

**EFFECTS OF LIQUIDITY MANAGEMENT PRACTICES ON VALUE OF
LISTED MANUFACTURING FIRMS AT NAIROBI SECURITY EXCHANGE
IN KENYA.**

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**A Thesis submitted to the School of Business and Economics in partial fulfillment
of the requirements for a ward of the degree of master's in Business administration
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DECLARATION

I declare that this Thesis is my own original work prepared with no other than the indicated sources and support and has not been presented elsewhere for a degree or any other award.

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CERTIFICATION

The undersigned certify that they have read and hereby recommend for the acceptance of Masinde Muliro University of Science and Technology of a Proposal entitled – The effects of liquidity management practices on value of manufacturing firms listed at Nairobi Security Exchange in Kenya.

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DEDICATION

This Thesis is a dedication to my dear Husband and the entire family for according me adequate support throughout my MBA studies.

ACKNOWLEDGEMENT

Much honour to my supervisors Dr Bulla Dennis and Dr Kiongera Fredrick for tireless guidance towards this work. I thank the my classmates who stood with me during the coursework, workmates who understood my academic schedule and friends who gave me moral support. To Masinde Muliro University of Science and Technology I appreciate much support accorded.

ABSTRACT

In Kenyan Manufacturing firms have become an important contributor to the economy. The sector contributes to the national objective of creating employment opportunities and generating income for the economy. There has been poor performance in manufacturing firms in general as evidenced by the stagnated growth of the sector over the last decade and closure of or relocation of operations by some manufacturers' as reported by Kenya Association of Manufacturers. Liquidity challenges among manufacturing firms has been an issue over time and again. The general objective of this study was to determine the effects of liquidity management practices on value of manufacturing firms listed at Nairobi Security Exchange in Kenya. This study was guided by the following specific objectives to determine the effect of inventory management practices on value of listed manufacturing firms at Nairobi Security Exchange in Kenya, to establish the effect of accounts receivable management practice on value of listed manufacturing firms at Nairobi Security Exchange in Kenya, to determine the effect of accounts payable and practices on value of listed manufacturing firms at Nairobi Security Exchange in Kenya and to establish the moderating effect of conversion cycle on the relationship between liquidity management practices and value of manufacturing firms listed at Nairobi Security Exchange in Kenya. The study will apply survey research design. Target population of 8 manufacturing firms whereby census will apply. Secondary data will be obtained for a 5 year period of 2017-2021 financial years. Data will be analyzed using inferential statistics and will be presented through tables. The study found all the variables to be positive and significant thus inventory management practices p-value (0.0018), accounts receivable management practice p-value (0.0317), accounts payable management practice (0.0441), Cash Conversion Cycle (0.016). Therefore the null hypothesis H_{03} - H_{04} : were all rejected. The study concluded that inventory management practice, accounts receivable management practice and accounts payable management practice have a significant effect on value of listed manufacturing firms at Nairobi Security Exchange in Kenya. Cash Conversion Cycle had a moderating effect on liquidity management practices and Value of Manufacturing firms. The study recommends that since inventory management practice has a significant effect on value of manufacturing firms it is important for manufacturing firms to monitor the opening and closing inventories for efficiency purposes. The study recommends that credit sales and cash sales should be checked to ensure that accounts receivable management practice is effective. The study recommend monitoring of credit purchases along cash purchases this will lead to an effective payables management practice for manufacturing firms. The study recommends consistency and accuracy on days used to convert stock to cash. This will help in managing cash conversion cycle process.

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ABBREVIATIONS AND ACRONYMS

CCC - Cash Conversion Cycle

CFO- Chief Financial Officer

GOP- Gross Operating Profit

INVCP- Inventory Conversion Period

NOP - Net Operating Profit

ROA- Returns On Assets

TRCP- Trade Receivables Collection Period

TPP - Trade Payable Period

UK- United Kingdom

USA- United States of America

WCM- Working Capital Management

OPERATIONAL DEFINITION OF TERMS

Accounts receivables:	It is the balance of money due to a firm for goods or services delivered or used but not yet paid for by customers.
Accounts Payables	This explains the duty of paying suppliers and vendors for goods and services purchased by the company
Cash conversion cycle	It is one of the most widely used measures to evaluate and measure the risks and returns associated to cash management cycle
Inventory management practice	This is a process of storing and keeping the stock safe and applying all required stock safety measures.
Firm value	This is the degree to which a business or activity yields profit or financial gain, it is computed by return on asset.

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

According to Padachi (2016) liquidity of the firm is a key determinant of the firm's value. Liquidity can be measured by two main methods: liquidity gap and liquidity ratios. The liquidity gap is the difference between assets and liabilities at both present and future dates. Liquidity is the amount of capital that is available for investment and spending. Capital includes cash, credit and equity. Most of the capital is credit rather than cash. That's because the large financial institutions that do most investments prefer using borrowed money (Owolabi et al, 2011). Liquidity is ascertained through inventory management practices, accounts receivable practice and accounts payable practice.

Globally in Belgium Deloof (2018) ascertained that average collection period (ACP) had a firm corporate value indicators. The operating income for average collection period was found suitable for Belgium firms. Accounts receivable is a crucial field of corporate finance because of its effects on a firm's value and risk, and consequently on the firm's value. Despite the decline in manufacturing sector in the west, in UK, the sector was third largest in 2015 after business services and wholesale/retail in terms of share of UK GDP. Manufacturing sector generated one hundred billion pounds in gross value added. This represents more than 12% of the UK economy. It employed 2.8 million people, representing over 8% of total UK employment (BIS, 2014). In Ireland, the sector accounts for 46% of its GDP, 29% of total employment and 80% of its exports. In Sri

Lanka Jayarathne (2018) found an inverse relationship with the account receivable period, inventory turnover period, and cash conversion cycle though account payable period had positive connotation. In Jordan, Alshatti (2014) examined liquidity management on profitability of firms where investment ratio, quick ratio, capital ratio, and liquid assets ratio had a positive effect on profitability.

In Saudi Arabia Almazari (2013) found liquidity management practice of Cement manufacturing firms' to be consistent with cash conversion cycle and inventory management practices. In India, the analysis of data collected from 82 pharmaceutical firms for ten years from 2008 to 2017 reveals that current liquidity ratio and quick ratio have a positive and significant effect on the performance (Return on Asset)(Yameen et al., 2019). Extant study in India shows that liquidity, profitability and solvency of a manufacturing firm were satisfactory (Maheswari, 2015). In Indian 2017 to 2015 financial years Patjoshi (2016) found liquidity management and financial performance of steel companies as inclusive of different dimensions comprising current ratio, liquid ratio, and inventory turnover ratio. Sharma and Kumar (2011) further examined Bombay Securities Exchange in India detecting liquidity positive impact of Value of the firm.

Patjoshi (2016) examined liquidity management and financial performance of selected steel companies in India from 2017 to 2014 inclusive. The study measured liquidity in different dimensions comprising current ratio, liquid ratio, and inventory turnover ratio. At the same time, it proxies Value of the firm by operating profit margin, net profit margin, return on total asset and return on investment. The correlation and regression

results show that liquidity has a significant effect on performance. This study failed to examine manufacturing firms and was not done in Kenya.

Regionally South African banks found a significant negative nexus between the liquidity and performance (Marozva, 2015). Ghana Security exchange examined the effects of liquidity management practice citing inventory working days, account payable and cash conversation cycle have influence on the value of manufacturing companies. Tobins's Q measured value of Nigerian firms. In Uganda liquidity practices financing management is low. Akinleye and Okunleye (2019) found liquidity to be of value on Nigerian corporations. Companies listed at the Dar es Salaam Stock Exchange (DSE) has been reported to face turbulences from the market due to shortages of liquidity, unpredictable business environment and increased debts levels. The market report (2018) showed that the majority of listed companies saw their share prices dipping down, with only three firms recorded a share price gain.

Locally Kung'u (2017) conducted a study on the effect of liquidity management practices on Value of the firm of Manufacturing Industry in Kenya. The results of the analysis indicated a positive and significant relationship between inventory management practices and value of firm industrial firms. It is recommended that the finance managers should establish optimal cash targets, lower and upper cash limits in their industrial firms. They should also invest excess cash into productive assets. Mathenge (2016) carried out a study on the effect of trade receivables management on the Value of the firm of manufacturing firms listed in the Nairobi securities exchange. The study concluded that the accounts collection period has a significant and negative effect on Value of the firm while bad debt to receivables ratio had also a negative and but

insignificant effect on Value of the firm. However accounts receivables turnover had a positive but insignificant effect on Value of the firm of manufacturing and allied firms listed in the NSE.

Muthoni, Kiprotich, Naibei and Kipyego (2018) carried out a study on management of accounts receivable and financial performance of manufacturing firms listed in Nairobi stock exchange, Kenya. The study established that there was strong positive significant relationship between accounts receivable management and financial performance of manufacturing firm. Achode and Rotich (2016) conducted a study on the effects of accounts Payable as Source of Financing on Performance of Listed Manufacturing Firms at the Nairobi Securities Exchange. A multiple regression model was used to test the relationship between the Accounts payable and firm performance. Locally in Nairobi Gakure, Chelugut, Onyango and Keraro (2012) found liquidity of NSE firms to be pegged on average collection periods, average payment period. Inventory holding period. In Kisii Nyabwanga, Ojera, Lumumba, Odondo and Otieno (2012) noted that liquidity management practices affected firms. Chibole, Maniagi, and Nelima (2022) examined liquidity as a distress factor on performance of a firm with Liquidity Preference theory as focal point where financial growth was imbedded to liquidity practices. Kyambi and Muturi (2018) examined manufacturing companies in Nairobi county listing accounts receivable as a major contributor to liquidity management practice and Value of the firm.

1.1.1 Firm Value

The value of the firm is also noted as the organizations market value and it is the price paid by prospective buyers of a company. Company value is simply the current value of anticipated upcoming movements reduced at the rate of return needed by shareholders (Bandara, 2015). The company's value is an investor observation towards the firms hence linked to stock levels. The major goal being to increase firm value of firm wealth. Firm value ignites shareholder wealth as which is a goal of firm. Company's value is shown in stock prices that are increasing and steady. Higher stock prices make organizations get value higher and the effect of this is market confidence on the existing performance of a firm and its future outlook which is significant in investment negotiations (Moeljadi, 2014). Organization value is typically examinable through earnings and sales (Mariana, 2019). Scholars have measured value of firm through several approaches. This study will use Tobin's Q the ratio of market price to book value of the firm which is calculated form ratio of the market price of a firms equity plus debt divided by corporate assets value.

