. Based on the findings and conclusions, the study recommended that managers of the firm should develop effective policies in accounts receivables management, accounts payables management and inventory management that reduce the measurement periods to observe an improvement in firm profitability.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Managing working capital efficiently is crucial for business survival. Businesses that have too little cash at hand experience problems in maintaining critical operations. Investment in short-term resources such as cash can also prove unprofitable for a firm. It is essential that firms hold the right mix of resources such as inventory, cash, and other assets in order to facilitate operational needs and organizational obligations (Rogers, 2017). Failure to manage working capital effectively leads to a firm's inability to grow and expand its operations due to resource constraints (Oladipupo and Okafor, 2016). The use of working capital components in an efficient manner provides firms with an advantage to become profitable, increase revenue resulting from available idle cash to invest (Fonseka et al., 2015). These components include short-term assets and short-term obligations (Rogers, 2017). Components of working capital management that influence organizational operations and performance include accounts receivables, accounts payables, inventory management and cash management.

The operating cycle theory provides an understanding on the accounts receivables management. The theory explores accounts receivables and inventory turnover in managing an organization's liquidity hence influencing productivity and growth. Incorporating these elements into the firm's operations can have a positive impact on profitability (Ashta, 2018). Other theories that inform this study are Baumol theory, Miller-orr model approach and cash conversion cycle theory. Baumol theory provides a relationship of cash management to organizational management. Cash being an important element of working capital should be managed effectively by setting upper and lower cash levels to determine the optimum cash required for smooth running of the company, which in turn influence productivity and profitability. Miller-orr model approach provides a mode of setting cash limits for organizations to manage their accounts payables effectively (Saad, 2018). Cash Conversion Cycle theory provides a measure of inventory management in organizations to reduce inventory turnover period hence increase revenue. This enables organizations become more profitable.

According to Churchill and Mullins (2017), sustainable growth and profitability in organizations is equated to management of working capital effectively. Companies that increase operations in excess of their sustainable growth are prone facing bankruptcy and financial strains. On the other hand, firms that do not achieve sustainable growth are likely to experience slow or stagnant growth (Radasanu, 2015). Efficient working capital does not only influence the liquidity of firms, but affects its solvency and long-term survival (Joshi, 2017). In Kenya, flour-manufacturing firms face instability due to lack of effective management of working capital (Ndege, 2014). Firms in Kenya have closed shop due to poor cash management (Ndirangu, 2016). Conducting this study is therefore critical in identifying bottlenecks in efficient working capital among firms.

1.1.1 Working Capital Management

Rogers (2017) posits that efficient working capital management incorporates several areas of a business such as sales management, timely ordering of inventory, cash collection, and cash payment. These business areas enhance a firm's financial performance, which increases growth. A firm's operations determine its profitability and growth. Rogers (2017) asserts that there are two critical steps for effective working capital management. Resource planning and controlling enables firms to avoid under-investment or over-investment in short-term resources.

According to Ashta (2018), conservative policy and aggressive policy can be used in working capital management. The former involves less investment in resources that are long-term favoring investment in short term resources. Aggressive policy involves more investment in long-term resources and low investment in short term resources. Effective management of working capital ensures that businesses do not borrow from external resources to pay short-term obligations.

Preve and Sarria-Allende (2016) asserts that while firms may gain more profits with an aggressive policy, they may also suffer the risk of not meeting short-term debts, and have insufficient cash to maintain routine operations. In order to settle short-term obligations, more resources need to be in the current asset form. According to Filbeck and Krueger (2015), a firm's operating expenses and debt obligations are planned through its working capital.

Accounts receivable component is critical for organizational growth and sustainability (Saad, 2018). It is essential that an organization has established policies to control costs

of offering goods and services on credit. It is critical for management to formulate credit policies (Ashta, 2018). Account payables period is calculated by division of net purchases by average accounts payables which is multiplied by 365 days.

Account receivables account for debts owed to the organization due to sales made in business dealings (Mitra & Paul, 2018). Deferral period for accounts payables equals period companies take to pay their suppliers. Inventory turnover is also critical in organizational management since it represents the period in which inventory is converted to cash (Ashta, 2018). Companies need enough cash to facilitate all operations. Effective and efficient management of these components is essential to improve organizational performance and growth.

Working capital management also involves inventory management and cash management. Inventory turnover ensure companies gain profit from selling products. As such, it is essential that the period be reduced through effective policies. This period can be calculated by having the sales multiplied by 365 days and dividing inventory with the resulting number (Rogers, 2017). Another component that is critical in organizational management is cash management. It is important to ensure a company has sources of cash for operations such as profit earned from sales. This can also include liabilities that are existing or acquiring new ones.

1.1.2 Firm Profitability

A firm's profitability relates to its performance in overall loss and profit. Profitability describes a firm's level of achieving goals while mitigating risks. It is critical for firms to analyze their performance to provide information for decision-making and evaluating effectiveness of organizational strategies. According to Eshna (2016), measures of profitability include the financial performance of an organization. Information on this performance is important for various stakeholders such as shareholders, management, lenders among others. It is therefore critical that firms undertake regular financial analysis to determine whether the company is making any profits or operating at a loss. Financial statements provide crucial information regarding a company's profitability. According to Eshna (2016), it is fundamental that firm maintain accurate balance sheets and income statements.

According to James (2015), profitability can be influenced by implementation of various strategies and policies. According to Taman (2016), effective implementation

of strategies and policies determine an organization's profitability. It is essential that firms increase their profitability to increase shareholders wealth (Brown, 2019). Profitability is achieved when all parts of the organization work together such as resources, processes, organizational structure among others. According to Mule (2016), profitability is achieved when all these parts work in harmony.

James (2015) asserts that the most common measure of a firm's profitability is financial measures, which include profit before tax, and return on assets. According to Hagel (2019), profit before tax refers to profits a firm acquires before paying corporate tax. According to Davison (2019), return on assets is a measure of a company's profitability in relation to its total assets. According to Hagel (2019), return on assets shows efficiency of management at using company assets to increase earnings.

1.1.3 Working Capital Management and Firm Profitability

According to Shin and Soenen (2018), profitability equals the efficiency and effectiveness in managing organizational working capital. Firm goals are to maximize its profits while maintaining adequate liquidity. According to Reheman and Nasr (2017), it is essential that firms create a balanced tradeoff of liquidity, performance by enhancing management of working capital. Joshi (2017) posits that, the liquidity of firms is based on cash flows from assets.

Rogers (2017) posits that sustainable growth is a firm's maximum growth rate, which relies on internal financing. This growth is not dependent on extra financial aid, which may include sourcing for new investors and liabilities that are long-term (Rogers, 2017). Value creation can be achieved through profitable investments, using loans to meet fund requirement, minimizing investment in short term resources. These measures of working capital management can increase returns to shareholders. According to Rafuse (2016), small businesses in developed and developing countries fail due to limited funds. Rafuse (2016) asserts that under investment in short term resources may result to liquidity and insolvency. It is therefore crucial that firms find the right balance in working capital management to increase profitability and enhance firm's survival.

1.1.4 Flour Milling Companies in Kenya

Flour milling firms produce maize and wheat flour, which is consumed by the entire population in Kenya. These firms are members of the Cereal Millers Association, which

plays a vital role in the industry. Other regulators in the milling industry include the Kenya Bureau of Standards, which ensure produce meets industry requirements. There are nineteen major flour-milling companies in Kenya, which control over fifty percent of the industry. Other small millers are mainly in maize milling since corn is largely consumed in Kenya.

Large flour milling companies source their cereals from the National Cereals and Produce Board (NCPB). They also source a large percent of cereals from imports to meet demand for wheat and maize flour in the country. Production of flour has continued to increase to a rise in population in Kenya. Based on a 2020 economic survey by Kenya National Bureau of Statistics, manufacture of grain mill products increased by 3.6% (KNBS, 2020).

According to a Kenyan Flour Business Report of 2019, consumption of flour in Kenya amounts to an equivalent of five kilograms per person per month as of 2018 (Business Wire, 2020). This figure has remained constant with slight fluctuations since 2009 due to demand for flour and flour products by Kenyans. More firms have entered the market since 2018 due to the presence of opportunities and low entry barriers. Maize flour in particular is a staple food in many families. As such, flour-milling firms have increased owing to the estimated growth in consumption by 3%-6% in the next ten years. Among firms that have entered the industry since 2018 are giant millers, which started production in 2019. Inventory management and cash management is a major factor influencing business operations among these firms (Owele, 2014).

1.2 Research Problem

Organizations have to manage working capital to achieve growth and have smooth operations (Plance, 2015). However, working capital management is often assumed an exclusive function for large and well-established institutions (Dominic, 2015). Flour milling firms play a vital role in enhancing food security in the Kenyan economy. Working capital management aligns cash, inventory management, and balance sheets to organizational growth. (Khan & Huda, 2016). The flour-milling sector in Kenya is still in its growth phase with more firms penetrating the industry.

Manufacturing firms in all sectors including flour-milling firms face the risk of liquidity and insolvency due to poor working capital management (Rafuse, 2016; Joshi, 2017). Small and medium size agricultural and milling firms face stiff competition from large

firms that have established working capital management policies (Owele, 2014)). Statistics indicate that despite efforts to incorporate working capital management as a competitive advantage strategy, only a few manufacturing firms and large flour milling firms with dominance in the market have adopted effective working capital management practices (Namusonge, 2017).

