EFFECT OF WORKING CAPITAL MANAGEMENT ON FINANCIAL PERFORMANCE OF MANUFACTURING FIRMS LISTED AT THE NAIROBI SECURITIES EXCHANGE

Wesley Okoth Otieno, PhD[1] and Gandhi Sokoine Lenaituriai[2]
[1]Islamic University of Kenya, Kenya
[2]The East African University
Email : okothwes@gmail.com

ABSTRACT

This research aimed to help manufacturing companies listed on the National Stock Exchange (NSE) better understand how working capital management affects their bottom lines. The accounts payable and receivable and cash conversion cycle were the independent variables in this study. The return on investment is the dependent variable. The specific objectives are to learn how the financial performance of manufacturing companies listed on the NSE is impacted by the following: accounts receivable, accounts payable and cash conversion cycles. The study used the following theories: transaction cost theory, operational cycle theory, and cash conversion cycle theory. The survey included nine manufacturing firms listed on the NSE. The examination was conducted using a descriptive research approach. This study utilized audited financial statements as secondary data. These statements may be found on the websites of the individual companies, in the Capital Market Authority library, and the NSE library. The study used SPSS to do a linear regression analysis on the collected data. The data was presented via graphs and tables. The study findings included: A positive correlation of 0.0259 was established between Accounts Receivable and Return on Assets, An inverse correlation of -3.369was established between Return on Assets and Accounts Payable and a positive association of -6.988Ewas established between CCC days and ROA, nevertheless. A unit increase in CCC days increases ROA by -0.520.The study made the following recommendations: manufacturing firms listed in the NSE should maintain a high standard of efficient effectiveness in accounts receivable management, Management should proceed with caution when reducing the debtors' days, even though doing so would boost profitability by shortening the accounts receivable collection period and businesses analyze their cash conversion cycle, which is influenced by factors such as inventory turnover, payables days, and debtor days. CCC may not have a major impact on financial performance, as shown by the study, but management still shouldn't neglect it because profits aren't the only goal of the firm. The study recommended that additional research is required to replicate this study over a longer time frame, say, ten to twenty years.

Keywords: Cash Conversion Cycle (CCC), Financial Performance, Working Capital Management, Security Exchange, Nairobi Securities Exchange, Return on Assets (ROA)

INTRODUCTION

Working capital control decision-making are generally important to industrial businesses. The majority of manufacturing organizations have more capital than fixed assets (CA), which often makes up more than half of their overall assets. Manufacturing is essentially the process of using labour, machinery, equipment, and chemicals, among other resources, to produce items or completed commodities for consumer use or commercial reasons. The nine manufacturing companies listed on the NSE were the subject of this study. Since WC matters are more important to these businesses than Small and Medium Sized Enterprises, they must manage higher levels of stock and accounts receivable.

Every manufacturing company has a unique production cycle, which establishes the quantity of WC needed by the company to generate the finished good. In this sense, a company that manufactures cars would need more workers than a company that makes detergents because of the variations in the time required to produce the finished good. Manufacturing operations would cease without sufficient WC because they include a series of steps that, if taken out of order, would stop the entire process. Because WC status affects an organization's ability to succeed, financial managers must therefore exercise extreme caution in this regard.

Current assets make up over half of the total assets of manufacturing companies. Key to Kenya's economic growth is the country's domestic manufacturing industry. It has been shown to improve employment prospects, increase the influx of foreign trade, and significantly boost GDP. With a tenth GDP, 12.5% exports, and a thirteenth in formal employment, this sector may play a significant role in Kenya's economic development (KNBS, 2015). On the other hand, a company with limited current assets may experience shortages that would impact operations. Having too many current assets can easily lead to a subpar return on investment. Paying down current liabilities as they become due is the responsibility of the company.

A study by Shrivastava et al. (2017) examined the effect of working capital on performance in Indian corporate bodies between the years 2003 and 2012.They contend that a major factor in evaluating profitability is financial accuracy indicators. Moreover, they disclosed that big businesses appear to be more significant and profitable when using the Bayesian approach. According to Singhia and Mehta's (2017) research, businesses in nations like Singapore, Sri Lanka, India, and Indonesia tend to be more profitable when their working capital levels are lower. Moreover, it was discovered that businesses in nations such as Thailand, Taiwan, and Vietnam do not adopt an inverted U-shaped relationship between working capital and profitability. For example, their research's findings showed that, for Vietnam and Taiwan, working capital and profitability are positively correlated, but negatively correlated for Thailand. In its 2013 research of Chinese companies, KPMG discovered that a lot of liquidity in Chinese companies had opened up working capital. As a result, working capital and cash management are now flexible. About 40% of the total assets in manufacturing companies in Canada are current assets, and prudent management of these assets is essential to the companies' ability to meet their short-term maturing obligations and offer shareholders attractive returns. The easiest accounts to manage are those with working capital assets, which need regular monitoring and care (Lu, 2013). A high cost of liquidity could arise from maintaining more working capital, or a high cost of liquidity could arise from holding less working capital (Panda and Nanda, 2018).