1.1.2 Manufacturing Firms in Kenya

In Kenya, manufacturing sector is the second most important sector after agriculture. It is important in terms of contribution to gross domestic product, employment and foreign exchange earnings. The rapid growth of the manufacturing sector in most developing countries like Kenya has a number of implications for activities in this sector to implement reforms necessary to strengthen such sectors (Rotich & Namusonge 2016).

Manufacturing corporations include companies that obtain certain product as inputs and processes these inputs to a value additional final product for sale. The manufacturing industries sector is one of the most important economic sectors, because of its role and high impact in the development of the economy at the local and global level. Globally manufacturing output continues to grow by about 2.7 per cent annually in advanced economies and 7.4 percent in large developing economies (Kenya Association of Manufacturers, 2017). The manufacturing sector in the developed nations is large and contributes significantly to economic development, innovation and productivity. The sector cannot be ignored in the process of economic development in any state as it remains one of the most powerful engines for economic growth (Khalifa & Shafii, 2013). Manufacturing sector acts as a catalyst to transform the economic structure of countries from simple, slow growing and low value activities to more vibrant and productive economies (Kungu, 2015).

As nations achieve higher levels of economic growth, manufacturing sector seems to contribute more to the GDP, employment levels, innovation and trade (Kungu, 2015). The manufacturing sector plays a big role in national income of African countries. The sector contributes to the progress of the African economies, increased rate of economic growth, diversified production, reduced imports, and expanded the economic infrastructure (Rotich & Namusonge, 2016). The share of the manufacturing sector in total employment and per capita manufacturing value added are rough indicators of industry's contributions in the social, economic and environmental dimensions of African countries. The economic role of industry in sustainable development presents per capita manufacturing value added as a general indicator of industrial development in

the economic perspective. One important contribution of industry to the social component in sustainable development is creation of employment (Rissa, 2014).

In Kenyan Manufacturing firms have become an important contributor to the economy. The sector contributes to the national objective of creating employment opportunities and generating income for the economy (Njoroge, 2014). The sector leads in foreign exchange earning accounting for 34% of the total earnings (Kenya Association Manufacturers (KAM, 2014).

The manufacturing sector remains the largest source of employment opportunities, accounting for about 20% of the total employment or 2,105,000 persons in 2013 (GOK, 2014). As an important sector in the overall economic growth, manufacturing sector requires an in depth analysis at industry as well as firm level. This sector occupies an increasing importance in the development plans in developing countries which seeks to break the cycle industrial underdevelopment have in order to achieve economic development. Manufacturing sector today has become the main means for developing countries to benefit from globalization and bridge the income gap with the industrialized world (Amakom, 2015). There exists 8 manufacturing firms listed at Nairobi Securities Exchange. NSE is the fourth largest stock exchange in Africa in relation to trading volume and fifth in relation to market capitalization taken as a GDP percentage (Iraya & Musyoki, 2013). It also has membership in the African Securities Exchanges Association. This study will examine the influence of liquidity management practices on the performance of manufacturing firms listed at Nairobi Security Exchange in Kenya.

1.2 Statement of the Problem

There has been poor performance in manufacturing firms in general as evidenced by the stagnated growth of the sector over the last decade (World Bank, 2016), and closure of or relocation of operations by some manufacturers' as reported by Kenya Association of Manufacturers. According to Kenya Association Manufacturers, (2021) manufacturing sector contributes to 39% of Kenyas economy. Despite this noble role there exists liquidity challenges through payment tendencies and generally accounts receivable (GoK, 2020). Manufacturers operating in Kenya registered stagnation and declining quality earnings between 2017-2021 (World Bank, 2021). Manufacturing sector in Kenya had 7.9% decline from 2019 to 2020 (KNBS, 2019). Accounts receivables are a major drawback this is due to the fact that for any company to increase sales they have to sale it on credit. Are receivables and payables the reason for liquidity challenges? Kubai (2016) affirms that the manufacturing sector performance has faced inefficiencies in payment of goods and services supplied on time. Numerous studies have investigated the impact of accounts receivables without a general consensus. Munene, (2015) conducted a study on accounts receivable and found that average collection period and average payment had a positive effect on financial performance whereas Mutiso and Mwangi (2019) found a negative relationship. Owing to the conceptual and manufacturing sector limitation, a cross examining of the listed firms for a period of 2016 to 2021 will be conducted. Kilonzo, Memba and Njeru (2016) studied the Effect of Accounts Receivable on financial performance of firms funded by Government Venture Capital in Kenya and found out that there is more to be done in Kenya liquidity management practices on firm value. This study examined the influence of liquidity

management practices on the performance of manufacturing firms listed at Nairobi Security Exchange in Kenya.

1.3 Objectives of the Study

1.3.1 General Objective

The general objective of this study was to determine the effects of liquidity management practices on value of manufacturing firms listed at Nairobi Security Exchange in Kenya.

1.3.2 Specific Objectives

This study was guided by the following specific objectives:

- i. To determine the effect of inventory management practices on value of listed manufacturing firms at Nairobi Security Exchange in Kenya.
- ii. To establish the effect of accounts receivable management practice on value of listed manufacturing firms at Nairobi Security Exchange in Kenya
- iii. To determine the effect of accounts payable practices on value of listed manufacturing firms at Nairobi Security Exchange in Kenya
- iv. To establish the moderating effect of conversion cycle on the relationship between liquidity management practices and value of manufacturing firms listed at Nairobi Security Exchange in Kenya.

1.4 Research Hypotheses

This study based on the following research hypotheses:

HO₁: Inventory management practices do not have significant effect on value of listed manufacturing firms at Nairobi Security Exchange in Kenya.

HO₂: Accounts receivable management practice does not have significant effect on value of listed manufacturing firms at Nairobi Security Exchange in Kenya.

HO₃: Accounts payable practices do not have significant effect on value of listed manufacturing firms at Nairobi Security Exchange in Kenya.

HO₄: Conversion cycle does not have a moderating significant effect on the relationship between liquidity management practices and value of listed manufacturing firms at Nairobi Security Exchange in Kenya.

1.5 Significance of the Study

This study may make several contributions to both knowledge building and practice improvement on liquidity management practices for manufacturing firms. From a theoretical standpoint, the study proposes a comprehensive framework of studying liquidity management practices and value of the firm. It is also expected that it may aid policy makers in their effort to improve the manufacturing sector. It shall be of great relevance to the manufacturing firms managers and employees who when liquidity is addressed they may be beneficiaries of liquidity proceeds. Policy makers may use the study to make laws concerning liquidity mitigation approaches for firms.

To the researchers, the study may add value to the existing body of knowledge as it will provide recommendations on the ways of improving the liquidity management practices and value of the firm.

1.6 Scope of the study

The scope of the study was to limited to listed manufacturing firms at NSE, Kenya. They are eight in number. The study examined the effect of liquidity management practices on value of manufacturing firm. Geographically the study covers the entire NSE manufacturing companies across the country. Methologically the study covered a 5 year longitudinal study (2018-2022). Conceptually inventory management practices, accounts receivable practices, accounts payable practices, cash conversion cycle and firm value was addressed.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents a review of literature on liquidity management practices and value of the firm. Guiding theories that incorporates study variables are discussed. There is a review of variables, empirical review, research gaps and conceptual framework.

2.2 Theoretical Review

This study discussed the following theories: cash management theory, trade off theory, agency theory and Cash Conversion Cycle theory.

2.2.1 Cash Flow Theory

This theory was formulated by James Mao and Charlie Sarndral in the year 1977. Cash management theory is concerned with the managing of cash flows which basically means cash into and out of the firm. In relation to this manufacturing firms keenly monitors cash receivables and payables for an effective cash flow process. The cash management or rather cash conversion requires a smooth liquidity cash flow process. Short term earnings under manufacturing is a major concern of every business (Rotich & Namusonge, 2016). This is so because it is difficult to predict cash flows accurately, particularly the inflows and there is no perfect coincidence between cash outflows and inflows (Aziz & Dar, 2006). The working capital of a firm in-terms of current assets and liabilities highly determines the cash flow of the firm and it is encouraged that inventory turnover is well sorted to manage the situation. The more the financial entries more

chances of cash flow generation. During some periods cash outflows will exceed cash inflows because payments for taxes to government or seasonal inventory by manufacturing will build up. At other times, cash inflow may be more than cash sales and debtors may realize in large amounts promptly.

Cash management theory is criticized on the grounds of its underlying arguments and suggestions as outflows doesn't really mean that the business is running out of cash as manufacturing have a given amount which it considered allowable for outflows. The cash outflows could be based on purchase of inventories which is easily convertible to cash though the cash conversion comes in as a point of focus. Inflows similarly don't mean safety unless a given considerable mark is provided. This theory clearly points out all the liquidity management practices variables under study. It is a strong theory hence the main theory as it explains out accounts receivables, accounts payables, inventory turnover and cash conversion cycle.

2.2.3 Trade off theory

Opined by Kraus and Litzenberger (1973) the theory shows the ratio of debt to equity financing is determined by balancing the costs and benefits. Debt is opted for before equity decision. The term trade-off theory is used by different authors to describe a family of related theory. In all of these theories, a decision maker running a firm evaluates the various costs and benefits of alternative leverage plans. Manufacturing firms will prefer to vet costs arising from the businesses so as to set a balance state. Balancing between receivables and payables is a tall order that needs proper planning. Inventories must be traded with cautiousness. The benefits that may arise as a result are

based on the profit element. The trading process have to monitor the costs verses the benefits. If costs outweighs the benefits then losses arise defeating the profiting element which is the objective of any business. Pandey (2006) states there is a benefit for debt in that it serves to shield earnings from taxes.

In regards to account receivables, Salek (2005) lists two conflicting objectives where tradeoffs will be required in order to achieve efficient receivables management. Firstly, in order to boost sales, the criteria for allowing credit needs loosening up but this can result in high bad debt loses. However, tightening it would reduce receivables and bad debt loses and results in lower sales. Firms should finance investments first with internal funds, then with safe debt, followed by risky debt and finally with equity to reduce the adverse signals that may be emitted.

2.2.4 Cash Conversion theory

Cash conversion theory was propounded by Rachards and Laughlins (1980), cash conversion cycle theory is the time it takes a company to convert its resource inputs into cash. It evaluates how effectively a firm is managing its working capital. In most cases, a company acquires inventory on credit, which results in accounts payable. A firm can also sell products on credit, which results in accounts receivable. Cash, therefore, is not involved until the firm pays the accounts payable and collects accounts receivable. So the cash conversion cycle measures the time between outlay of cash and cash recovery (Siddiquee, Khan & Shaem Mahmud, 2009).