Khamila et al. (2019) study on performance of flour milling firms found weak operational effectiveness in management systems of firms. This study has conceptual gaps in variables studied since working capital management role in firm profitability is not assessed. Kung'u (2015); Mwangi, Makau and Kosimbei (2014); Namusonge (2017) and Owele (2014) studies indicated that components such as cash and inventory management influenced profitability and growth of manufacturing, flour-milling firms, agricultural and non-financial firms significantly.

The above studies however, do not bring out the role working capital plays in enhancing the profitability of flour milling firms hence the need for the current study. They present contextual and methodological gaps since they are conducted in different industries employ different research methodology. Kung'u (2015) uses correlation design among manufacturing firms. Mwangi, Makau and Kosimbei (2014) use non-experimental design among non-financial firms. This study's objectives were to establish the influence of working capital management on profitability of flour milling firms in Kenya. The study answered these questions, how do inventory management cash management, accounts receivables management, and accounts payables management influence profitability of flour milling firms in Kenya? The study filled some conceptual and contextual gaps identified in previous studies. Majority of the studies on working capital management Kung'u (2015); Mwangi, Makau and Kosimbei (2014); Namusonge (2017); Khamila et al. (2019); Joshi (2017) were conducted in different industries such as financial and agricultural while this study assessed flour milling firms in Kenya. These studies did not utilize all the four elements of working capital management while this study examined the four elements and their influence on performance of flour milling firms in Kenya.

1.3 Research Objective

The general objective of this study was to establish the influence of working capital management on profitability of flour milling companies in Kenya.

1.3.1 Specific Objectives

- i. To establish how accounts receivables management influence profitability of flour milling firms in Kenya
- ii. To find out how accounts payables management influence profitability of flour milling firms in Kenya
- iii. To examine how inventory management influence profitability of flour milling firms in Kenya
- iv. To determine the influence of cash management on profitability of flour milling firms in Kenya

1.4 Value of the Study

The study will benefit the managers in flour-milling sector in Kenya through the findings and recommendations. This study explored working capital influence on the growth of flour milling firms in Kenya, focusing on the effect of the variables such as cash management, inventory management, receivables management, accounts payable management on the growth of flour milling firms, and gave recommendations, which can help management, identify the areas of concern to increase profitability.

Private and public organizations will benefit from the research findings since working capital management elements can be applied across all organizations. The government is expected to utilize the findings of this research in developing policies since it acts as a regulator in the industry. This study will provide literature review for scholars undertaking further studies on working capital influence on growth of various industries in the private and public sector.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Previous research on working capital management and firm profitability is reviewed in this chapter. It presents an analysis of theories that support the study and gives a conceptual framework. The empirical review and knowledge gaps are presented in this chapter.

2.2 Theoretical Framework

2.2.1 Operating Cycle Theory

Richards and Laughlin (1980) in his theory examines the elements of working capital management by establishing a deeper understanding of liquidity flow in an organization's operations. The theory asserts that if firms incorporate measures of receivables account and inventory turnover into the operating cycle of the firm, they can attain a more precise manner of managing liquidity (Westen & Eugene, 1979).

According to Westen and Eugene (1979), the frequency of converting receivables is measured through account receivable indicator. This indicator is affected when policies in collection change. Low receivables turnover and extended collection period indicates deteriorating liquidity. Richards and Laughlin (1980), posit that firms that maintain larger average receivables investment have higher current and acid test ratios. The operating cycle of a firm is measured by the receivable accounts and investment inventory cumulative days. The inventory and receivable accounts turnover provides a liquidity indicator for firms, which is a measure of profitability. This theory provides knowledge of the accounts receivables component and under study and firm profitability.

2.2.2 Miller-orr Model Approach

This approach describes cash management for organizations that have uncertainty in regulating inflows and outflows of cash. It posits that companies can be set upper and lower limits of cash hence allows the determination of the return point referred to as the target cash balance. This approach has several assumptions that must be met as follows. One assumption is that cash inflows and outflows are stochastic implying that

organizations experience variations in payments and receipt of cash daily. In addition, it assumes that organizations maintain lower limits, which represents acceptable balances in cash. In order to find the return point, this theory recommends multiplying the spread by $1/3$ and adding the number to the lower limit.

According to this approach, management should set the lower limit based on creditworthiness of a business, expected cash needs, and the acceptable risk of cash flows gap (Saad, 2018). This approach posits that the lower limit can be set as zero for businesses with good creditworthiness, or for businesses with sufficient investments in marketable securities. Maintaining an acceptable cash limit enables the business manage its account payables. This approach therefore supports the accounts payables component of this study.

2.2.3 Cash Conversion Cycle Theory

The theory provides a measure for cash management. Cash flow is crucial in an organization since it determines whether an organization is able to run smoothly. The conversion cycle or period is the time taken to turn inventory into cash and transfer accounts receivables into cash. This period limits the investment an organization can take since resources are tied up hence the need for companies to find a suitable policy to ensure it is shortened.

When firms have a longer cash period, they have to invest heavily in other components to ensure they meet their operational needs. Inventory turnover is critical to shortening the conversion cycle. Companies must therefore ensure that debts owed to the company in form of credit sales are recovered within a short period. Conversion cycle of cash is calculated through addition of the accounts receivables to the inventory days and subtracting the accounts payables from the number. This theory creates a deeper understanding of the inventory management component of working capital.

2.2.4 Baumol Theory

Baumol (1952) suggests that cash can be managed similar to other inventory. This theory develops a mode of managing and holding cash that can be beneficial to organizations in determining minimum levels. Similar to the order quantity used in inventory, cash can be managed by determining the cost of holding cash and the volume necessary. It is important in reducing the costs of holding cash as applied from

inventory holding costs. The cost of holding cash should be at a balance with the cost that would be incurred in transferring marketable securities to cash.

Similar to inventory management, the point in which the transaction costs and carrying costs are minimum represents the optimum cash level. The cost of converting marketable securities to cash is referred to as the transaction cost. Current account that does not bear interest should be kept low when interest rates are high. This theory creates more understanding on cash management.

2.3 Determinants of Profitability of Flour Milling Firms

Working capital management is a major component that determines the profitability of firms. There are however other factors that influence the profitability of firms. These factors affect a firm's output and competitiveness. Other factors that affect firm profitability apart from working capital management are discussed below.

2.3.1 Firm size

A firm's size represents its production capabilities, its skill capabilities, and sales. Large organizations are able to have more and bulk productions, which cuts down on costs and enables the firm sell more products. Large companies have more resource capabilities due to investment in tangible assets and easy access to financing. As such, they are able to acquire finances for investment and to meet; their obligations hence achieve more profitability. Large firms that manage working capital effectively achieve more growth than small and medium firms do (Rogers, 2017). The size of a firm is measured by its production quantity and sales.

2.3.2 Firm Liquidity

An organization's ability to convert its assets into cash can be beneficial to achieving growth and profitability. The ease of converting assets enables an organization to meet short-term liabilities that would otherwise affect its operations and reduce productivity (Rafuse, 2016). It also enables management take advantage of investment opportunities that could enable the organization increase its revenue. Liquidity is measured using current ratios that represent current assets and current liabilities.

2.3.3 Resources

Resources are important for a firm to maintain operations and achieve productivity. Resources can be tangible or intangible. Tangible resources such as cash, products, and buildings ensure that a firm maintains smooth operations in production. Intangible resources such as employees skills ensure that an organization perform as desired. Firms that have been in operation for many years have acquired more resources to meet operational needs. It is critical that a firm possess both resources to achieve profitability (Barasa, 2016).

2.3.4 Organizational Structure

Organizational structure is the division of people and tasks into smaller groups. Hrebiniak (2016) asserts that it is critical that organizations have flexible structures to incorporate changes in the external environment. Due to the dynamic nature of markets that firms compete in, having a flexible structure ensures a firm can easily implement strategies to achieve competitive advantage. Flexible structures can enable a firm manage its working capital elements such as accounts receivables and accounts payables management hence achieve growth and profitability.

2.4 Empirical Study

Siraj, Mubeen and Sarwat (2019) conducted a study in Pakistan. They assessed performance of firms in non-financial sector, which were listed in Pakistan Stock Exchange. The independent variable was working capital examined in two hundred and eighty firms. This study concluded that inventory management and accounts payable influenced profitability of the firms significantly, working capital also had a significant influence on profitability and growth. It is clear from the study that managing working capital is necessary for firm performance.

Yekti and Rambu (2019) study assessed firms in Indonesia. The study concluded that managing working capital influenced a firm's profitability in a significant manner, it did however have no influence on sustainable growth hence recommended that firms should manage working capital efficiently for sustainable growth.

Akomeah and Frimpong (2019) conducted a study among Ghanaian firms and analyzed their performance for a period of ten years. They sampled firms in manufacturing, which were listed by assessing profitability. They concluded that accounts payables and

cash management had significant influence on firm profitability. The study recommended efficient methods of managing working capital to increase profitability. It is critical that firms manage working capital to achieve growth and profitability.

Oseifuah and Gyekye (2016) assessed cash conversion theory in firm profitability. The study uses secondary data and found that there existed a negative relationship over a ten-year period. They recommended that the conversion cycle should be reduced to improve profitability. This study concentrated on only one component of working capital management.

Ndege (2014) studied manufacturing firms, which included flour-milling firms. The Kenyan study concluded that inventory turnover, cash conversion ratio, average payment period, and current ratio determined organizational financial performance. Inventory management is a critical component in enhancing a firm profitability. Firms should therefore install efficient inventory management systems.