Working capital management, according to Tanveer et al. (2016), is one of the contentious topics in corporate finance and is quite difficult because it deals with current assets and present liabilities. According to Nwidobie (2012), Nigerian businesses, like others worldwide, overuse working capital to ensure seamless operations. To make sure the criteria for these things are satisfied, they organize and control their cash, receivables, payables, and inventories. While completed goods are required to meet client demand as well as sales and profit targets of businesses, initial supplies are needed for production. To address the liquidity demands of Nigerian businesses, cash is required. Empirical data from studies on Nigerian businesses has demonstrated the impact of WCM on financial performance in terms of profit, sales, return on equity, and return on assets.

In their research on financial strategy, Olowado et.al., (2004) examined Nestle Nigeria PLC's working capital management from 2005 to 2009.Through the use of a regression model, the correlation amongst operating capital and revenue before taxes was investigated. It was found that working capital and profit before taxes have a negative connection. Owolabi, Sunday, and Nkechinyere (2012) conducted an ex-facto study on the effective operational management of five manufacturing enterprises in Nigeria, utilizing financial data spanning five years. It was found that a number of the companies had longer collection periods and shorter payment periods based on the ratio that was computed for the company's overtime.

Manufacturing businesses are essential to the economy, particularly in Kenya, where they have contributed to the country's 11% GDP growth (KNBS, 2018). A study by Gulia (2014) looked at the connection between pharmaceutical companies' financial performance and WCM. According to the study, changes in account receivables, and cash conversion cycle account for more than 46% of variations in financial performance. The majority of manufacturing companies invest large sums of money in working capital, hence how well working capital is managed has a significant impact on the company's profitability (Makori and Jagongo, 2013). A company that manages its working capital well will have enough cash flow to cover its short-term obligations and operating costs (Waithaka, 2012).

Working capital management demands making quick judgments on working capital as well as funding all facets of the business's current assets and liabilities (Nyabuti & Mokeira 2014). They also state that the primary goal is to determine whether the company can continue to generate enough cash flow to pay down its approaching operating expenses as well as its maturing short-term debt. As a result, it requires making several important decisions about the management of accounts payable and receivable.

According to Nyabuti and Ondiek (2016), financial performance is a measure of a company's overall financial health over a specific period of time and can be utilized to evaluate businesses in the same sector as well as contrast groupings of businesses based on their level of aggression.

Based on Ganag, Kalaiselvan, and Suriya (2015), financial performance metrics encompass the company's debt repayment capacity, profitability, liquidity, solvency, and financial efficiency. One measure of financial performance is the rate of return on investment. The management of a company's working capital affects its performance. The basic objective of working capital management is to manage a company's current financial resources with the purpose of achieving a balance between the firm's profitability and the risk associated with that profitability.

Working capital and financial performance are inversely connected, according to a number of studies (Oladipupo and Okafor, 2013). The financial performance of a corporation is greatly influenced by its working capital management methods, since they affect its revenue streams as well as its short-term capital and financing needs. The efficient management of a company's working capital components has a direct effect on its financial performance. Because it is expected to reduce the need for outside finance, a working capital structure that ensures a low-day cash conversion cycle is desirable for profitability.

Statement of the Problem

Working capital is required to solve difficulties such as adverse financial circumstances and long-term poor decisions (Okungu, 2014). According to data collected by the Kenya National Bureau of Statistics, the manufacturing sector expanded by 3.6% in Q1 2016, compared to 4.1% in Q1 2015. In the third quarter of 2014, the sector grew by 1.9%, down from 3.3% during the prior period in 2015. According to KNBS data, the manufacturing sector decreased in 2017, resulting in a marginal GDP dip from 2.7% in 2016 to 0.2% in 2017. The industry was further congested by the 40% reduction in overall production that the bankruptcy of the Mumias and Muhoroni sugar millers caused in the sugar subsector. Nonetheless, in 2017 the industry experienced a 13.05% increase in credit, reaching 311.8 billion (KNBS, 2018).