The lower the cash conversion cycle, the more healthy a company generally is. Businesses try to shorten the cash conversion cycle by speeding up payments from customers and

slowing down payments to suppliers. Cash conversion cycle can even be negative; for instance, if the company has a strong market position and can control purchasing terms to suppliers that is it can postpone its payments (Brennan, 2003). Richards and Laughlin (1980) concluded that traditional ratios such as current ratio, Quick acid test and cash ratios cannot measure the true position about about working capital and insisted, using inflows and outflows of cash as a product of acquisition, production, sales, payment and collection process done over time. The firm's ongoing liquidity is a function of its cash conversion cycle; hence the appropriateness of evaluation by cash conversion cycle, rather than liquidity measures.

2.3 Conceptual Review

2.2.1 Inventory Management Practices and Firm Value

Inventory turnover is a measure of how effectively inventories are being managed. Inventory management practice is a measure of how effective inventories are being managed and are very important in deciding the inventory management strategy of firms (Eloranta & Saleek, 2005). To ascertain inventory management practice the study shall compute number of inventory days. Nyabwanga, Ojera, Lumumba, Odondo and Otieno (2012) stated in their studies that shortening the inventory conversion period could increase stock out costs of inventory which results in losing sales opportunities and to poor performance, while postulates that Managers of firms should keep their inventory to an optimum level since mismanagement of inventory will lead to tying up excess capital at the expense of profitable operations.

2.2.2 Accounts Receivable Management Practices and Firm Value

According to Pandey (2008), accounts receivable is money owed to a firm when it sells its products or services on credit and it does not receive payment immediately. The primary goal of accounts receivables management is to maximize the value of the enterprise by striking a balance between liquidity, risk and Value of the firm. Pandey (2008) also asserts that, a firm grants trade credit to protect its sales from competitors and to attract potential customers to buy its products at favorable terms. Accounts receivables are one of the major constituent of liquidity of a firm and are basically represented in the financial statements as a current asset. It is thus a firm's investment. The main aim of accounts receivables is to maximize shareholders value by striking a balance between liquidity and value of the firm. The primary aim of accounts receivables should not only concentrate on sales growth but should also concentrate maximization of returns.

2.2.3 Accounts Payable Practices and Firm Value

This explains the duty of paying suppliers and vendors for goods and services purchased by the company. This will be measured by the number of days for payments made. Achode and Rotich (2016) conducted a study on the effects of accounts Payable as Source of Financing on Performance of Listed Manufacturing Firms at the Nairobi Securities Exchange and found accounts payable to be positive.

2.2.4 Conversion Cycle Practice

The cash conversion cycle (CCC) is a metric that expresses the time (measured in days) that it takes for a company to convert its investments in inventory and other resources into cash flows from sales. The study shall ascertain cash conversion period by computing cash conversion days. In Saudi Arabia Almazari (2013) found liquidity management practice of Cement manufacturing firms' to be consistent with cash conversion cycle and inventory management practices.

2.2.5 Firm Value

Company value is simply the current value of anticipated upcoming movements reduced at the rate of return needed by shareholders (Bandara, 2015). The company's value is an investor observation towards the firms hence linked to stock levels. Organization value is typically examinable through earnings and sales (Mariana, 2019). Scholars have measured value of firm through several approaches. This study will use Tobin's Q the ratio of market to book value which is calculated form ratio of the market price of a firms equity plus debt divided by corporate asset value.

2.4 Empirical Review

2.4.1 Inventory Management Practices and Firm Value

Patjoshi (2016) examined liquidity management and financial performance of selected steel companies in India from 2017 to 2014 inclusive. The study measured liquidity in different dimensions comprising current ratio, liquid ratio, and inventory turnover ratio. At the same time, it proxies Value of the firm by operating profit margin, net profit

margin, return on total asset and return on investment. The correlation and regression results show that liquidity has a significant effect on performance.

Agyemang & Kwame (2013) examined the effects of liquidity management practice and value of listed manufacturing firms on Ghana Security exchange. The study found out that, the major component of liquidity management practice such as inventory working days, account payable and cash conversation cycle have influence on the value of manufacturing companies. The study has not demonstrated what was used as value proxies while the current study will use Tobins's Q as value proxies.

Kemeli (2012) analyzed the effects of liquidity management practice on the Value of the firm of manufacturing firms listed on the Nairobi Securities Exchange. The study utilized a survey research design and targeted the 9 listed manufacturing firms trading on the Nairobi Securities Exchange. Multiple regression and correlation analysis were carried out and the data to determine the relationships between components of liquidity management practice and the gross operating profit of the firms. The study established that gross operating profit was positively correlated with Average Collection Period with Average Payment Period but negatively correlated with Cash Conversion Cycle. The relationship between Inventory Turnover in Days and gross operating profit was insignificant. Value of the firm of manufacturing firms depends upon effective liquidity management practice. The study therefore recommended that managers should focus on reducing cash conversion cycles, collect receivables as soon as possible because it is better to receive inflows and delay payment of creditors in order to invest the money in short term securities which are profitable. The study above did not use cross section survey design.

Kung'u (2017) conducted a study on the effect of liquidity management practices on Value of the firm of Manufacturing Industry in Kenya. The study was explained by two cash management models; Baumol's cash management model and Miller–Orr cash management model. Correlational research design was adopted. Two types of data were collected. Primary data was collected through the use of a questionnaire and secondary data through the use of a record survey sheet. Stratified random sampling technique was used to determine the sample size. Data analysis was through descriptive and inferential data analysis. The inferential data analysis, Pearson's correlation, regression and ANOVA analysis were applied. The results of the analysis indicated that the correlation coefficient between liquidity cash management and value of firm was 0.711 at 0.01 significant level. This showed a positive and significant relationship between inventory management practices and value of firm industrial firms. It is recommended that the finance managers should establish optimal cash targets, lower and upper cash limits in their industrial firms. They should also invest excess cash into productive assets.

Gakure, Cheluget, Onyango and Keraro (2012) analyzed the relationship between liquidity management practice and performance of 15 manufacturing firms listed at the Nairobi NSE from 2006 to 2017 and for a total of 75 firm's year observations. They used secondary data from a sample of 18 companies at the NSE. A regression model was used to establish the relationship between the dependent variable and the independent variables. Pearson's correlation and regression analysis were used for the analysis. The results indicated that there is a strong negative relationship between firm's performance and liquidity of the firm. The study found that there is a negative coefficient relationship between accounts collection period, average payment period, inventory holding period

and Value of the firm while the cash conversion cycle was found to be positively correlated with Value of the firm. However, the effects of the independent variables except the average payment period were no statistically significant though the overall model was statistically significant.

2.4.2 Accounts Receivable Management Practices and Firm Value

Accounts receivable is a crucial field of corporate finance because of its effects on a firm's value and risk, and consequently on the firm's value. Munene, (2015) argue that the optimal level of accounts receivable occurs when the marginal revenue of trade credit is equal to the marginal cost. Mutiso and Mwangi (2019) find that firms operating in competitive markets are forced to offer industry credit terms. In effect, companies are forced to grant trade credit despite the costs associated to it, because not granting trade credit would lose sales, and value would decrease. These studies were carried outside Kisumu County, Kenya; moreover they never captured manufacturing firms.

Deloof (2018) studied the relationship between average collection period (ACP) and corporate value. He used a sample of 1,009 large Belgian non-financial firms for a period of 2013-2019. By using correlation and regression tests, he found significant negative relationship between gross operating income and ACP of Belgian firms. Based on the study results, he suggested that managers can increase value by reducing the ACP.

Gakure, Chelugut, Onyango, and Keraro (2012) analyzed the relationship between liquidity and performance of 15 manufacturing firms listed at the Nairobi NSE from 2006-2017 and a total of 75 firms were observed. They used secondary data from sample

of 18 companies at NSE. A regression model was used to establish the relationship between the dependent variable and independent variables. Pearson's correlation and regression analysis were used for the analysis. The results indicated that there is a negative relationship between firm's performance and liquidity of firms. The study found that there is a negative coefficient relationship between average collection periods, average payment period, inventory holding period and value while the cash conversion cycle was found to be positively correlated with value. However, the effects of the effects of the independent variables except the average payment period were not statistically significant yet overall model was statistically significant.

Nyabwanga, Ojera, Lumumba, Odondo and Otieno (2012) assessed the effects of liquidity management practices on the financial performance of SSEs in Kisii. A sample of 113 SSEs comprising of 72 trading and 41 manufacturing enterprises were used. Pearson's correlation coefficient and multiple regression analysis techniques were used to analyze data. Consequently, the findings of the study were that liquidity management practice practices were low amongst SSES since majority had not adopted formal liquidity management practice routines and their financial performance was below average.

They are the amounts we expect our customers to pay in the near future. Trade receivables are receivables that arise in the normal selling of goods to customers, while non-trade receivables includes items such as interest receivables, insurance claims receivables or receivables from employees. In this study the researcher only concentrates on Trade receivables. Businesses must ensure proper management of trade receivables to avoid finding their liquidity under considerable strain and to remain profitable. Effective

accounts receivable management is important and strategic; it affects the financial performance of a firm and a firm's value. A firm's competency to synchronize cash inflows with cash outflows in formulating a cash flow management strategy is important to a firm's financial performance. The core mandate of trade receivables management lies in shareholder wealth maximization. Receivables constitute a big investment in the firm current assets. The study therefore evaluates just like capital expenditures for their net present values. Sales are stimulated by offering trade receivables since customers can assess the quality of products and services before paying for them. However we should also put into consideration the fact that trade receivables involve funds and should also be seen as an opportunity cost. These characteristics of accounts receivables such as the element of risk, futurity and economic value necessitate the need for an efficient management of trade receivables. Various academicians have studied trade receivable. Gill(2017) Asserts that the main task of accounts receivables management is to optimize the balance between management of cashflow components. Cashflow management is basically involved with planning and control of cash inflows and outflows in any firm. It also involves the holding of the optimal level of cash by a firm at any point in time.

A study carried out by Jagongo and Makori (2013) on working capital and firm's Value of the firm of manufacturing and construction firms' listed Nairobi Securities Exchange, Kenya for the period 2003 to 2012 Ordinary Least Square regression (OLS) models and Pearson's correlation were used to establish the relationship between liquidity management practice and firm's Value of the firm. The study found a negative relationship between Value of the firm and number of day's accounts receivable and cash conversion cycle but positive relationship Value of the firm and number of days of

inventory and number of day's payable. The financial leverage, sales growth, current ratios and firm size have significant effects on Value of the firm. Based on the findings, the study recommends to management to take long to pay the accounts payable. The study may not have considered the effects on prolonged payments on the liquidity of the firms with low level of capital base.