Owele (2014) examined financial performance of agricultural firms. He concluded that firms adopted different approaches, which influenced their profitability. According to him, working capital was a critical determinant of the profitability of organizations in all sectors hence the need for efficient and effective management.

Mogaka and Jarongo (2013) assessed profitability in manufacturing and construction organizations. These organizations listed at Nairobi Securities Exchange were analyzed using panel data to show whether cash and inventory determined their performance. Findings showed that inventory management and accounts payables determined profitability. It is therefore critical that firms manage inventory and cash to increase profits.

Namusonge (2017) studied performance using a cross-sectional descriptive survey of large manufacturing companies in Kenya that included flour-milling firms. She found that inventory management; cash management produced a positive relationship in with firm productivity. Firms need to manage their inventory and cash in an effective and efficient manner to achieve growth and profitability.

Khamila *et al.* (2019) studied 22 grain milling firms, which had large production. The findings revealed that there were weak quality management systems among the firms. There were also weak monitoring systems, which hindered efficient operations. It is

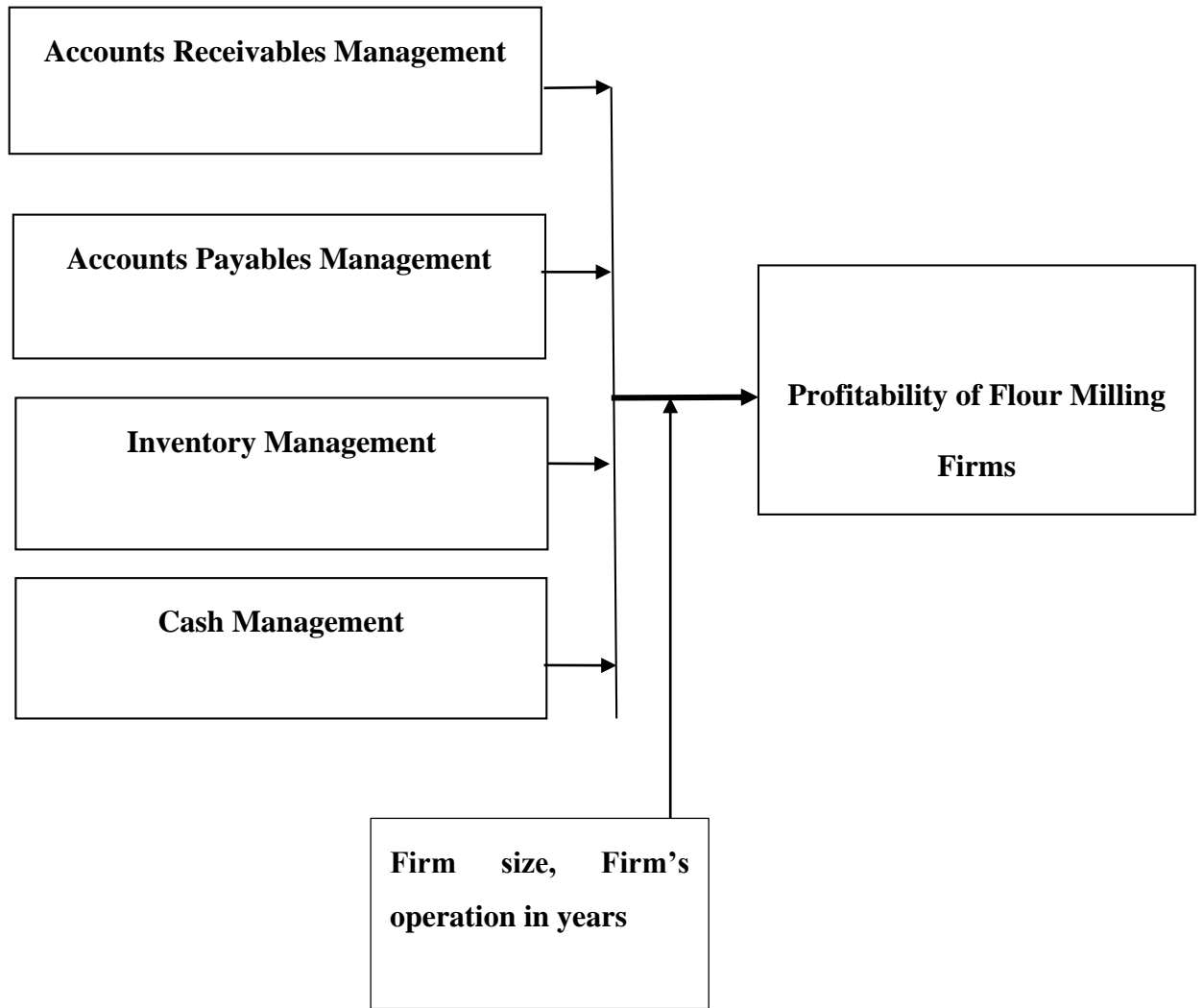
crucial for firms in flour milling industry implement better operational management systems to improve growth.

Mwangi, Makau and Kosimbei (2014) examined performance among firms in Kenya. Their census of forty-two listed firms indicated that the return on equity and assets was influenced by a financial policy that was aggressive. On the other hand, an investment policy that was conservative determined the performance of organizations. Organizations should adopt such policies that enable them to maximize on profits and grow.

A study by Kung'u (2015) used correlational research design a sample of 81 manufacturing firms in Kenya. He looked into company profitability and found out that there existed a relationship between liquidity, credit policy, accounts payables, inventory control, and profitability. Based on the findings, it is crucial to review working capital management techniques among firms to achieve profitability.

2.5 Conceptual Framework

This framework shows the dependent and independent variables utilized in a study. Hrebiniak (2016), defines it as a group of concepts, which are organized in a systematic manner to provide a tool for integrating and interpreting information. The conceptual framework provides a foundation for development of the variables under study (Kothari 2014).



Independent Variables

Control Variables

Dependent Variable

Figure 2.1: Conceptual Framework

2.6 Summary of Literature

Previous literature assesses firm performance and profitability and examines some elements of working capital. While the studies present a wide scope on working capital management, there are research gaps, which this study sought to address. There are conceptual gaps since the studies did not assess all components of working capital management such as Siraj, Mubeen and Sarwat (2019) study did not assess cash management component of working capital management, which were assessed in the current study. There are also contextual gaps since some studies were carried out outside Kenya, which may provide different results due to differences in business economic environments such as Yekti and Rambu (2019) study. There are also

contextual gaps since most studies were conducted in other industries such as the broad manufacturing and agricultural sectors such as Ndege (2014) and Owele (2014), while this study was conducted in the flour-milling sector. The literature presents methodological, contextual, and conceptual gaps. The literature reviewed revealed a need for more studies on the topic.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

The methods and procedures that were used to obtain data for the study are presented in this chapter which include the research design used, population of the study, sampling design, sample size, data collection method, research instruments, data analysis, and presentation.

3.2 Research Design

A descriptive design was ideal for this study. A descriptive design describes the present state of subject studied (Render et al. 2012). A descriptive design answers questions on subjects by collecting data. According to Flick (2011), this study design describes things such as attitude and behaviours. This research design was suitable since the study focused on the state of affairs, as it was over a period of five years from 2015-2019 in the flour milling firms.

3.3 Population of the Study

The population represents a subjects with similar characteristics used for data collection (Kothari, 2014). The target population was all flour-milling firms in Kenya. There were 36 registered flour milling firms operating in different regions in Kenya (Kenya National Bureau of Statistics, 2019).

3.4 Sample Design

A census of all 36 flour-milling firms in Kenya was conducted for this study. According to the Cereal Millers Association (2020), there are 36 registered flour-milling firms, which had operations in different regions in Kenya. The unit of analysis was the 36 flour-milling firms in Kenya.

3.5 Data Collection Method

The method used in the study for data collection was secondary data from organizational reports, statements and organizational data on working capital. The study also used data on organizational performance from government census and scholarly journals. Secondary data was recorded in data entry tables, which were used

to compile the information, gathered. A research approval letter from the university was sought and permission to collect data from all the flour-milling firms was also sought. Since the analysis scope was small, one research assistant was hired to record data collected and to update data tables. Before involvement, they were trained on the purpose of the study and what it aimed to achieve. According to Seltman (2014), research assistant help reduce biasness during data collection process.

3.6 Data Analysis

Data is organized, interpreted, and presented by conducting data analysis (Seltman, 2014). The study collected quantitative data hence, used descriptive statistics that included means, frequencies, percentages, and standard deviation for analysis. Data from secondary data sources was analyzed using SPSS for Windows version 21.0. Inferential statistics were used which included regression and correlation analysis. After analysis, presentation of data was in form of tables and diagrams prepared from SPSS.

3.7 Analytical Model

The analytical model provided a prediction of the relationship between the dependent and independent variables under study hence, determined the relationship between profitability and independent variables.

The regression model was:

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \varepsilon$$

Y = Profitability of Flour Milling Firms which was measured by return on assets and profit before tax.

$\beta_1, \beta_2, \beta_3, \beta_4$ = Coefficients of determination

β_0 = Constant

X1 = Accounts Receivables Management which was measured by the accounts collection period (ACP) which is value gotten by division of average accounts receivables by net sales then multiplied by 365 days.

X2 = Accounts Payables Management which was measured by the accounts payables period (APP) and value derived from division of average accounts payables by cost of goods sold then multiplied by 365 days.