The manufacturing sector has a number of obstacles that make it difficult for it to prosper, despite its overall expansion and importance. Lack of adequate resources is one of the main issues facing manufacturing firms, according to Kenya Association of Manufacturers (2014). It also stated that the manufacturing sector in Kenya continues to suffer due to inadequate resources, which appears to be the result of poor sector management, including low liquidity levels, businesses operating without credit control departments, and a rise in bankruptcy. Gulia (2014) contributed to the ongoing discussion by stating that poor working capital management, which occurs when managers make poor decisions regarding working capital, can be linked to the issue of inadequate resources within firms.

Kenya's manufacturing industry has historically made about 10% of the nation's GDP, making it a vital component of the economy (Kenya Association of Manufacturers, 2018). According to data from the KNBS Economic Outlook 2020, the industrial sector shrank in Growth decreased from 2.7% in 2016 to 0.2% in 2017, but increased to 4.2% in 2018, then declined again to 3.2% in 2019, and then declined to 0.4% in 2020. To overcome problems like poor credit circumstances and poor decisions on long-term obligations like loans, working capital is required (Okungu, 2014). This was predicated on the notion that having too little cash on hand meant the company's survival, while having too much money signified inefficiency. Working capital is required to overcome problems such as poor credit standing and poor decisions on long-term obligations like loans (Okungu, 2014).
The premise behind this was that having too little cash and too much capital meant inefficiency at hand suggested that the company's continued existence was in danger.
Most businesses did not have the appropriate ratio of debtors, stock, and cash on hand. This hindered firms' ability to grow since it made it difficult for them to fulfill their mature short-term obligations and upcoming operational expectations. Due to excessive operating costs and unsustainable financial performance—combined with intolerable competition from businesses in economies that were doing well—a number of companies were compelled to either drastically scale back their production capabilities or cease all operations altogether (Gitau and Gathiaga, 2017).

Abdikani, Mahad, and Mohamed (2018) investigated the relationship between Mogadishu manufacturing enterprises' financial performance and their dedication to inventory management. It was discovered that every company whose data was gathered for the study had demonstrated better financial results as a consequence of their WCM methods getting better. The results of Abdikani et al. (2018) were corroborated by Chintha and Prasad (2020), who underlined that while businesses managed their working capital in varied ways, an objective management technique eventually enhanced financial performance. In closer proximity, Mlambo (2018) examined the efficacy of debt management strategies in enhancing the operational efficiency of DHL International (Zimbabwe). The research revealed that prompt factoring of debts, punctual payment plans, follow-up, and rotational debt collection techniques enhanced debt collection in the organization.

The General Objective: To ascertain the effect of working capital management on the financial performance of listed manufacturing firms in NSE.

LITERATURE REVIEW

Cash Conversion Cycle Theory

Gitman (1974) developed this idea, which is important in managing WC and its consequences for liquidity. According to this concept, an organization's liquidity, profitability, and ultimately its value will rise with effective administration of working capital, which implies a shorter cash conversion cycle, provided all other parameters remain constant. The number of payables, receivables, and inventories has an impact on an entity's liquidity position. This cycle focuses on the length of time that funds are held in WC, or more specifically, the interval between making a payment and receiving cash from WC receipts.
Another way to describe it is as an instance when an excessively lengthy manufacturing process forces a firm to hold more cash on hand. Debtors or accounts receivable increase concurrently with the length of time it takes for clients to pay their payments. If an organization lags in paying for its materials, the required amount of cash is reduced because there is no cash outflow at that time. This simply indicates that accounts payable lower net working capital (WC).

Transaction Cost Theory

Williamson (1975) created the Transaction Costs hypothesis initially, and Ferrison (1981) elaborated on it by relating it to corporate transactions. It claims that managing payables helps reduce the cost of bill payment transactions. According to the notion, a company's ideal level of inventory should be determined by weighing the advantages and disadvantages of that particular inventory. Instead,

then paying commitments each time items are delivered, a company may choose to accumulate them and pay them on a monthly or quarterly basis. This makes it possible for a business to keep the delivery schedule and the payment cycle distinct (Williamson, 2013). In addition, the company might need to use credit to accumulate substantial inventory in order to keep the product cycle running smoothly. Nevertheless, this results in expenses for both financing and inventory storage. Thus, managers ought to devise a plan that will reduce expenses and boost revenue.

Argyres and Zenger (2012) observed that over time, the costs and capacities of transactions become entangled. This theory's shortcoming is its disregard for the context in which human behaviours are grounded, which under- and over socializes the idea of institutional control while overemphasizing the idea of individual motivation. Since opportunism presumes that everyone participating in an organization's transaction will be opportunistic, its underlying assumptions are equally contentious. Several academics contend that dishonest managers arise from the proactive assumption that partners will be opportunistic.