Mathenge (2016) carried out a study on the effect of trade receivables management on the Value of the firm of manufacturing firms listed in the Nairobi securities exchange. A descriptive research design was used in this study. The findings of the study were arrived at using the quantitative research method. The extent and nature of relationship between the various variables under study was identified using correlation and regression. Relationships among the dependent and independent variables and instances of multi-collinearity were evaluated using the Pearson correlation analysis. The study concluded that Accounts Collection period, bad debt to receivables ratio and accounts receivables turnover contribute to 24.7% of the overall Value of the firm. The study concluded that the accounts collection period has a significant and negative effect on Value of the firm while bad debt to receivables ratio had also a negative and but insignificant effect on Value of the firm. However accounts receivables turnover had a positive but insignificant effect on Value of the firm of manufacturing and allied firms listed in the NSE. The study recommended that a firm should structure its credit policy in such a way that it results to a reduction of its accounts collection period which has a significant effect on its overall Value of the firm.

Muthoni, Kiprotich, Naibei and Kipyego (2018) carried out a study on management of accounts receivable and financial performance of manufacturing firms listed in Nairobi

stock exchange, Kenya. The study used descriptive research design where data was collected in order to establish the current status of the population. The population of the study comprised of 147 finance and accounts staff of all the manufacturing firms listed in NSE for period of Six months from April to October 2016. Data was collected by use of self-administered questionnaires and analyzed using both descriptive and inferential data analysis. Study established that there was a strong positive significant relationship between Credit extension policies, further it established that financing receivables has a weak significant effect on the financial performance and receivable collection period has significant effect on the financial performance of the firm. The results of the study showed a value of $R^2=0.889$ ($p=0.01$) this means that independent variables collectively. The study established that there was strong positive significant relationship between accounts receivable management and financial performance of manufacturing firm. The study recommends that the management of the manufacturing firms should have clear policies on management of accounts receivables, that is, credit extension policy, financing receivable and receivable collection period since it significantly affected their financial performance of the firms.

A study by Kyambi and Muturi (2018) on the effect of credit policies on accounts receivable among manufacturing companies in Nairobi county, Kenya found that accounts receivable management, particularly trade receivables, is a major contributor to liquidity management practice in manufacturing firms and therefore its management has a direct contribution to the overall performance of an entity in terms of liquidity and Value of the firm.

However Sharma and Kumar (2011) conducted a study of 263 non-Financial firms that were listed in the Bombay Securities Exchange in India from 2000-2008 and found a positive association between ART and Value of the firm. There have been a few studies done locally in Kenya concerning Trade receivables but mainly in context of liquidity management practice. Mathuva (2017) investigated thirty companies listed on the NSE for the time 1993-2008. He establishes that there was a significant negative association between ART and the firm's Value of the firm.

Waweru (2011) carried out a study on the association between management of trade debtors and the value of firms listed at the NSE. Secondary data which was obtained from the NSE handbook and the individual companies audited annual financial reports was utilized for this study .The study sampled 22 companies that had been listed in the NSE for the seven year period 2003-2009. Correlation and regression analysis results showed that there was some association between the companies' value and trade receivables management. The study also concluded that there was a negative relationship between ACP, inventory turnover in days, CCC and the firm's value. The study results clearly pointed out to the fact that the firms with a credit policy that resulted in minimal accounts receivables had the highest Value of the firm. There was however contradicting evidence to this since there was a positive relationship between ROA and trade debtors. The aim of this research is to observe the effect of TRM on the Value of the firm of the Manufacturing companies listed in the NSE during the financial period 2011-2015.

2.4.3 Accounts Payable Practices and Firm Value

Tiringo (2013) examined impact of liquidity management practice on Value of the firm of micro and small enterprises with special reference to Bahir Dar city administration using a sample of 67 micro and small enterprises. Data for this study was collected from the financial statements of the enterprises listed on Bahir Dar city micro and small enterprises agency for the year 2003. Variables entered in this study were number of day's accounts receivable, number of day's inventory, number of day's accounts payable, cash conversion cycle ratio. This study applied Pearson's correlation and OLS regression with a cross sectional analysis. The result shows that there is a strong positive relationship between number of day's account payable and enterprise Value of the firm. However, number of day's account receivable, number of day's inventory and cash conversion cycle has a significant negative impact on Value of the firm.

Almazari (2013) investigated the relationship between the liquidity management practice (WCM) and the firms' Value of the firm for the Saudi Cement manufacturing companies. The sample included 8 Saudi Cement manufacturing companies listed in the Saudi Stock Exchange for the period of 5 years from 2008-2012. Pearson Bivariate correlation and regression analysis were used. The study results showed that Saudi Cement industry's current ratio was the most important liquidity measure which affected Value of the firm, therefore, the cement firms must set a trade-off between these two objectives so that, neither the liquidity nor Value of the firm suffers. It was also found, as the size of a firm increases, Value of the firm increased. Besides, when the debt financing increased, Value of the firm declined. Linear regression tests confirmed a high degree of association between the liquidity management practice and Value of the firm.

The studies were conducted in large firms where financial records are available, as opposed to small sized enterprises which do not keep records. The inventory turnover was not comprehensively captured by the above study and regression analysis was not used.

Achode and Rotich (2016) conducted a study on the effects of accounts Payable as Source of Financing on Performance of Listed Manufacturing Firms at the Nairobi Securities Exchange. Census sampling technique was used and the study used secondary data, which was obtained from the companies' statistics and journals at the Nairobi Securities Exchange. SPSS was used to carry out the descriptive analysis of the variables, requisite analysis and advanced analysis of the data. A multiple regression model was used to test the relationship between the Accounts payable and firm performance. The results from this research suggested that in most of the manufacturing firms listed at the NSE, there was a direct positive relationship between Accounts Payable and the dependent variable, Value of the firm and Liquidity, supporting the Pecking Order Theory.

Chibole, Maniagi, and Nelima (2022) carried out a study on the influence of liquidity distress factor on performance of commercial banks in Kenya. This study was guided by Liquidity Preference theory. The study found a strong positive significant relationship between liquidity distress factor and performance of commercial banks in Kenya. The study proposed liquidity approaches such as accounts payables and receivable.

2.4.4 Conversion Cycle Practice on the Relationship between Liquidity Management Practices and Firm Value

Agyemang & Kwame (2013) examined the effects of liquidity management practice and Value of the firm of listed manufacturing firms on Ghana stock exchange. The study found out that, the major component of liquidity management practice such as inventory holding days, account payable and cash conversion cycle have influence on the Value of the firm of manufacturing companies.

Gakure, Chelugut, Onyango, and Keraro (2012) analyzed the relationship between liquidity management practice and performance of 15 manufacturing firms listed at the Nairobi NSE from 2006-2017 and a total of 75 firms were observed. They used secondary data from sample of 18 companies at NSE. A regression model was used to establish the relationship between the dependent variable and independent variables. Pearson's correlation and regression analysis were used for the analysis. The results indicated that there is a negative relationship between firm's performance and liquidity of firms. The study found that there is a negative coefficient relationship between average collection periods, average payment period. Inventory holding period and Value of the firm while the cash conversion cycle was found to be positively correlated with Value of the firm. However, the effects of the effects of the independent variables except the average payment period were not statistically significant yet overall model was statistically significant.

Omesa, Maniagi, Musiega and Makori (2013) examined the relationships between liquidity management practice and corporate performance of manufacturing firms listed

on the Nairobi securities exchange. A sample of 20 companies of whose data 5 years from 2007 to 2011 was collected for analysis principal components (PCA) was used. From the results using multiple regressions, working capital proxies cash conversation cycle(CCC), average collection period (ACP) and control variables, current liabilities, (CL), net working capital turnover ratio (NSCA) and fixed financial ratio (FATA) were significant at 95% confidence (p values <0.05) to performance as measured by Return on Equity (ROE). ACP was found to be negatively related, while CCC, CL, NSCA and FATA were found to be positively related. However, this study will not use cash conversation cycle but instead measure the cash management efficiency by use of cash budget and cash planning and investment of excess cash. The above study did not Pearson-product analysis; moreover the study was carried out at listed firms in a stock exchange.

2.5 Research Gap

Studies have been carried out on liquidity management practice and Value of the firm on specific industries such as agricultural firms. Much interest has not shown on manufacturing firms. Researchers have found contradicting results with others finding positive and negative results. The current study was necessitated by the existing gaps by previous researchers.

Table 1: Research Gap

Author & Year	Title	Methodology	Findings	Gap
Sharma Kumar (2017)	Effect of Working Capital on Value of the firm of Indian firms listed at the Bombay stock	Empirical research design Secondary data Listed firms at stock exchange Variables: Liquidity, solvency, financial health	The study reveals that inventory of number of days and numbers of day's accounts payable are negatively correlated with a firm's Value of the firm.	The study covered listed firms in general and not manufacturing firms These study was carried outside Kenya.
Gill, Biger and Mathur (2017)	The relationship between liquidity management practice and Value of the firm of 88 American firms listed on the New York Stock Exchange for a period of 3 years from 2005 to 2007 was selected.	Longitudinal research design, 88 firm, weighted least squares regression analysis The data was analyzed using Pearson Bivariate Correlation Analysis and Weighted Least Squares (WLS) Regression techniques. Listed firms Period covered; 2 years	They found statistically significant relationship between the cash conversion cycle and Value of the firm, measured gross operating profit.	The study covered listed firms and not general and not manufacturing firms. These study was carried outside Kenya. These study used secondary data and current study used mixed research design and not Longitudinal research design only.
Achode (2016)	The relationship between liquidity management practice practices and Value of the firm of listed manufacturing firms in Ghana.	Descriptive research Target population; 43 Banks Sample size; 43 Banks Sampling method; purposive Period covered: 5 years. Variables: firm size, foreign ownership, leverage	The study found a significant negative relationship between Value of the firm and Accounts Receivable Day. However, the firms' Cash Conversion Cycle, Current Asset Ratio, Size, and Current Asset Turnover	In above study the working capital components used are accounts receivable days, cash conversation cycle and current assets turnover yet the current study incorporates firm size as moderator with other variables inclusive. These study was done in Ghana and current study was in Kenya

		Theories: trade off and wreckers theory	significantly positively influence Value of the firm.	
Srinivas & Deogratia. (2013)	The impact of average collection period and average payment period on SMEs Value of the firm in Tanzania.	Descriptive research design Sample; 38 SMEs Period 2006 to 2011 Variables: gross operating profit and independent variables as average collection period and average payment period	The results indicate that there is a significant negative relationship between average collection period and Value of the firm. Positive relationship as observed between average payment period and gross operating profit.	A moderating variable; cash conversion cycle was used to bridge the gap. The study used cash receivables, inventory turnover and cash conversion cycle unlike gross operating profit and independent variables as average collection period and average payment period as per this study.
Gakure, Cheluget, Onyango & Keraro (2019)	Analyzed the relationship between liquidity management practice and performance of manufacturing firms listed at the Nairobi NSE	Explanatory research design Population: 15 firms at NSE Period: 2006 to 2017 They used secondary data from a sample of 18 companies at the NSE.	The study found that there is a negative coefficient relationship between accounts collection period, average payment period, inventory holding period and Value of the firm while the cash conversion cycle was found to be positively correlated with Value of the firm.	A moderator was used to generate new concept However, the effects of the independent variables except the average payment period were no statistically significant though the overall model was statistically significant.