X3 = Inventory Management which was measured by inventory turnover period (ITP) value derived by dividing inventory divided by the cost of sales then multiplied by 365 days.

X4 = Cash Management, which was measured using the cash conversion cycle (CCC) formula: Inventory turnover period + average collection period – average payment period.

ε = Error term

3.7.1 Diagnostic Test

Data was tested for conformity with the regression model using the normality and multicollinearity tests. An autocorrelation test was used which had a test value of $p < 0.05$. Normality test tested whether data has a normal distribution. Multicollinearity tested whether there is an association of the variables.

3.7.2 Test of Significance

To determine model significance, ANOVA will be used which is the analysis of variance (Hair, 2010). A significance level of 5 % was used for t-test.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

Chapter four of this study presents the findings of the study, data analysis, data presentation, and data interpretation. The study sought to establish whether accounts receivables management, accounts payables management, inventory management and cash management influence profitability of flour milling firms in Kenya. SPSS version 21 was used to conduct analysis for data collected for this study.

4.2 Response Rate

The number of flour milling firms included in the study was 36 in which secondary data would be collected. 29 firms had records of data on the variables of study in company reports, journals, and government reporting as shown in Figure 4.1. Figure 4.1 presents an overall successful response rate of 81%. A response rate of above 50% is sufficient according to Orodho (2009), therefore, 81% response rate is adequate for the study.

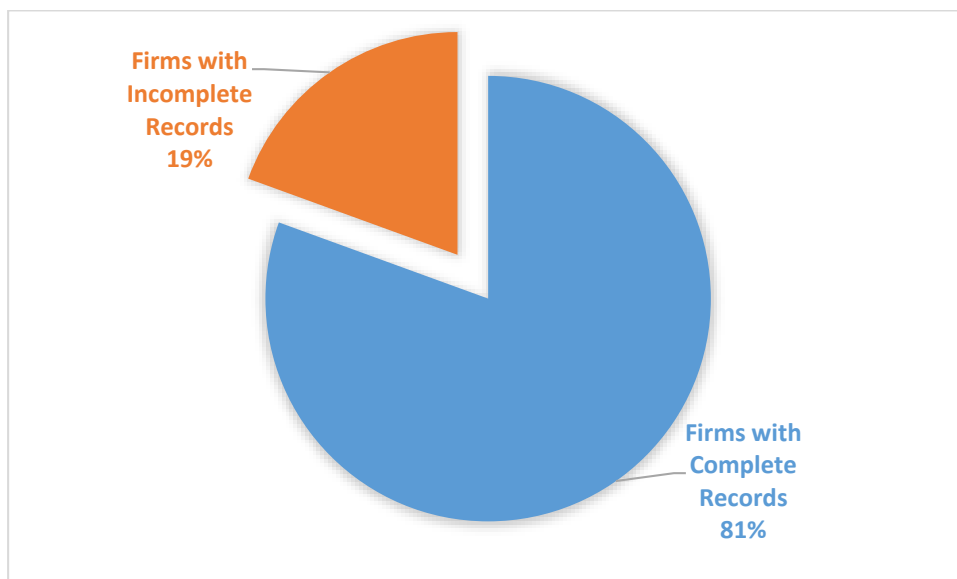


Fig 4.1 Response rate

4.3 Demographic Characteristics

4.3.1 Size of the Firm

The study classified the firms into large, medium, or small sizes. Results indicated that 52% of the firms were large based on their production capacity, number of employees

and sales volumes. These firms had more than 100 salaried employees. 48 % of the firms under study were small and medium firms based on their production capacity, sales volumes, and number of employees. These firms had less than 100 employees who included casual laborers.

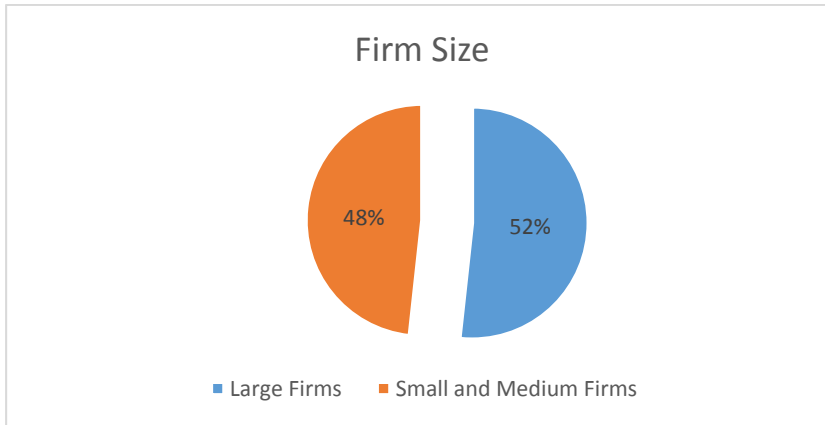


Fig 4.2 Size of the firm

4.3.2 Years of Firm in Operation

The study sought to establish the number of years the firms had been in operation. Findings indicated that 72% of the firms had been in operation for more than five years. These firms included large, medium, and small firms. Further, 28% of flour milling firms had been in operation for less than five years. These included large, medium, and small firms. These results imply that the number of years of operation of a firm do not affect the profitability of firms under study.



Fig 4.3 Years of firm operation

4.4 Descriptive Analysis

This part provides the results of the descriptive analysis carried out by the study. The findings were presented as per each objectives. Table 4.1 shows annual averages of variables under study for the period between 2015 and 2019 for the 29 firms under study. These averages were used for descriptive, regressions and correlation models.

There were slight differences in the account collection period, accounts payable period and inventory turnover period. The accounts collection period among the firms had a maximum period of 40 days and a minimum of 22 days. This implies that in average, the firms took a maximum of 40 days to collect debts from customers during the period and had a shortest time of 22 days to collect debts from customers. The accounts payables maximum was 113 days while the minimum was 60 days for the period. This implies that in average, the firms took a maximum of 113 days to pay their suppliers and took the shortest time of 60 to pay their suppliers.

The inventory turnover period maximum was 36 days while the minimum was 19 days for the period. This implies that in average, the firms took a maximum of 36 days to convert inventory into sales while they had the shortest period of 19 days to convert inventory to sales. The cash conversion cycle maximum was 8 and minimum -24. This implies that on average, it would take the firms a maximum of 8 days to receive cash from their customers after paying their suppliers. The firm's minimum of -24 days implies that the firms could turn their inventory into sales and receive cash from their customers 24 days before paying their suppliers. The firms had on average a maximum return on assets of 25% and minimum of 0.1%. The maximum profit before tax made by the firms on average was Kshs. 196,200,000.00 while the minimum was Kshs. 29946.40.

Table 4.1 Averages of Study Variables

	N	Minimum	Maximum	Mean	Std. Deviation
ROA	29	.10	25.00	4.6483	.89100
ACP	29	22	40	32.9793	4.52717
APP	29	60	113	81.4828	15.26579

ITP	29	19	36	28.1586	4.47162
CCC	29	-24	8	-9.7103	9.78550
PBT	29	29946.40	196200000.00	7319490.9862	36331447.7312

4.4.1 Accounts Receivables Management

Accounts receivables management was measured using the cash collection period among the firms. Results as shown in Table 4.2 indicated that the maximum accounts collection period was 60 days in 2019. This implies that the firm took the longest period of 60 days to collect debts from customers. The minimum was 21 days during the period, which implies that the firm took the shortest period of 21 days to collect debts from customers. The mean was highest in 2019 at 49 days and lowest in 2017 at 27 days.

Table 4.2 Descriptive Statistics for Accounts Receivables Management

	N	Minimum	Maximum	Mean	Std. Deviation
2015	29	21.00	30.00	29.4828	1.74480
2016	29	21.00	33.00	28.4828	3.68995
2017	29	21.00	52.00	27.6207	6.39985
2018	29	21.00	45.00	29.5517	3.78518
2019	29	21.00	60.00	49.7586	14.71067

4.4.2 Accounts Payables Management

Accounts payables management was measured using the accounts payable period among the firms. Results indicated that the maximum accounts payables period was 113 days for the period between 2015 and 2019 in 2019. This implies that the firm took the longest period of 113 days to pay suppliers. The minimum was 30 days during the period in 2015, 2016 and 2017, which implies that the firms took the shortest period of 30 days to pay their suppliers. The mean was highest in 2019 at 81 days and lowest in 2015 at 66 days.

Table 4.3 Descriptive Statistics for Accounts Payables Management

	N	Minimum	Maximum	Mean	Std. Deviation
2015	29	30.00	90.00	66.1724	15.35780
2016	29	30.00	90.00	66.7241	15.28047
2017	29	30.00	90.00	67.0000	13.92069
2018	29	60.00	90.00	72.8621	14.06039
2019	29	60.00	113.00	81.4828	15.26579

4.4.3 Inventory Management

Inventory management was measured using the inventory turnover period among the firms. Results shown in Table 4.4 indicated that the maximum inventory turnover period was 53 days for the period between 2015 and 2019 in 2019. This implies that the firm took the longest period of 53 days to convert inventory into sales. The minimum was 14 days during the period in 2015, 2016 and 2017, which implies that the firms took the shortest period of 14 days to convert inventory into sales.