The disadvantage of this approach is that, while CCC represents the total number of days it takes to collect customer payments, it is limited by these factors: the average time for accounts receivable and the accounts payable period. This theory is pertinent to the study since it discusses managing liquidity, a crucial aspect of WCM, in the firm's success. The Cash Conversion Cycle Theory would theoretically support the third purpose, which is to ascertain how the cash conversion cycle affects the financial performance of manufacturing enterprises listed on the NSE.

Operating Cycle Theory

Operational cycle theory was created by John Weston and Richard Brigham (1979). The foundation of this idea is the business's operational cycle. In order to incorporate compensation measures related to the company's operational operations, it proposes increasing the company's potential to liquidate by increasing the stability of its ability to achieve liquidation value. Compared to using just the present and dissolvability indices, integrating accounts receivables and stock turnover into the company's life cycle yields additional information about liquidity (Weston & Brigham, 1979). The total number of created receivable records is used to determine how often a company's typical receivables Endeavor is turned into profit.

The stock turnover time for the current day is added to the total number of outstanding days to determine the operational cycle. Based on yearly sales, the company's average quantity of outstanding accounts receivable is affected by modifications to credit and collection practices. More credit sales will lead to an increase in receivables, which will lengthen the time it takes to recover receivables. Less liquidity in the turnover of receivables will arise from this. In the event of results from a firm that chooses to have a greater average receivable risk over an extended period of time, an inevitable option that indicates a higher proportion of basic and present analysis is established (Richards & Laughlin 1980).

EMPIRICAL REVIEW

Account receivable and it effect on financial performance of manufacturing firms listed in NSE

Okpe and Nwakego (2015) investigated how Nigerian paint, chemical, and building supply manufacturers' profitability was affected by their accounts receivable management practices. The data was analysed from the annual reports of the companies that provided the information. The secondary data that was used came from the Annual Report, Statement of Accounts, and Building Material/Chemical and Paint Companies in Nigeria. The hypotheses were tested using the multiple regression technique. The study's final results showed that accounts receivable had a significant and favourable effect on the profitability ratio at the 1% significance level.

Kilonzo, Memba, and Njeru (2016) looked at how Kenyan businesses receiving government venture capital funding fared financially in relation to their accounts receivable. The target population consisted of all Kenyan businesses that the government

has funded with venture capital. The study employed a census approach because of the modest number of enterprises. Both descriptive and inferential analyses were carried out. Regression analysis and analysis for variance (ANOVA) were used to evaluate the hypothesis. The results showed that when Kenyan businesses obtain government venture capital assistance, there is a positive association between their accounts receivable and their financial performance. Accounts receivable accounted for 25.7% of the difference in the financial performance of enterprises receiving government venture capital in Kenya; other factors accounted for 74.3% of the variation.

Kungu (2015) examined how 81 manufacturing companies quoted on the Nairobi Stock Exchange fared financially as a result of working capital management issues. Kungu (2015) cited the correlational research design's ability to generate predictions by analysing relationships as evidence in favour of his use of it. The results of his research showed a positive linear relationship between lending policy and profitability. He concluded that employing more efficient methods to manage accounts receivable could help organizations become more profitable.

Accounts Payable and Its Effect on Financial Performance of Manufacturing Firms Listed In NSE

Accounts payable refers to the supplier who has had compensation processed for goods or services but has not yet received payment. Accounts payable includes trade credit and accrued expenses, which when combined provide constant financing for an organization's activities (Naeem et al., 2014). Most businesses would rather sell for cash, but they are forced to issue credits because of competition pressure. Unlike credit from banking organizations, accounts payable are backed more by goodwill and confidence than by formal collateral.

Duru and Okpe (2015) carried out a study to ascertain the effect of accounts payable management on the corporate profitability of Nigerian beer manufacturing enterprises. Among the factors are accounts payable, debt ratio, and sales growth rate. The data used for the years 2000–2011 were from secondary sources. These results suggest that there was a negative, albeit not statistically significant, link between the profitability ratio and accounts payable of the Nigerian businesses that were categorized as brewery manufacturing companies. While there was a positive and significant correlation between the debt ratio and sales growth rate, the profit ratios of Nigerian brewing companies did not.