2.6 Conceptual framework

Accounts Receivables

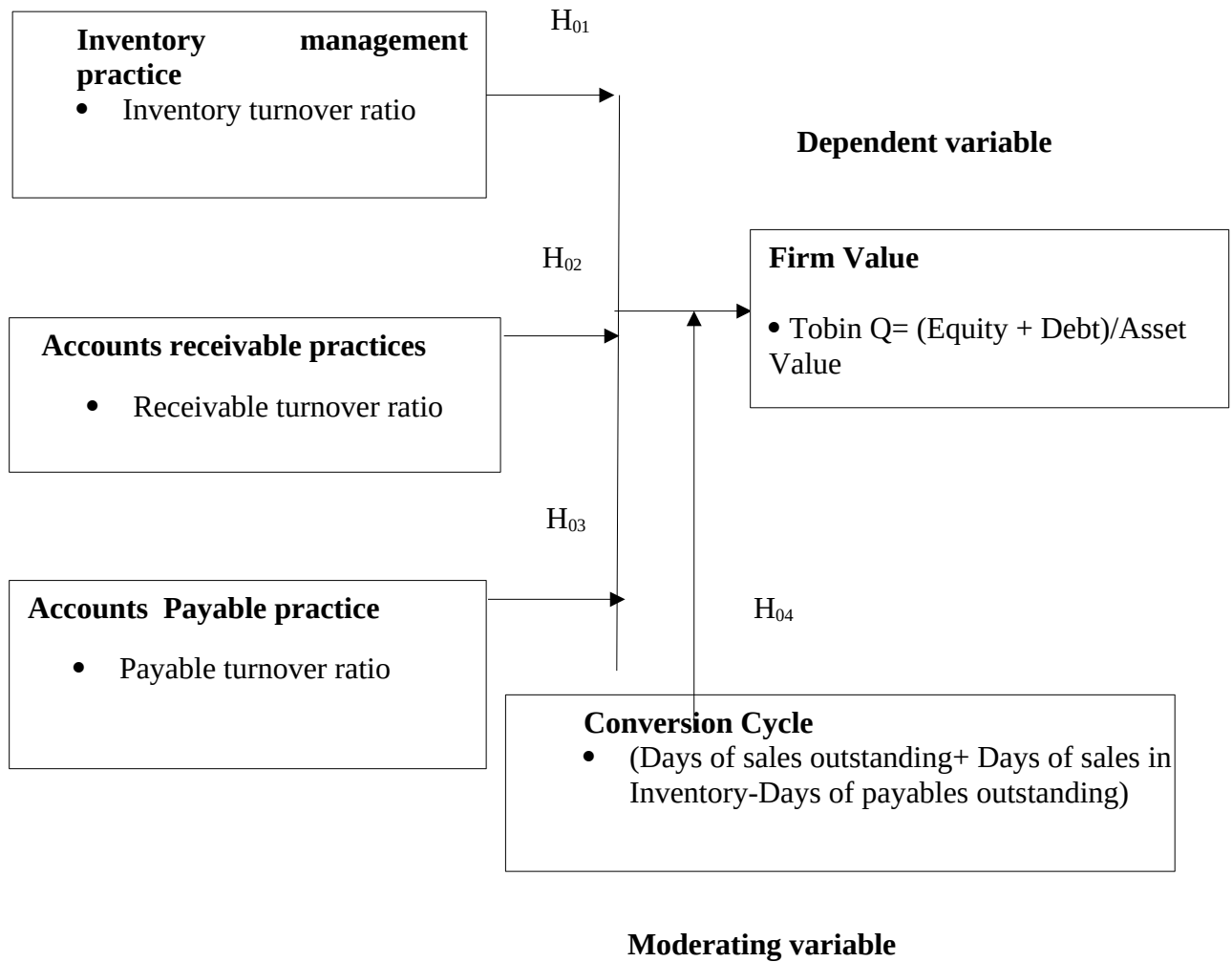


Figure 1 Conceptual Framework

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter covers research design, population of the study, sample size, data collection, data collection procedures, data analysis and methods of data presentation.

3.2 Study Area

The study was carried out on listed manufacturing firms in Nairobi security exchange Kenya. Manufacturing firms deal with manufacturing of goods more Manufacture of machinery and machine tools, Motor vehicle assembly and manufacture of spare parts, Assembly of automotive components and electronics, Manufacture of metal and engineering products and food stuffs.

3.2 Research Design

This study used a mixed research design incorporating primary and secondary data as it entails finding out what, who, where when and how of the firm characteristics (Cohen, 2007). Secondary data used ratio analysis of time series data for the 5 year period 2018-2022. This was obtained from published financial statements of respective firms.

3.3 Target Population

The target population of the study comprises the 8 manufacturing companies listed in the NSE as at December 2021 (NSE, 2021). This comprises of B.O.C Kenya Ltd, British American Tobacco Kenya Ltd, Carbacid Investments Ltd, East African Breweries Ltd, Unga Group Ltd, Eveready East Africa Ltd, Kenya Orchards Ltd and Flame Tree Group Holdings Ltd. This will rely of 2018-2022 financial years.

3.4 Sample Size and Sampling technique

The study used census study methodology which enabled the researcher to gather more information to assist in analysis and arriving at accurate results. All 8 listed manufacturing firms were used. Census avoids cases of biasness and sampling error. It applies when the population is small in number.

3.5 Data Collection Instruments

Data collection is a means by which information is obtained from selected subjects (Creswell, 2003). This study will employ secondary data. Document analysis was used as a secondary data collection tool. Secondary data was obtained from NSE publications and published financial statements of firms over a 5-year period, 2018 to 2022.

3.6 Data Analysis

Quantitative data was collected and analyzed using STATA version 15.0. The study used inferential statistics based on nature of secondary data. Inferential statistics involved Pearson correlation and multiple regression was used to test the relationship between independent and dependent variables. Hierarchical regression necessitated moderator computation. The information was displayed by use of tables.

The regression model of the study applied is as shown below.

Econometric equation

$$Y_{i,t} = \beta_0 + \beta_1 + \beta_2 + \beta_3 + \varepsilon$$

With firm size as a moderator

$$Y_{i,t} = \beta_0 + \beta_1 ()M + \beta_2 ()M + \beta_3 ()M + \varepsilon$$

Where: $Y_{i,t}$ = dependent variable (Firm Value)

β_0 is the regression constant,

β_1 , β_2 and β_3 are the coefficients of independent variables

X_{1it} = Inventory management practices

X_{2it} = Accounts receivable management practices

X_{3it} = Accounts payable management practices

M = Cash conversion cycle e is error term

3.6.1 Diagnostic Tests

Before conducting linear regression analysis, diagnostic tests; normality, Heteroscedasticity and multicollinearity were carried out. Normality means that the distribution of the test is normally distributed (Garson, 2012). This was achieved using Jarque Bera test. Multi-collinearity refers to high relationship among the independent variables (Bryman & Cramer, 2014). To check for multicollinearity, variance inflation Factor (VIF) was used. A VIF of less than 10 is acceptable. Heteroscedasticity results were obtained using Wald test Statistic.

Table: 3.1: Operationalization of Study Variables

Variable	Name of Variable	Operationalization	Measurement
Dependent variables	Firm Value	Tobin Q	$(\text{Equity} + \text{Debt}) / \text{Asset Value}$
Independent Variables	Inventory management practices	Inventory turnover ratio	$\text{Opening inventory} / \text{closing inventory}$
	Accounts receivable management practices	Receivable turnover ratio	$\text{Credit sales} / \text{Average accounts receivable}$
	Accounts payable management practices	Payable turnover ratio	$\text{Credit Average payable} / \text{Purchases} / \text{accounts}$
Moderating variable	Cash conversion cycle	Cash conversion cycle	$(\text{Days of sales outstanding} + \text{Days of sales in Inventory} - \text{Days of payables outstanding})$

Source: Author (2022)

3.7 Ethical Considerations

Ethical consideration is cited as one of the most essential parts of the research. The researcher analyzed data professionally and data was not manipulated to conform to predetermine opinion. The researcher obtained all the necessary permits from the university, NACOSTI and the NSE to ensure that the study did not contravene any ethical requirements. The researcher treated all information provided with utmost privacy and confidentiality and no information was given to third parties without permission from the source.

CHAPTER FOUR

RESEARCH RESULTS AND DISCUSSIONS

4.1 Introduction

This chapter provides findings for the study and their discussions. The general objective of this study was to determine the effects of liquidity management practices on value of manufacturing firms listed at Nairobi Security Exchange in Kenya.

This study provided results on the effect of inventory management practices on value of listed manufacturing firms at Nairobi Security Exchange in Kenya, the effect of accounts receivable management practice on value of listed manufacturing firms at Nairobi Security Exchange in Kenya, the effect of accounts payable practices on value of listed manufacturing firms at Nairobi Security Exchange in Kenya and the moderating effect of conversion cycle on the relationship between liquidity management practices and value of manufacturing firms listed at Nairobi Security Exchange in Kenya.

4.2 Normality Test

Normality test was established through Jaque bera test. This was provided in Table 4.1

Table 4.1: Normality Test

Variable	Jarque chi2(2)	Bera Prob>chi2
Inventory turnover	1.555	0.0459
Receivable turnover	.0768	0.023
Payable turnover	1.29	0.025
Cash conversion cycle	1.619	0.0451
Tobin Q	2.817	0.0246

Source: Field data (2023)

For Jarque-Bera test the probability values were less than 0.05 hence data was normal.

4.4 Panel Unit Root Test

To ascertain stationery state, unit root tests were conducted to tell if spurious effect existed. Im Peseran Shin, Phillips-Perron and ADF were conducted due to their strength in testing spurious effect. The results are as shown in Table 4.2.