Table 4.4 Descriptive Statistics for Inventory Management

	N	Minimum	Maximum	Mean	Std. Deviation
2015	29	14.00	35.00	26.7931	4.21205
2016	29	14.00	35.00	24.2759	5.42413
2017	29	14.00	37.00	23.0690	6.11165
2018	29	21.00	49.00	28.6552	7.39341
2019	29	28.00	53.00	38.0000	8.51050

4.4.4 Cash Management

Cash management was measured using the cash conversion period among the firms. Results indicated that the maximum cash conversion period was 49 days in 2019. This implies that the firm took the longest period of 49 days to receive cash from customers after paying its suppliers. The minimum value was -48 days in 2017 during the period, which implies that the firm received cash from customers after sales 48 days before paying their suppliers. The maximum mean was 6 days in 2019, which implies the firms, took an average of 6 days to receive cash from customers during the period. The minimum mean was -16 days in 2017 implying firms received cash after sales 16 days before paying their suppliers.

Table 4.5 Descriptive Statistics for Cash Management

	N	Minimum	Maximum	Mean	Std. Deviation
2015	29	-32.00	14.00	-9.8966	14.00853
2016	29	-32.00	24.00	-13.9655	14.57856
2017	29	-48.00	22.00	-16.3103	17.22146
2018	29	-39.00	15.00	-14.6552	16.74232
2019	29	-34.00	49.00	6.2759	25.86489

4.4.5 Firm Size

4.4.5.1 Firm Size and Return on Assets

The study examined how the size of the firm influenced firm profitability by assessing its influence on return on assets. The results in Fig 4.4 indicated that large firms represented 75% of the total averages in ROA while small and medium firms represented 25% of the total average ROA of the firms under study as. This implies large firms had higher return on assets compared to small and medium firms.

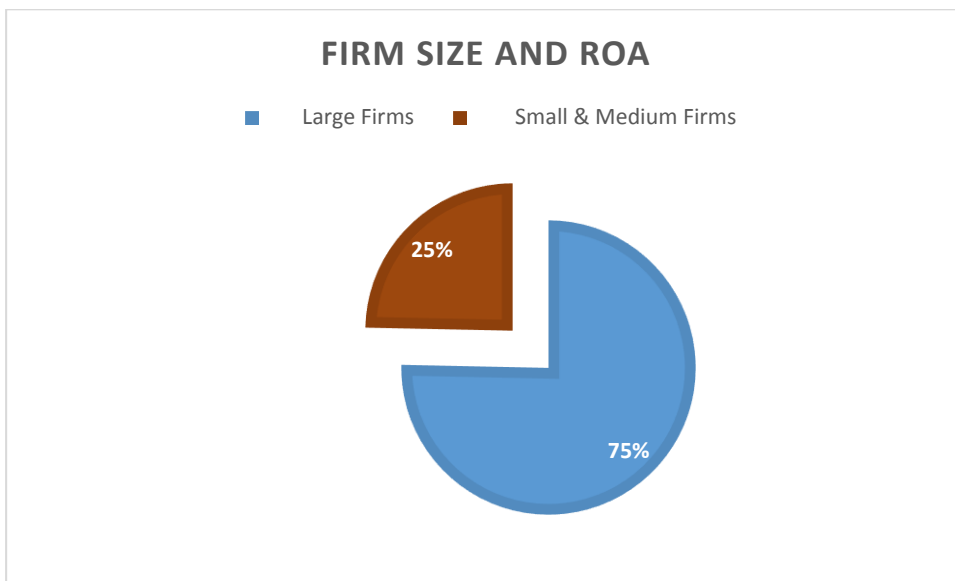


Fig 4.4 Firm size and return on assets

4.4.5.2 Firm Size and Profit before Tax

The study examined how the size of the firm influenced firm profitability by assessing its influence on profit before tax. The results as shown in Fig 4.5 indicated that large firms represented 82% of the total Profit before Tax while small and medium firms represented 18% of the total Profit before Tax of the firms under study. This implies that large firms had higher profit before tax compared to small and medium firms.

These findings are consistent with Rogers (2017) who assessed factors affecting firm performance and concluded that large firms that manage working capital effectively achieve more growth than small and medium firms do.

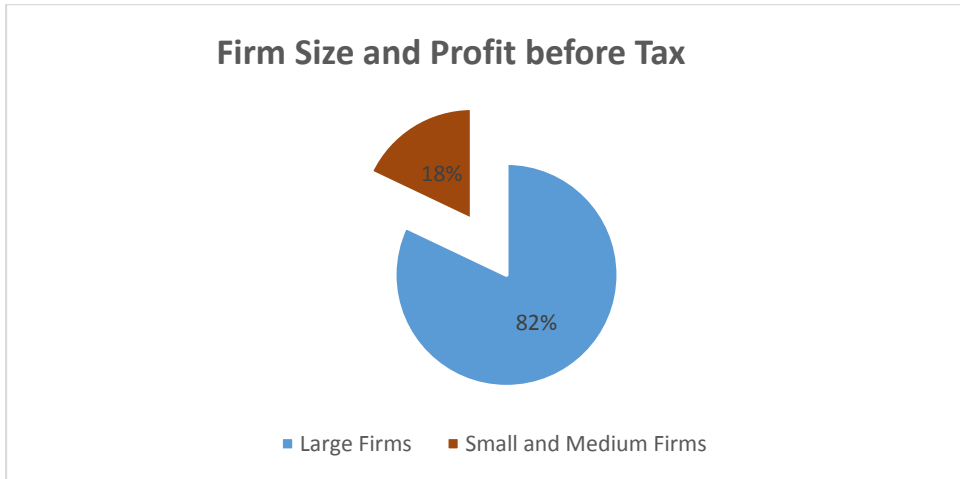


Fig 4.5 Firm size and profit before tax

4.4.6 Profitability of Firms

4.4.6.1 Profit before Tax

The maximum profit before tax during the period was Kshs. 299,360,200.00 in 2017 while the minimum was Ksh.10, 236.00 in 2018. The highest mean was Kshs. 39,436,597.51 while the lowest was Kshs. 10,712,359.79 in 2019. This implies that most firms made huge profits in 2017 while they made little in 2019 as indicated in Table 4.6.

Table 4.6 Descriptive Statistics for Profit before Tax

	N	Minimum	Maximum	Mean	Std. Deviation
2015	29	15266.00	197000000.00	20061007.86	58790897.20
2016	29	14562.00	243000000.00	23329722.82	68447651.23
2017	29	90256.00	299360200.00	39436597.51	76599932.25
2018	29	10236.00	241380000.00	19747422.10	60732248.84
2019	29	11256.00	299000000.00	10712359.79	55447709.43

4.5.5.2 Return on Assets

The maximum return on assets for the period was 32% in 2015 and 2018 while the minimum was -10.9% in 2019 which implies that the firms did not generate income from their assets. The mean was highest in 2017 at 6.1% and lowest in 2019 at 0.6% as indicated in Table 4.7

Table 4.7 Descriptive Statistics for Return on Assets

	N	Minimum (%)	Maximum (%)	Mean	Std. Deviation
2015	29	.10	32.00	5.5276	8.40034
2016	29	.10	29.00	6.0690	8.60117
2017	29	.10	31.00	6.1000	9.17411
2018	29	-3.40	32.00	4.9103	8.71433
2019	29	-10.90	20.00	.6345	4.84549

4.5 Correlation Analysis

The study carried out correlation tests to determine the relationship between the independent and dependent variables. Pearson correlation, ranging between -1 and +1, was used. The results of the correlation analysis are indicated in Table 4.8.

The results of the correlation showed that accounts receivables management was found to have a negative relationship with profitability of flour milling firms in Kenya as indicated by the accounts collection period. The relationship was not significant (Pearson Moment Correlation = -.085, Significance= 0.660). These findings imply that a decrease in the accounts collection period would increase firm profitability. Reducing the number of days taken to collect debts from customers would increase the firm profitability but not significantly. These findings are consistent with by Kung'u (2015) who studied company profitability among manufacturing firms in Kenya, he concluded there existed a relationship between working capital elements and firm profitability. These findings are in contrast with Yekti and Rambu (2019) who concluded that working capital elements influenced profitability significantly.

Accounts payables management was found to have a negative and significant influence on profitability of flour milling firms in Kenya as indicated by the accounts payables period (Pearson Moment Correlation = -.821, Significance = 0.000). The findings reveal that decreasing accounts payables period would increase profitability. The findings of the study are consistent with Akomeah and Frimpong (2019) who studied manufacturing firm's performance for a period of ten years and concluded that accounts payables and cash management had significant influence on firm profitability.

Further findings revealed that inventory management as indicated by the inventory turnover period had a negative and significant influence on profitability of flour milling

firms in Kenya (Pearson Moment Correlation = $-.554$, Significance = 0.002). These results show a reduction in the inventory turnover period leads to an improvement in firm profitability. Reducing days companies converts inventory to sales would lead to a significant increase in firm profits. The results are supported by Mubeen and Sarwat (2019), who assessed performance of firms in non-financial sector and concluded that inventory management and accounts payable influenced profitability of the firms significantly, working capital also had a significant influence on profitability and growth.

The results also indicated that cash management indicated by the cash conversion cycle was found to positively but not significantly influence profitability of flour milling firms in Kenya (Pearson Moment Correlation = $.156$, Significance = $.420$). The results imply increasing cash conversion cycle would increase firm profitability but not significantly. These results are consistent with Namusonge (2017) who studied the performance of large manufacturing companies in Kenya and concluded that inventory management; cash management produced a positive relationship in with firm productivity. These findings are in contrast with Oseifuah and Gyekye (2016) who studied cash conversion theory and firm profitability and concluded that there existed a negative relationship between cash conversion cycle and firm profitability.

Table 4.8 Correlation Analysis

		Profitabil ity	ACP	APP	ITP	CCC
Profitability	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	29				
ACP	Pearson Correlation	-.085	1			
	Sig. (2-tailed)	.660				
	N	29	29			
APP	Pearson Correlation	-.821**	.237	1		
	Sig. (2-tailed)	.000	.217			
	N	29	29	29		
ITP	Pearson Correlation	-.554**	.523**	.708**	1	
	Sig. (2-tailed)	.002	.004	.000		
	N	29	29	29	29	
CCC	Pearson Correlation	.156	.845**	-.081	.541**	1
	Sig. (2-tailed)	.420	.000	.678	.002	
	N	29	29	29	29	29

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

4.6 Multivariate Regression Analysis

A multiple linear regression analysis was carried out to show the combined effect of working capital management on profitability of flour milling firms in Kenya. The findings in Table 4.9 showed that accounts receivables management, accounts payables management, inventory management and cash management had a high positive correlation with profitability of flour milling firms in Kenya as shown by an R-value of 0.859. The variables account for 73.8% of variations profitability of flour milling firms in Kenya as shown by an R-square value of 0.738.

Table 4.9 Regression Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.859	.738	.694	0.2708

Predictors: (Constant), ACP, APP, ITP, CCC

The results of the study also showed that the overall regression model linking accounts receivables management, accounts payables management, cash management and the profitability of flour milling firms in Kenya was significant. This is supported by an F statistic of 16.894 which was greater than f critical of 2.78 and the reported p=0.000 at 5% level of significance.

Table 4.10 Analysis of Variance (Model Significance)

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	14.983	4	4.496	16.894	.000
1 Residual	2.017	24	0.167		
Total	17.000	28			

Dependent Variable: Firm profitability

The summary of the findings of regression analysis indicated that accounts receivables management which was measured by the accounts collection period had a negative and significant effect on profitability of firms ($\beta = -0.156$, Sig =0.001). This implies that if firms would reduce the period of collecting debts from their customers, profits would increase significantly.

Moreover, accounts payables management which was measured by the accounts payables period had a negative and significant effect on profitability of firms ($\beta = -0.303$, Sig = 0.000). This implies that a reduction in the accounts payables period will have a significant influence in increasing firm profitability.

Inventory management measured by the inventory turnover period had a negative and significant effect on profitability of firms ($\beta = -0.295$, Sig = 0.000). This implies that

if firms reduce the period taken to convert inventory into sales, profits would increase significantly.

The findings of the study also showed that cash management measured by the cash conversion cycle had a positive but not significant effect on profitability of firms ($\beta = 0.131$, Sig = 0.054) which implies that an improvement in the cash conversion cycle would increase firm profitability.

Table 4.11 Regression Model Coefficients

Predictor Variables	B	Std. Error	t	Sig.
(Constant)	0.729	0.358	2.036	0.044
ACP	- 0.156	0.045	-3.466	0.001
APP	- 0.303	0.078	-3.888	0.000
ITP	- 0.295	0.059	- 5.027	0.000
CCC	0.131	0.068	1.926	0.054

Dependent Variable: Firm Profitability

Optimal Regression Model

$$\text{Profitability of flour milling firms} = 0.729 + (-0.295 \text{ (ITP)}) + (-0.303 \text{ (APP)}) + (-0.156 \text{ (ACP)}) + 0.131 \text{ (CCC)}$$

This model reveals that in order of significance, the most significant factor was inventory management.

4.7 Discussion of Research Findings

4.7.1 Accounts Receivables Management

Accounts receivables management was measured using the accounts collection period. Results from descriptive analysis indicated that the average accounts collection period among the firms was 40 days maximum and 22 days minimum. Flour milling firms took a maximum of 40 days to collect cash from customers during the period of study, 2015-2019. The firms took a minimum of 22 days to collect cash from customers during

the period. Results also indicated that the firm that had the longest accounts collection period took 60 days in 2019 while firms had the shortest accounts collection period of 21 days throughout the period. The mean accounts collection period was highest in 2019 at 49 days and lowest in 2017 at 27 days. The results imply that firms on average took the longest time to turn sales into cash in 2019 as shown by the highest mean of 49 days in 2019 and highest accounts collection period of 60 days in 2019.

Correlation results indicate a negative but not significant relationship between accounts receivables management measured by the accounts collection period and profitability of flour milling firms as shown by (Pearson Moment Correlation = -.085, Significance= 0.660). These findings are consistent with by Kung'u (2015) who studied company profitability among manufacturing firms in Kenya and concluded there existed a relationship between working capital elements and firm profitability hence, reducing the accounts collection period would increase firm profitability.

Regression analysis results indicate that accounts receivables management which was measured by the accounts collection period had a negative and significant influence on profitability of flour milling firms as shown by ($\beta = - 0.156$, Sig =0.001). This implies that if firms would reduce the accounts collection period, profits would increase significantly. This means that if firms implement accounts receivables management policies that reduce the accounts collection period, their profits would increase by a large margin. These findings are consistent with Yekti and Rambu (2019) who concluded that working capital elements influenced a firm's profitability significantly.

4.7.2 Accounts Payables Management

Accounts payables management was measured using the accounts payables period. Results from descriptive analysis indicate that the maximum accounts payables period for the flour milling firms between 2015 and 2019 was 113 days while the minimum was 60 days on average. This implies that in average, the firms took a maximum of 113 days to pay their suppliers and took the shortest time of 60 to pay their suppliers. Results also indicated that the firm with the longest accounts payables period was in 2019 at 113 days while the shortest was 30 days in 2015, 2016, and 2017, which implies that the firms took the shortest period of 30 days to pay their suppliers. The mean was highest in 2019 at 81 days and lowest in 2015 at 66 days, which implies that the firms

took the longest period to pay their suppliers in 2019 of 81 days and the shortest period in 2015 of 66 days on average.

Correlation results show a negative and significant relationship between accounts payables management measured by the accounts payables period and profitability of flour milling firms as shown by (Pearson Moment Correlation = $-.821$, Significance = 0.000). These findings imply that a decrease in the accounts payables period would increase firm profitability significantly. This means that if firms reduce the period taken to pay their suppliers, their profits would increase by a large margin.

Regression analysis results indicate that accounts payables management which was measured by the accounts payables period had a negative and significant influence on profitability of flour milling firms as shown by ($\beta = -0.303$, Sig = 0.000). This implies that if firms would reduce the accounts payables period, profits would increase significantly hence firms would record a large profit margin. These findings are supported by Akomeah and Frimpong (2019), who studied firm performance for a period of ten years and concluded that accounts payables and cash management had significant influence on firm profitability.

4.7.3 Inventory Management

Inventory management was measured by the inventory turnover period. Results from the descriptive analysis indicate that inventory turnover period of flour milling firms was a maximum of 36 days while the minimum was 19 days for the period between 2015 and 2019. This implies that in average, the firms had the longest period of 36 days to convert inventory into sales while they had the shortest period of 19 days to convert inventory to sales. Results also indicate that the firm with the longest inventory turnover period was 53 days in 2019 and the shortest was 14 days in 2017.

Correlation results indicate a negative and significant relationship between inventory management measured by the inventory turnover period and profitability of flour milling firms as shown by (Pearson Moment Correlation = $-.554$, Significance = 0.002) which imply that a decrease in the number of days a firm converts its inventory to sales would lead to a significant increase in firm profits.

Regression analysis results indicate that inventory management which was measured by the inventory turnover period negatively and significantly influence on profitability

of flour milling firms as shown by ($\beta = - 0.295$, Sig = 0.000). This implies that if firms would reduce the inventory turnover period, profits would increase significantly. This means that if firms reduce days of converting inventory into sales, they would record an increase in profits by a large margin. These findings are supported by Mubeen and Sarwat (2019) who assessed performance of firms in non-financial sector, and concluded that inventory management and accounts payable influenced profitability of the firms significantly, working capital also had a significant influence on profitability and growth.

4.7.4 Cash Management

Cash management was measured by the cash conversion cycle, results from the descriptive analysis indicate that the cash conversion cycle for the flour milling firms was a maximum of 8 days and minimum -24 days. This implies that on average, it would take the firms a maximum of 8 days to receive cash from their customers after paying their suppliers. The firm's minimum of -24 days implies that the firms could turn their inventory into sales and receive cash from their customers 24 days before paying their suppliers. The firm with the longest cash conversion cycle between 2015 and 2019 was 49 days and minimum was -48 days in 2017 during the period. This implies that the firm took the longest period of 49 days to receive cash from customers after paying its suppliers. The minimum value was -48 days in 2017 during the period, which implies that the firm received cash from customers after sales 48 days before paying their suppliers. The maximum mean was 6 days in 2019, which implies the firms, took an average of 6 days after paying suppliers to receive cash from customers during the period. The minimum mean was -16 days in 2017 implying firms received cash after sales 16 days before paying their suppliers.

Correlation results show a positive but not significant relationship between cash management measured by the cash conversion cycle and profitability of flour milling firms as shown by (Pearson Moment Correlation = .156, Significance= .420). These findings imply that an increase in the cash conversion cycle would increase firm profitability but not significantly which means that an increase in the cash conversion cycle would increase profits by a very small margin.