Table 4.2: Unit Root Test

Variable	Im Peseran Shin	Phillips Perron	ADF
Inventory turnover	16.7076	18.9121	18.9121
P Value	0.0128	0.0330	0.0301
Receivable turnover	14.7518	15.0170	15.0170
P Value	0.0000	0.0022	0.0020
Payable turnover	11.0380	8.6858	12.2930
P Value	0.0000	0.0021	0.000
Cash conversion cycle	14.0343	23.001	24.2141

		0.0000	
P Value	0.0340		0.0000
Tobin Q	10.4872	11.360	11.3600
P Value	0.0001	0.0000	0.0000

Source: Field data (2023)

The study employed a number of unit root for strength purposes. From the table 4.2 all the P values were less than 0.05 showing there was no unit root. Therefore data was good for analysis.

4.5 Correlation Analysis

Table 4.3 shows the relationship among independent, dependent and moderating variables. Pearson correlation was therefore conducted.

Table 4.3: Correlation Analysis

VARIABLES	Tobin Q	Payable	Inventory	Receivable	Conversion
Tobin Q	1.0000				
Payable	0.5835*	1.0000			
	0.0087				
Inventory	0.5353*	0.6125**	1.0000		
	0.0289	0.0082			
Receivable	0.5771*	0.6364*	0.7495*	1.0000	
	0.0743	0.0420	0.0014		
Conversion	0.5609*	0.6071*	0.7946*	0.6864*	1.0000
	0.0090	0.0198	0.0650	0.0059	

Source: Field data (2023)

The study reported non high correlation whereby correlation values were less than 0.09. All variables were significant with p of less than 0.05 since Payable management practice had a p value of 0.0090, Inventory management practice at 0.0198, Receivable management practice at 0.0650 and Conversion cycle at 0.0059. The variables noted positive and significant relationship on value of manufacturing firms listed at NSE. This study agrees with that of Kung'u (2017) who conducted a study on the effect of liquidity management practices on Value of the firm of Manufacturing Industry in Kenya whereby liquidity management practices were positive significant. It however disagrees with Gakure, Cheluget, Onyango and Keraro (2012) who found insignificant relationship between liquidity management practices and performance of 15 manufacturing firms listed at the Nairobi NSE from 2006 to 2017 and for a total of 75 firm's year observations. The study by Gakure et al (2012) was conducted some years back and dynamics of liquidity has kept changing.

4.5.1 Multi-Collinearity

Table 4: Multi-Collinearity

Variable	VIF
Payable	1.2392
Inventory	1.3093

Receivable	1.0892
Conversion	1.3210

Source: Field data (2023)

Variance inflation factors and tolerance values were used to explain Multi-Collinearity. The variance inflation factors VIF from the coefficient table are below 10 indicating no multi-collineality problem.

4.5.2 Heteroscedasticity Test

Heteroscedasticity happens when the error term of variance, which is ideally taken to be common, fluctuates. This implies that the ordinary least square model will be infective since it will underestimate the variance of standard errors thus resulting in misleading results. Heteroscedasticity was tested using the Walid test in this research. Here, the null hypothesis was; H_0 = Homoscedasticity, and Heteroscedasticity otherwise. The findings are demonstrated in table 5.

Table 4.5: Test for Heteroscedasticity Results

Walid Test	Walid test Statistic
Chi2	6.10
P-value	0.03241

Table 5 Heteroscedasticity test results indicate that the Walid test result was significant, Chi-square = 8.14, p-values 0.03241<0.05.

4.6 Regression Results

Linear regression analysis were conducted to relationship between study variables. The study adopted a fixed effects model from Hausman test conducted.

4.6.1 Hausman Test

Table 4.6: Hausman Test

	ROA
Chi-sq statistic	3.66
Prob	0.3007

Source: Field data (2023)

Results in the table 6 indicated a prob>chi2 value of 0.3007 which was more than 0.05 level of significance which implied adoption of random effect model an indication of firms having non similar characteristics.

4.6.2 Effect of Inventory Management Practice and Value of Listed Manufacturing Firms

The findings on the effect of inventory management practice on value of listed manufacturing firms in Kenya is provided as shown in table 4.7

Table 4.7: Regression Random Effects of Tobin Q on Inventory Management Practice

. xtreg Tobin Q_L inventory turnover_L,re

Random-effects GLS regression	Number of obs	=	40
Group variable: Firm ID	Number of groups	=	8
R-sq:	Obs per group:		
within = 0.3006	min =	5	
between = 0.0390	avg =	5.0	
overall = 0.0120	max =	5	
	Wald chi2(1)	=	0.015
corr(u_i, X) = 0 (assumed)	Prob > chi2	=	0.0018

TobinQ_L	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
Inventory turnover_L	.055092	.143866	0.38	0.702	.3370641	.2268801
_cons	2.550446	.2590101	9.85	0.000	3.058096	2.042795

sigma_u	.35568078
sigma_e	.92508744
rho	.12878895 (fraction of variance due to u_i)

Source: Field data (2023)

The result obtained from random effect model indicated that inventory management practice accounted for 30.06% as Overall R square was 0.3006 of the variation on value. The corresponding p-value is=0.0018 which was less than 0.05. The value for inventory management practice was 0.055092 this shows that a increase in one percent in

inventory management practice makes Tobin Q to increase by 0.055092. This relationship was further found to be statistically significant since the p-value was 0.000 which was lower than the adopted significance level of 0.05. The regression model is as shown below

$$\text{Tobin Q} = 0.1203394 + 0.055092 \text{ICP}$$

The study therefore rejected the null hypothesis that inventory management practice has no significant effect on value of manufacturing firms listed NSE. This implies that increase in inventory management practice would results to increase on Value of manufacturing firms listed NSE. This study agrees with that of Kung'u (2017) who conducted a study on the effect of liquidity management practices on Value of the firm of Manufacturing Industry in Kenya whereby inventory management was found to be positive significant. It however disagrees with Gakure, Cheluget, Onyango and Keraro (2012) who found insignificant relationship between inventory management practices and performance of 15 manufacturing firms listed at the Nairobi NSE from 2006 to 2017 and for a total of 75 firm's year observations. The study by Gakure et al (2012) was conducted some years back and dynamics of liquidity has kept changing.

4.6.3 Effect of Accounts Receivable Management Practice and Value of Listed Manufacturing Firms

The study sought to determine effect of accounts receivable management practices on Value of Listed Manufacturing Firms. The findings were presented in table 4.8 below.

Table 4.8: Regression Random Effects of Tobin Q on Accounts Receivable Management Practice

. xtreg Tobin Q Receivable turnover_L, re

Random-effects GLS regression	Number of obs	=	40
Group variable: FirmID	Number of groups	=	8
R-sq:	Obs per group:		
within = 0.2703	min =	5	
between = 0.1917	avg =	5.0	
overall = 0.3104	max =	5	
	Wald chi2(1)	=	0.010
corr(u_i, X) = 0 (assumed)	Prob > chi2	=	0.0317
Tobin Q	Coef.	Std. Err.	z P> z [95% Conf. Interval]
Receivable turnover	.0999371	.0998678	1.00 0.317 .2956745 .0958002
_cons	2.207542	.3314305	6.66 0.000 2.857134 1.557951
sigma_u	.31569823		
sigma_e	.92669326		
rho	.10398862	(fraction of variance due to u_i)	

Source: Field data (2023)

The result obtained from random effect model indicated that accounts receivable management practice overall R square was 0.2703 accounting for 27.03% of the variation in value of manufacturing firms listed NSE. The findings revealed a p-value =0.0317. The value for accounts receivable management practice was 0.0999371 indicating that an increase in one percent in accounts receivable management practice makes Tobin Q to increase by 0.0999371. This relationship was further found to be statistically significant since the p-value for accounts receivable management practice was 0.0317 which was lower than the adopted significance level of 0.05. The regression model is as shown below

$$\text{Tobin Q} = 2.207542 + 0.0999371 \text{ARMP}$$

The study rejected the null hypothesis that accounts receivable management practice has no significant effect on Value of manufacturing firms listed NSE. This implies that increase in accounts receivable management practice would results to increase on Value of manufacturing firms listed NSE. This finding agrees with Mathenge (2016) who carried out a study on the effect of receivables management on the Value of the firm of manufacturing firms listed in the Nairobi securities exchange which had a significant effect overall value of the firm. It also agrees with Muthoni, Kiprotich, Naibei and Kipyego (2018) found a strong positive significant relationship between accounts receivable management and financial performance of manufacturing firm. The study disagrees with Kyambi and Muturi (2018) who found accounts receivable to be insignificant on value of manufacturing companies in Nairobi County, Kenya. The study by Kyambi and Muturi (2018) did not focus on listed firms but those in Nairobi County hence possibility of different results.

4.6.4 Effect of Accounts payable management practices and Value of Listed Manufacturing Firms

The study sought to determine effect of accounts payable management practices on Value of Listed Manufacturing Firms. The findings were presented in table 4.9 below.

Table 4.9: Regression of Random Effects of Tobin Q on Accounts payable management practices

. xtreg TobinQ_L payableturnoverratio_L,re

Random-effects GLS regression	Number of obs	=	40
Group variable: FirmID	Number of groups	=	8
R-sq:	Obs per group:		
within = 0.5808	min =	5	
between = 0.0582	avg =	5.0	
overall = 0.0700	max =	5	
	Wald chi2(1)	=	0.049
corr(u_i, X) = 0 (assumed)	Prob > chi2	=	0.0441
TobinQ_L	Coef.	Std. Err.	z P> z [95% Conf. Interval]
Payable turnover ratio	.217669	.2624408	0.83 0.407 -.2967055 .7320436
_cons	4.357588	2.267297	1.92 0.055 -8.801409 .0862332
sigma_u	.3674013		
sigma_e	.89836653		
rho	.1432878	(fraction of variance due to u_i)	

Source: Field data (2023)

The random model results showed accounts payable management practices was 58.08% (Overall R sq=0.5808) of the variation on value of listed manufacturing firms at NSE. The findings revealed a p-value =0.0441. The values for accounts payable management practices was 0.217669 an increase in one percent in accounts payable management practice makes Tobin Q to increase by 0.217669. This relationship was further found to be statistically significant since the p-value for accounts payable management practices was 0.0441 which was lower than the adopted significance level of 0.05. Regression equation is shown below.

$$\text{Tobin Q} = 4.357588 + 0.217669\text{APMP}$$

The study rejected the null hypothesis that accounts payable management practice has no significant effect on Value of manufacturing firms listed NSE. This implies that increase in accounts payable management practice would results to increase on Value of manufacturing firms listed NSE. This finding agrees with Achode and Rotich (2016) who conducted a study on the effects of accounts Payable as Source of Financing on Performance of Listed Manufacturing Firms at the Nairobi Securities Exchange. It further agrees with Chibole, Maniagi, and Nelima (2022) carried out a study on the influence of liquidity distress factor on performance of commercial banks in Kenya. It disagrees with Almazari (2013) who found insignificant effect of payable liquidity management practice and the firms' Value of the firm for the Saudi Cement manufacturing companies.