Regression analysis indicated that cash management positively but not significantly influenced profitability of flour milling firms as shown by ($\beta = 0.131$, Sig = 0.054). An

increase in cash conversion cycle would increase profits but not significantly. It means that an increase in the cash conversion cycle, which is determined by the accounts collection period, accounts payables period and the inventory turnover period, would have a minimal effect in increasing firm profits. These results are consistent with Namusonge (2017) who studied the performance of large manufacturing companies in Kenya and concluded that inventory management; cash management produced a positive relationship in with firm productivity. These findings are however in contrast with Oseifuah and Gyekye (2016) who concluded that there existed a negative relationship between cash conversion cycle and firm profitability.

4.7.5 Profitability of Flour Milling Firms

The flour milling firms had on average a maximum return on assets of 25% and minimum of 0.1% between 2015 and 2019. The firm with the highest return on assets for the period was 32% in 2015 and 2018 while the minimum was -10.9% in 2019 which implies that the firms did not generate income from their assets. The mean return on assets was highest in 2017 at 6.1% and lowest in 2019 at 0.6%.

The maximum profit before tax made by the firms on average was Kshs. 196,200,000.00 while the minimum was Kshs. 29946.40. The firm that had the highest profit before tax during the period was Kshs. 299,360,200.00 in 2017 while the minimum was Ksh.10, 236.00 in 2018. The highest mean was Kshs. 39,436,597.51 in 2017 while the lowest was Kshs. 10,712,359.79 in 2019. This implies that most firms made huge profits in 2017 while they made little in 2019.

These results imply that flour milling firms made high profits in 2017 and had the highest return on assets in the same year with the highest mean of profit before tax and return on assets recorded in 2017. This could have been attributed to government incentives in which maize flour was not taxed during the year. Flour milling firms bought maize flour at a cheap price from the government hence reduced their selling price, which increased demand. Flour milling firms recorded high profits during the year. In 2017, as indicated in the descriptive analysis results, flour-milling firms on average recorded the minimum accounts collection period of 27 days, inventory turnover period of 23 days and the minimum cash conversion cycle of -16 days. A decrease in these variables in 2017 may have contributed to an increase in the profits recorded in the year.

Results indicate that flour-milling firms on average recorded the lowest profits before tax and return on assets in 2019. This could be attributed to new entries in the market, which increased supply in the year. There was also shortage of wheat and maize supply. Flour milling firms used locally produced maize and wheat, which was expensive since imported grains were unavailable. In 2019, taxes were imposed on purchases hence the cost of raw materials was high. In 2019, as indicated in the descriptive analysis results, flour-milling firms on average recorded the maximum accounts collection period of 49 days, accounts payables period of 87, inventory turnover period of 38 and cash conversion cycle of 6 days. An increase in these variables in 2019 may have contributed to a reduction in profits and return on assets recorded in the year.

Results from the correlation and regression analysis show that accounts payables management, accounts receivables management and inventory management had a negative and significant influence on profitability of flour milling firms. This implies that a decrease in the accounts payables period, accounts collection period and inventory turnover period would increase profitability of the firms significantly. Therefore, firms would record high profit margins if they reduced the number of days taken to pay suppliers, number of days taken to collect cash from customers, and the number of days taken to convert inventory into sales.

These results imply that the variables under study accounted for variations in profitability of flour milling firms as shown by the regression model summary in which, R-square value was 0.738. This implies that accounts receivables management, accounts payables management, inventory management and cash management, account for 73.8% of the variations in profitability of flour milling firms in Kenya. This results means that working capital management accounted for 73.8% of variations in profitability of flour milling firms, which means that effective working capital management would lead to high profits by the firms. These findings are consistent with Owele (2014) study on financial performance of agricultural firms, which concluded that working capital was a critical determinant of the profitability of organizations in all sectors.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a summary of the findings, the conclusions, and recommendations. It also contains the contribution of the study to existing knowledge and areas for further study.

5.2 Summary of Findings

The summary of findings includes both the descriptive and inferential analysis which are presented in this section. The first objective was to establish how receivables management influences profitability of flour milling firms in Kenya. The study revealed that there was a negative but not significant correlation between accounts receivables management and profitability of flour milling firms in Kenya. This implies that a decrease in the accounts collection period would lead to an increase in firm profits but not significantly. The regression analysis results showed that accounts receivables management had a negative and significant influence on profitability of flour milling firms in Kenya. These findings mean that reducing the number of days taken to collect cash from customers would increase the profits among the flour milling firms.

The second objective was to find out how accounts payables management influence profitability of flour milling firms in Kenya. The study revealed that there was a negative and significant correlation between accounts payables management and profitability of flour milling firms in Kenya. This implies that a decrease in the accounts payables period would lead to an increase in firm profits significantly. The regression analysis results indicated that accounts payables management negatively and significantly influenced profitability of flour milling firms in Kenya. These findings mean that a reduction in the number of days taken to pay suppliers would increase profits among the flour milling firms by a large margin.

An assessment on how inventory management influence profitability of flour milling firms in Kenya revealed that there was a negative and significant correlation between inventory management and profitability of flour milling firms in Kenya. This implies that a decrease in the inventory turnover period would lead to an increase in firm profits significantly. The regression analysis results indicated inventory management

negatively and significantly influenced profitability of flour milling firms in Kenya. These findings mean that a reduction in the number of days taken to convert inventory into sales would lead to an increase in profits among the flour milling firms by a large margin.

The fourth objective was to determine the influence of cash management on profitability of flour milling firms in Kenya which revealed that there was a positive but not significant correlation between cash management and profitability of flour milling firms in Kenya. This implies that an improvement in cash conversion cycle would lead to an increase in firm profits but not significantly. The regression analysis results indicated that cash management positively but not significantly influenced profitability of flour milling firms in Kenya which means that an increase in the cash conversion cycle would increase profits among the flour milling firms by a very small margin.

5.3 Conclusion

The study concluded that accounts receivables management has a negative and significant influence on profitability of flour milling firms. This shows that when firms focus on reducing their accounts collection period by collecting debts from customers in the shortest time, there will be a significant increase in profitability.

The study also concluded that accounts payables has a negative and significant influence on profitability of flour milling firms. This shows that when firms focus on reducing their accounts payables period by reducing the period taken to pay suppliers, there will be a significant increase in profitability.

Further, the study concluded inventory management has a negative and significant influence on profitability of flour milling firms. This shows that when firms focus on reducing their inventory turnover period, there will be a significant increase in profitability.

Finally, the study concluded that cash management has a positive but not significant influence on profitability of flour milling firms therefore, an improvement in the cash conversion cycle can improve firm profitability but not significantly.

5.4 Recommendations of the Study

The study recommendations have been made per objective and guide beneficiaries of the study such as managers of flour milling firms, public policy makers and other organizations.

The study recommends that management of firms should have accounts receivables management policies that provide an effective guide on debt collection. Management should formulate policies that reduce the debt collection period. Firms should have policies to indicate how much credit sales can be made at a particular period since accounts receivables management influence profitability significantly.

The study recommends that management of firms should have accounts payables management policies that provide an effective guide on supplier payment. Management should formulate policies that reduce the supplier payment period and ensure that effective supplier agreements are created to provide firms with needed inventory. Delayed supplier payments could affect firm operations due to delays in inventory delivery hence, the need for policies to indicate when payments are made and the acceptable delay period since accounts payables management influence profitability significantly.

Since inventory management has the most significant influence, management should have effective and efficient inventory management policies. Management should formulate policies that reduce the inventory turnover period and ensure that effective inventory management techniques are implemented to reduce the time taken to convert inventory into sales. Firms should invest in electronic inventory management systems that provide customers with easy access to firm products to translate them into sales since inventory management influence profitability significantly.

The study recommends that management of firms should have policies that manage accounts receivables management, accounts payables management and inventory management effectively, since these variables determine the cash conversion cycle. Effective management of these elements will lead to improved cash management hence improve profits.

5.5 Limitations of the Study

The study's findings on some variables such as cash conversion cycle contrasts with findings from existing studies on whether variables such as cash management increase profitability hence, providing a need for further studies. This study indicated a positive relationship between cash management and firm profitability, which contrasts with findings from some previous studies.

Another limitation of this study is the data collection instrument. Secondary data from company reports, journals and government statistics was used, which may have been averaged or rounded off hence, may deviate slightly from the exact figures that would be recorded using another instrument such as a questionnaire.

Finally, the study has contextual limitations since it is conducted in one industry. While the findings of this study may be generalized for policymaking and management of other industries, quantitative data collected was specific to the flour milling industry, which may limit generalization of results in other industries due to specific factors affecting the industry during the study period such as government policies and incentives.

5.6 Areas for Further Research

Knowledge gaps from previous studies indicated a necessity to carry out this study. The study filled this gap but even though it did, it was established that working capital management could only explain up to 73.8% of the variations in profitability of flour milling firms in Kenya. The implication is that there are other factors that account for the profitability of flour-milling firms in Kenya. These factors are in the tune of 26.2%, which are captured by the regression model as the error term. These other factors can be established through other further studies.

Other studies can also be conducted to focus on other sectors other than the flour milling industry. Contextual research gaps of this study should be filled. This study was conducted in the flour milling firms hence data collected was specific to the industry. There is need to conduct more studies on working capital management in other industries.

Furthermore, another study on the same topic can be conducted using a different method of analysis. This study used quantitative analysis using SPSS data analysis

model since quantitative data was collected. Secondary data was collected. A similar study can be conducted using different data collection instrument and different or different analysis model since results may vary due to the data collection instrument and analysis model. This could explain variations in results on variables such as cash management.

Finally, further studies can be conducted on working capital management and its influence on other aspects of an organizational performance metrics such as customer satisfaction and supplier relationships. Further studies can identify whether working capital management influences other aspects of an organization besides profitability.

REFERENCES

- Akomeah, J. & Frimpong, S. (2019). Effect of working capital management on profitability of listed manufacturing companies in Ghana. *International Journal of Finance and Banking Research*, 5(2), 29-35.
- Ashta, A. (2018). Sustainable growth rates: refining a measure. *Briefings in Entrepreneurial Finance*, 214, 207-214.
- Baumol, W. (1952). The transactions demand for money: an inventory theoretic approach. *Quarterly Journal of Economics*, 66(4), 545-556.
- Barasa, J.A. (2016). Influence of board of management' contribution to development of public secondary schools in Nyamira north district, Nyamira county, Kenya. *Doctoral dissertation*. University of Nairobi.
- Bernard, H. R. (2011). *Research methods in anthropology: Qualitative and quantitative approaches*. Rowman Altamira.
- Brown, F. (2019). Organizational innovation: A meta-analysis of effects of determinants and moderators. *Academy of management journal*, 34(3), 555-590.
- Business Wire (2020). *Kenyan maize flour business report 2019: Market, process, production and finance*. Retrieved from <https://www.businesswire.com/news/home/20200306005151/en/Kenyan-Maize-Flour-Business-Report-2019-Market>
- Churchill, N. & Mullins, L. (2017). How fast can your company afford to grow? *Harvard Business Review*, 79(5), 135-143.
- Davison, T.E. (2019). *Gaining control of corporate management*. San Fransico, CA: Jossey-Bass Publishers.
- Dominic, T. (2015). Assessment of strategic management practices in small agribusiness firms in Tanzania. *Doctoral dissertation*. Georg-August-University Göttingen.
- Filbeck, G. & Krueger, T. (2015). CFO magazine's working capital survey. *Quarterly Journal of Business and Economics*, 46(2), 3-22.
- Flick, U. (2011). *Introducing research methodology: A beginner's guide to doing a research project*. Thousand Oaks, Calif: Sage Publication.

- Fonseka, M., Ramos, C. & Tian G. (2015). The most appropriate sustainable growth rate model for managers and researchers. *The Journal of Applied Business Research*, 28(3), 481-500.
- Hagel, L. (2019). *Competitive advantage* California: Houston Chronicle. Retrieved from <http://www.chron.com>
- Hair, J. (2010). *Multivariate data analysis*, 7th Edition. Upper Saddle River, New Jersey: Prentice Hall.
- Hrebiniak, L.G. (2016). Obstacles to effective strategy implementation. *Organizational Dynamics*, 35, 12-31.
- James, L. (2015). *What is organizational performance*. Retrieved from <http://www.strategicmanagementinsight.com>
- Joshi, P. (2017). Working capital management. *Journal of Financial Management and Analysis*, 19(2), 24-56.
- Kenya National Bureau of Statistics. (2020). *Economic survey highlights*. Nairobi, Kenya. KNBS.
- Kenya National Bureau of Statistics. (2019). *Economic survey highlights*. Nairobi, Kenya. KNBS.
- Khamila, S., Ndaka, D., Makokha, A., Kyallo, F., Kinyanjui, K. & Mwai, J. (2019). Status of commercial maize milling industry and flour fortification in Kenya. *African Journal of Food Science*, 13(3), 65-82.
- Khan, R. & Huda, F. (2016). The impact of strategic management on the performance of health care organizations (A study of three selected tertiary health care center of Karachi, Pakistan). *Arabian Journal of Business and Management Review*, 6(5), 1-4.
- Kothari, C. R. (2014). *Research methodology: Methods and techniques*, 2nd Edition. New Delhi: AGE International.
- Kowalczyk, D. (2015). *Survey research: Definition, methods & types*. Retrieved from <http://www.study.com>
- Krueger, T. (2015). Working capital survey. *Quarterly Journal of Business and Economics*, 44(2), 33-42.

- Kung'u, J. (2015). Effects of working capital management on profitability of manufacturing firms in Kenya. *Unpublished Thesis*, Jomo Kenyatta University of Agriculture and Technology.
- Mitra, P. & Paul, P. (2018). Analysis of the effect of working capital management on profitability of the firm: evidence from Indian steel industry. *Asia-Pacific Journal of Management*, 14(1-2), 32-38.
- Mogaka, D. & Jarongo, A. (2013). Working capital management and firm profitability: empirical evidence from manufacturing and construction firms listed on Nairobi securities exchange, Kenya. *International Journal of Accounting and Taxation*, 1(1), 2-14.
- Ndirangu. M. W. (2016). Strategic change management practices adopted by manufacturing firms in Kenya. *Unpublished MBA Project*. University of Nairobi.
- Mwangi, L., Makau, M. & Kosimbei, G. (2014). Effects of working capital management on performance of non-financial companies listed in NSE, Kenya. *European Journal of Business and Management*, 6(11), 195-205.
- Namusonge, G. (2017). Determinants of growth-oriented small and medium enterprises in Kenya. *Waldshut-Tiengen, BW: AbeBooks*, 4, 19-40.
- Ndege, J. (2014). Relationship between working capital management and financial performance of manufacturing firms in Kenya. *Unpublished Thesis*, University of Nairobi.
- Oladipupo, A. & Okafor, C. (2016). Contribution of working capital management to firm profitability. *International Journal of Business and Finance Research*, 3(2), 15-32.
- Oseifuah, K. & Gyekye, A. (2016). Cash conversion cycle theory and firm profitability: evidence from non-financial firms listed on the Johannesburg stock exchange. *Journal of Accounting and Management*, 6(3), 37-51.
- Owele, M. (2014). Working capital management approaches and the financial performance of agricultural companies listed at the Nairobi securities exchange. *Unpublished Thesis*. University of Nairobi.

- Plance, A. (2015). The effect of strategic management practices on performance of savings and loans companies in Kumasi. *Unpublished Thesis*. Kwame Nkrumah University of Science and Technology.
- Preve, L.& SarriaAllende, V. (2016). Working capital management. *International Research Journal of Finance and Economics*, 47, 150-164.
- Radasanu, A. (2015). Cash flow sustainable growth rate models. *Journal of Public Administration, Finance and Law*, 7, 62-70.
- Rafuse, E. (2016). Working capital management. *Management Decision*, 3(4), 58-63.
- Reheman, A. & Nasr, M. (2017). Working capital management and profitability-case of Pakistan firms. *International Review of Business Research Papers*, 3(1), 279-300.
- Render, B., Stair, R.M & Hanna, M.E. (2012). *Quantitative analysis for management*, 11th edition. New Jersey: Prentice Hall.
- Richards, L. (2016). *What does effective communication in organizations involve?* California: Houston Chronicle. Retrieved from <http://www.chron.com>
- Richards, V. & Laughlin, E. (1980). A cash conversion cycle approach to liquidity analysis. *Financial Management*, 9(1), 32-38.
- Saad, A. (2018). Working capital financing and corporate profitability of Pakistan manufacturing firms: evidence from FMCG, cement and chemical sector. *Unpublished Thesis*, Karachi University Business School.
- Seltman, H.J. (2014). *Experimental design and analysis*. Carnegie Melon University.
- Shin, H. & Soenen, L. (2018). Efficiency of working capital and corporate profitability. *Financial Practice and Education*, 8, 37-45.
- Siraj, M., Mubeen, M. & Sarwat, S. (2019). Working capital management and firm performance: evidence from non-financial firms in Pakistan. *Asian Journal of Empirical Research*, 9(2), 27-37.
- Yekti, P. & Rambu, A. (2019). Working capital management and its influence on profitability and sustainable growth. *Business: Theory and Practice*, 20, 61-68.

APPENDICES

APPENDIX 1: LIST OF REGISTERED FLOUR MILLING FIRMS IN KENYA

Flour Milling Firms			
1	Pembe Flour Mills limited	20	Uzuri Foods Limited
2	Baraka Flour mills	21	Eldoret Grains Limited
3	Kirinyaga Flour Mills Ltd	22	McNeel Millers Limited
4	Premier Flour Mills Ltd	23	Bakex Millers Limited
5	Menengai Grain Millers	24	Rafiki Millers Limited
6	Faulu Flour Mills	25	Jikaze Maize Millers Limited
7	Nairobi Flour Mills	26	Atta Kenya Limited
8	Mama Millers Ltd	27	Spice World Limited
9	Ngara Flour Mills	28	Ustawi Grain Millers Limited
10	Alpha Grain Millers	29	Lukenya Flour Mills Limited
11	Maisha Flour Mills	30	Halisi Maize Millers Limited
12	United Millers Ltd	31	Karibu Flour Mills Limited
13	Unga Holdings Limited	32	Jamii Milling Limited
14	Kitui Millers	33	Jiira Trading Limited
15	Capwell Industries Ltd	34	Buffalo Millers Limited
16	Mombasa Maize Millers Ltd	35	Grainden Millers Limited
17	Kenblest Group Ltd	36	Giant Millers Limited
18	Grain Industries Ltd		
19	Kabansora Millers Ltd		
	Total		36

Source: Cereals Millers Association (2020)