4.6.5 Moderating effect of Cash Conversion Cycle on Liquidity Management Practices and Value of Listed Manufacturing Firms

The study sought to obtain the moderating effect of Cash Conversion Cycle on Liquidity Management Practices and Value of Listed Manufacturing Firms. Hierarchical regression analysis was therefore performed. Three models were generated. Table 4.10 illustrates model 1.

Table 4.10: Model 1-Independent and Dependent Variables

Variables in Model:1

Adding : payable turnover ratio, inventory turnover, Receivable turnover

Source	SS	df	MS	Number of obs	=	40
				F(3, 36)	=	0.42
Model	1.23526707	3	.41175569	Prob > F	=	0.0380
Residual	35.0971004	36	.974919456	R-squared	=	0.340
				Adj R-squared	=	0.465
Total	36.3323675	39	.931599166	Root MSE	=	.98738

	TobinQ	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
Payable turnover ratio	.0418241	.261975	0.16	0.874	-.4894857	.573134
Inventory turnover	.0237953	.1379924	-0.17	0.864	-.3036568	.2560662
Receivable turnover	.0904036	.0900684	-1.00	0.322	-.2730707	.0922635
_cons	2.622564	2.274707	-1.15	0.257	-7.235883	1.990756

Source: Field data (2023)

The first Model shows relationship between Tobin Q and liquidity management practices. The model of independent and dependent variable produced an R square of

0.340 implying that 34% of the variation on value of manufacturing firms is significantly affected by liquidity management practices. This contribution is significant as shown by $P=0.038$ implying that liquidity management practices is a significant predictor of value of manufacturing firms. This study agrees with that of Kung'u (2017) who conducted a study on the effect of liquidity management practices on Value of the firm of Manufacturing Industry in Kenya whereby inventory management was found to be positive significant. It however disagrees with Gakure, Cheluget, Onyango and Keraro (2012) who found insignificant relationship between inventory management practices and performance of 15 manufacturing firms listed at the Nairobi NSE from 2006 to 2017 and for a total of 75 firm's year observations. The study by Gakure et al (2012) was conducted some years back and dynamics of liquidity has kept changing.

The regression equation is as follows:

$$\text{Tobin Q} = 2.622564 + 0.0418241\text{PMP} + 0.0237953\text{IMP} + 0.0904036\text{RMP}$$

Table 4.11: Model 2-Independent, Moderating and Dependent Variables

Model 2:

Variables in Model: payable turnover ratio, inventory turnover, Receivable turnover

Adding : Conversion Days

Source	SS	df	MS	Number of obs	=	40	
				F(4, 35)	=	0.35	
Model	1.38281923	4	.345704807	Prob > F	=	0.045	
Residual	34.9495482	35	.998558521	R-squared	=	0.3801	
				Adj R-squared	=	0.4701	
Total	36.3323675	39	.931599166	Root MSE	=	.99928	
	Tobin Q	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
Payable turnover ratio		.0289891	.2672262	0.11	0.914	-.5135091	.5714872
Inventory turnover		-.0119051	.1430398	-0.08	0.934	-.3022913	.278481
Receivable turnover		-.0942063	.091689	-1.03	0.311	-.2803449	.0919323
Conversion Days		.3590865	.9341423	-0.38	0.703	-2.255496	1.537323
_cons		1.516239	3.685493	-0.41	0.683	-8.998187	5.965709

Source: Field data (2023)

Model 2 combines Tobin Q, Liquidity management practices and Conversion cycle. The model of independent, moderating and dependent variable produced an R square of 0.3801 implying that 38.0% of the variation in value of manufacturing firms is significantly affected by liquidity management practices. The introduction of additive conversion cycle moved R squared from 0.340 to 0.380 and increase of 0.04 hence conversion cycle had a significant effect. The regression model is as shown below;

Tobin Q=1.516239 -0.0119051IMP-0.0942063PMP-0.0942063RMP+0.3590865CC

Table 4.12 : Model 3-Independent, Moderating, Interaction and Dependent Variables

Model 3: Variables in Model: payable turnover ratio, inventory turnover, Receivable turnover, Conversion Days

Adding : Payable Vs Conversion, Inventory Vs Conversion, Receivable Vs Conversion

Source	SS	df	MS	Number of obs =	40
				F(7, 32) =	0.41
Model	3.01860624	7	.431229463	Prob > F =	0.016
Residual	33.3137612	32	1.04105504	R-squared =	0.830
				Adj R-squared =	0.851
Total	36.3323675	39	.931599166	Root MSE =	1.0203
TobinQ_L	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
Payable turnover ratio	2.049973	3.886623	0.53	0.602	-5.866819 9.966765
Inventory turnover	2.289565	1.919522	1.19	0.242	-1.620374 6.199505
Receivable turnover	-.3300217	1.566408	-0.21	0.834	-3.52069 2.860646
Conversion Days	4.770894	12.75982	0.37	0.711	-21.22 30.76179
Payable Con	-.7512165	1.43929	-0.52	0.605	-3.682954 2.180521
Inventory Con	-.8577289	.7107533	-1.21	0.236	-2.305486 .5900281
Receivable Con	.0917079	.5808501	0.16	0.876	-1.091445 1.274861
_cons	15.3136	34.52995	-0.44	0.660	-85.64881 55.0216

Model	R2	F(df)	p	R2 change	F(df) change
1:	0.340	0.422(3,36)	0.038		
2:	0.380	0.346(4,35)	0.045	0.04	0.148(1,35)

3: 0.830	0.414(7,32)	0.016	0.45	0.524(3,32)
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Source: Field data (2023)

Model three provides Tobin Q, liquidity management practices, conversion cycle and the association between liquidity management practices and conversion cycle.

This model produced an R square of 0.830 implying that 83.0% of the variation in value of manufacturing firms listed NSE is significantly affected by liquidity management practices. The incorporation of (IV*MV) thus interaction terms moved R squared from 0.380 to 0.830. The change was of $P=0.45$ hence significant. The study therefore rejects the null hypothesis that conversion cycle has no moderating effect on the relationship between liquidity management practices and value of manufacturing firms listed NSE. The study established that conversion cycle has a significant relationship with liquidity management practices and value of manufacturing firms listed NSE. This finding agrees with Agyemang and Kwame (2013) cash conversation cycle to have a significant influence on the Value of manufacturing companies. It disagrees with Gakure, Chelugut, Onyango, and Keraro (2012) who analyzed the relationship between liquidity management practice and performance in Kenya finding cash conversation cycle to be insignificant.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents summary of findings, conclusions, recommendations and suggestions further research.

5.2 Summary of the Findings

The general objective of this study was to determine the effects of liquidity management practices on value of manufacturing firms listed at Nairobi Security Exchange in Kenya. This study provided results on the effect of inventory management practices on value of listed manufacturing firms at Nairobi Security Exchange in Kenya, the effect of accounts receivable management practice on value of listed manufacturing firms at Nairobi Security Exchange in Kenya, the effect of accounts payable practices on value of listed manufacturing firms at Nairobi Security Exchange in Kenya and the moderating effect of conversion cycle on the relationship between liquidity management practices and value of manufacturing firms listed at Nairobi Security Exchange in Kenya.

5.2.1 Effect of Inventory Management Practice on Value of Manufacturing Firms Listed Nairobi Security Exchange

The first objective was to establish the effect of inventory management practices on value of listed manufacturing firms at Nairobi Security Exchange in Kenya. Panel data Pearson Correlation results shows there is a positive significant relationship between

Tobin Q and inventory management practices. The corresponding p-value is=0.0018 which was less than 0.05. The value for inventory management practice was 0.055092 this shows that a increase in one percent in inventory management practice makes Tobin Q to increase by 0.055092. This relationship was further found to be statistically significant since the p-value was 0.000 which was lower than the adopted significance level of 0.05. Therefore the first null hypothesis **H₀₁**: Inventory management practices has no significant effect on value of listed manufacturing firms at Nairobi Security Exchange in Kenya was rejected.

5.2.2 Effect of Accounts Receivable Management Practice on Value of Manufacturing Firms Listed Nairobi Security Exchange

The second objective was to establish the effect of accounts receivable management practice on value of listed manufacturing firms at Nairobi Security Exchange in Kenya. Panel data Pearson Correlation results shows there is a positive significant relationship between Tobin Q and accounts receivable management practice. The findings revealed a p-value =0.0317. The value for accounts receivable management practice was 0.0999371 indicating that an increase in one percent in accounts receivable management practice makes Tobin Q to increase by 0.0999371. This relationship was further found to be statistically significant since the p-value for accounts receivable management practice was 0.0317 which was lower than the adopted significance level of 0.05. Therefore the first null hypothesis **H₀₂**: Accounts Receivable Management Practice has no significant effect on value of listed manufacturing firms at Nairobi Security Exchange in Kenya was rejected.

5.2.3 Effect of Accounts Payable Practice on Value of Manufacturing Firms Listed Nairobi Security Exchange

The third objective was to establish the effect of accounts payable management practice on value of listed manufacturing firms at Nairobi Security Exchange in Kenya. Panel data Pearson Correlation results shows there is a positive significant relationship between Tobin Q and accounts payable management practice. The findings revealed a p-value = 0.0441. The values for accounts payable management practices was 0.217669 an increase in one percent in accounts payable management practice makes Tobin Q to increase by 0.217669. This relationship was further found to be statistically significant since the p-value for accounts payable management practices was 0.0441 which was lower than the adopted significance level of 0.05. Therefore the null hypothesis H_{03} : Accounts Payable Management Practice has no significant effect on value of listed manufacturing firms at Nairobi Security Exchange in Kenya was rejected.

5.2.4 Moderating Effect of Cash Conversion Cycle on the relationship between Liquidity Management Practices and Value of Manufacturing Firms Listed Nairobi Security Exchange

The fifth objective was to establish the moderating effect of Cash Conversion Cycle on the relationship between Liquidity Management Practices and Value of Manufacturing firms. The panel data results association was significant as the p-value was 0.016 was less than the significance level (0.05) hence significant. Furthermore on availing additive Cash Conversion Cycle R^2 value rose by 0.45 indicating significance. Therefore the null hypothesis H_{04} : Cash Conversion Cycle has no significant effect on the relationship

between liquidity management practices and Value of Manufacturing Firms Listed Nairobi Security Exchange was rejected.

5.3 Conclusion

The study concluded that inventory management practice has an effect on value of listed manufacturing firms at Nairobi Security Exchange in Kenya. Inventory management practice has a significant effect on value of listed manufacturing firms at Nairobi Security Exchange in Kenya

Regarding effect of accounts receivable management practice on value of listed manufacturing firms at Nairobi Security Exchange in Kenya. accounts receivable management practice has a significant effect on value of listed manufacturing firms at Nairobi Security Exchange in Kenya

In relation to effect of accounts payable management practice on value of listed manufacturing firms at Nairobi Security Exchange in Kenya. Accounts payable management practice has a significant effect on value of listed manufacturing firms at Nairobi Security Exchange in Kenya

The fourth objective was to establish the moderating effect of Cash Conversion Cycle on the relationship between liquidity management practices and Value of Manufacturing firms. Cash Conversion Cycle had a moderating effect on liquidity management practices and Value of Manufacturing firms.

5.4 Recommendation

The study recommends that since inventory management practice has a significant effect on value of manufacturing firms it is important for manufacturing firms to monitor the opening and closing inventories for efficiency purposes.

The study recommends that credit sales and cash sales should be checked to ensure that accounts receivable management practice is effective

The study recommend monitoring of credit purchases along cash purchases this will lead to an effective payables management practice for manufacturing firms.

The study recommends consistency and accuracy on days used to convert stock to cash. This will help in managing cash conversion cycle process.

5.5 Suggestion for Further Studies

There are a number of firms listed at Nairobi securities exchange the current study was on manufacturing firms listed, a similar study on agricultural firms listed and commercial banks listed is recommended for further studies.

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Appendix 1: List of Manufacturing firms Listed NSE

1. B.O.C Kenya Ltd
2. British American Tobacco Kenya Ltd
3. Carbacid Investments Ltd
4. East African Breweries Ltd
5. Unga Group Ltd
6. Eveready East Africa Ltd
7. Kenya Orchards Ltd
8. Flame Tree Group Holdings Ltd

Source (NSE, 2022)

Appendix 1I: Secondary Data Template

Description	Year				
	2017	2018	2019	2020	2021
Inventory turnover= Opening inventory					
Closing inventory					
Receivable turnover R= Credit sales					
Average accounts receivable					
Accounts Payable days					
Payable turnover ratio= credit purchases					
Average accounts payable					
Conversion cycle days					
Tobin Q= Equity					
Debt					
Total Asset					

Appendix 1II: NACOSTI License

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Appendix 1: Raw Data

		Conversio Days				
	Manufacturin g firms	2017	2018	2020	2020	2021
1	B.O.C Kenya British A	14	15	13	14	19
2	Tobacco K Carbacid	13	20	17	15	19
3	Investments	16	19	10	16	18

	East African				
4	Breweries	18	16	13	17
5	Unga Group	12	18	15	15
	Eveready East				
6	Africa	11	21	16	15
	Kenya				
7	Orchards	10	14	15	14
	Flame T G				
8	Holdings	15	10	14	15
		objective	payable turnover ratio= credit purchahses/average		
		3	accounts payable		

		credit purchases			
		(KSH 000)	(KSH 000)	(KSH 000)	(KSH 000)
Manufacturin g firms		2017	2018	2019	2020
		1,161,42	1,188,12		
1	B.O.C Kenya	8	7	1,171,859	1208999
	British A	1,151,23	1,155,03		
2	Tobacco K	2	2	1,160,012	1171221
	Carbacid	2,401,12	2,405,55		2,471,61
3	Investments	7	6	2,545,625	8
	East African	1,287,29	1,395,09		1,146,71
4	Breweries	2	9	1,131,225	9
		2,464,73	2,405,55		2,601,24
5	Unga Group	1	6	2,559,221	3
	Eveready East	1,370,43	1,468,12		1,295,23
6	Africa	3	9	1,591,240	0
	Kenya	1,191,21	1,216,09		1,299,86
7	Orchards	9	0	1,282,457	7
	Flame T G	2,199,20	2,209,70		2,305,61
8	Holdings	0	8	2,299,408	2
					2,430,288

		Average accounts payable			
		(KSH 000)	(KSH 000)	(KSH 000)	(KSH 000)
Manufacturin g firms		2017	2018	2019	2020
1	B.O.C Kenya	520	861	501	513
	British A				
2	Tobacco K	290	392	413	405
	Carbacid				
3	Investments	521	571	114	116
	East African				
4		344	512	427	512
					513

	Breweries					
5	Unga Group	241	243	206	226	237
	Eveready East					
6	Africa	210	240	321	315	326
	Kenya					
7	Orchards	221	231	213	203	214
	Flame T G					
8	Holdings	193	221	208	218	306

Objective ONE
inventory turnover= opening inventory/closing inventory
opening inventory
(KSH 000) (KSH 000) (KSH 000) (KSH 000) (KSH 000)

	Manufacturing firms	2017	2018	2019	2020	2021
1	B.O.C Kenya	212,362	209,535	264,633	279,302	389,511
	British A					
2	Tobacco K	207,104	205,226	298,128	305,112	345,120
	Carbacid					
3	Investments	103,325	105,433	110,467	113,211	167,345
	East African					
4	Breweries	162,303	170,567	189,675	196,211	209,123
5	Unga Group	113,399	41,026	76,713	66,624	179,205
	Eveready East					
6	Africa	3,835	31,158	41,592	49,209	58,206
	Kenya					
7	Orchards	100,353	107,142	117,505	127,211	131,324
	Flame T G					
8	Holdings	32,000	33,000	46,161	51,289	55,308

Tobin Q: Dependent variable= Equity+debt/Total assets

Equity +Debt
(KSH 000) (KSH 000) (KSH 000) (KSH 000) (KSH 000)

	Manufacturing firms	2017	2018	2019	2020	2021
1	B.O.C Kenya	350,968	374,357	318,232	168,178	228,027
	British A					
2	Tobacco K	320,957	333,200	304,200	21,426	40,462
	Carbacid					
3	Investments	8,926	401,729	740,843	755,210	891,998
	East African					
4	Breweries	511,673	546,914	711,252	975,863	1,093,798
5	Unga Group	245,915	320,957	333,200	416,500	478,158
6	Eveready East	290,359	245,915	416,500	359,601	392,187

	Africa					
	Kenya					
7	Orchards	216,090	191,219	282,457	328,865	457,947
	Flame T G					
8	Holdings	36,329	59,226	329,135	431,549	438,457

		(KSH 000)	Total Assets (KSH 000)	(KSH 000)	(KSH 000)	(KSH 000)
	Manufacturin g firms	2017	2018	2019	2020	2021
		2,320,95	2,300,32		4,900,10	5,206,311.0
1	B.O.C Kenya	6	0	3,799,301	2	0
	British A	2,058,47	2,108,00		4,400,20	
2	Tobacco K	6	2	3,809,102	0	4,112,512
	Carbacid	1,848,54	1,992,63		4,502,20	
3	Investments	3	9	2,089,258	1	4,511,789
	East African	1,981,11	2,100,11		5,431,20	
4	Breweries	1	1	3,599,791	7	5,291,379
		2,402,10	3,408,20	3,123,111.0	5,601,57	
5	Unga Group	7	9	0	2	6,113,957
	Eveready East	2,103,29	3,199,20		4,502,10	
6	Africa	9	1	4,102,224	1	5,100,321
	Kenya	1,902,20	2,677,31		4,809,20	
7	Orchards	4	1	4,701,551	1	4,965,304
	Flame T G	1,799,23	2,092,07		4,709,20	
8	Holdings	1	7	4,501,111	1	4,800,661
	objective TWO:		Receivable turnover= credit sales/Average accounts receivable			
		(KSH 000)	(KSH 000)	(KSH 000)	(KSH 000)	(KSH 000)

	Manufacturin g firms	2017	2018	2019	2020	2021
		1,161,42	1,188,12			
1	B.O.C Kenya	8	7	1,171,859	1208999	1,606,850
	British A	1,151,23	1,155,03			
2	Tobacco K	2	2	1,160,012	1171221	1,553,132
	Carbacid	2,401,12	2,405,55		2,471,61	
3	Investments	7	6	2,545,625	8	2,548,159
	East African	1,287,29	1,395,09		1,146,71	
4	Breweries	2	9	1,131,225	9	2,484,394
		2,464,73	2,405,55		2,601,24	
5	Unga Group	1	6	2,559,221	3	2,600,201

	Eveready East	1,370,43	1,468,12		1,295,23	
6	Africa	3	9	1,591,240	0	1,100,117
	Kenya	1,191,21	1,216,09		1,299,86	
7	Orchards	9	0	1,282,457	7	1,301,129
	Flame T G	2,199,20	2,209,70		2,305,61	
8	Holdings	0	8	2,299,408	2	2,430,288

		Average accounts receivable				
		(KSH 000)	(KSH 000)	(KSH 000)	(KSH 000)	(KSH 000)
Manufacturing firms		2017	2018	2019	2020	2021
1	B.O.C Kenya	2,447	2371	1199	1091	1209
	British A					
2	Tobacco K	82,955	99,109	109,817	124,123	182,951
	Carbacid					
3	Investments	198,231	209,708	229,941	309,613	431,299
	East African					
4	Breweries	191,217	216,087	282,444	299,809	301,128
5	Unga Group	370,431	468,114	571,241	295,231	100,119
	Eveready East					
6	Africa	463,111	405,559	600,215	601,241	600200
	Kenya					
7	Orchards	287,309	395,899	131,208	146,511	483,213
	Flame T G					
8	Holdings	18,826	21,529	27,652	28,736	35,874

		Closing inventory				
		(KSH 000)	(KSH 000)	(KSH 000)	(KSH 000)	(KSH 000)
Manufacturing firms		2017	2018	2019	2020	2021
	B.O.C Kenya	463,111	405,559	600,215	601,241	600200
	British A					
	Tobacco K	229,941	182,951	109,817	99,109	182,951
	Carbacid					
	Investments	282,444	431,299	229,941	209,708	431,299
	East African	571,241	301,128	282,444	216,087	301,128

Breweries					
Unga Group	600,215	100,119	571,241	468,114	100,119
Eveready East					
Africa	131,208	600,200	600,215	405,559	229,941
Kenya					
Orchards	287,309	483,213	131,208	395,899	282,444
Flame T G	1,191,21	1,216,09		1,299,86	
Holdings	9	0	1,282,457	7	1,301,129