Kung'u (2015) set out to ascertain the impact of working capital management on the profitability of manufacturing firms in Kenya. A questionnaire was used to collect primary data for the independent variables, and a record survey sheet was used to collect secondary data for the dependent variable. The study's conclusions showed a strong linear relationship between accounts payable and the profitability of Kenyan manufacturing enterprises. The report recommended manufacturing organizations to regularly evaluate their credit rules and make early payments to their suppliers in order to preserve strong relationships with their suppliers.

A study by Moodley, Ward, and Muller (2017) sought to ascertain the connection between return on investors and financial success in respect to accounts payable. The study used a buy-and-hold portfolio technique covering the years 1986–2014 on a large Johannesburg Stock Exchange database. The study's conclusions show a strong positive correlation between changes in payable days return to investors and financial performance for businesses in sectors with high payables investments.

Cash Conversion Cycle period and its effect on financial performance of manufacturing firms listed in NSE

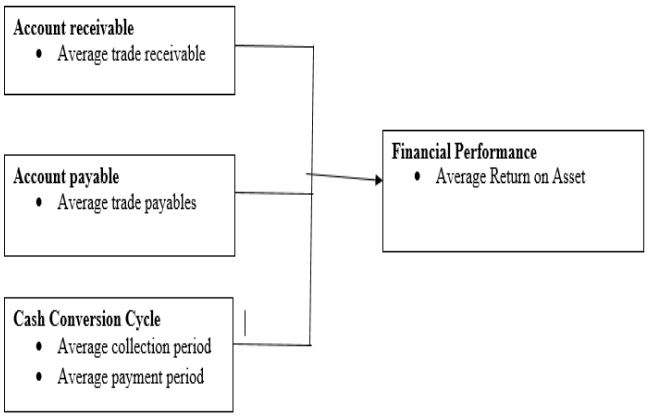
Rahman and Mohammed (2017) contend that managers should work to minimize the cash conversion cycle in order to maximize profits since as the cycle lengthens, profitability also tend to decline. In research to evaluate the impact of WCM on the performance of Jordanian Industrial Corporations listed on the Amman Stock Exchange.

Kaddumi and Ramadhan (2012) found a relationship between profitability and the cash and inven-

tory conversion cycles. This suggests that managing inventories appropriately and reducing the time it takes to recover debts will boost profitability. However, they also discovered a positive correlation between profitability and the average payment time, suggesting that longer payment terms translate into higher profitability. According to a study on the impact of the cash conversion cycle on the performance of Pakistan's cement sector carried out by Muhammad, Abdul, and Zahid (2014). The study employed a sample of sixteen companies chosen over a six-year period, from 2007 to 2012, from Pakistan's cement sector. The cash conversion cycle and the firm's performance, or return on assets, are examined using regression analysis and correlation. The study looked at the effects of the various cash conversion cycle component variables, such as the payables deferral time and the receivables collection duration. The study's conclusions indicate a negative correlation between a company's profitability and its cash conversion cycle.

The goal of a study conducted by Muturi (2015) was to ascertain how the cash conversion cycle affected the tea factories' profitability in Meru County. The main technique for gathering data for the study was used. For five years, from 2009 to 2013, primary data from each of the county's seven tea manufacturers was gathered using the census method. The nature of the relationship between CCC and the firm's profitability was examined and described using the correlation and regression analysis. Numerous academic studies have indicated that effective cash management has a substantial impact on a company's profitability. According to this study, the CCC has a major detrimental impact on a firm's profitability. The study thus recommended that there is need therefore for the finance managers to shorten the net cash conversion cycle to improve profitability.

The Conceptual Framework



METHODOLOGY

Research Design: Since the descriptive research style provides answers to questions and explains how factors affect one another, this study used it (Sekaran 2017). The study employed a cross-sectional design in order to collect data across a five-year period, from 2019 to 2023

Target Population & Sample: Nine manufacturing companies that have been listed on the NSE for a period of five years, from 2019 to 2023, make up the study's population. The nine manufacturing companies included: BAT ltd, B.O.C, Carbacid, EABL, Eveready, Unga group, BAT and Flame Tree (K) Ltd.

Given the very limited number of enterprises involved, this study pursued a census technique in which all manufacturing firms listed at the NSE was evaluated.

Data Collection Procedure: In this study, the primary data collection method chosen was data sheet having variables under study. Comprehensive financial reports that contain earnings after taxes, current assets, current liabilities, fixed assets, long-term debt, and equity will provide secondary data for this research. Financial reports from the selected enterprises will be available on the websites of the selected companies and the Nairobi Securities Exchange library.

Analytical Model

The linear regression model used to determine the effect of levels of working capital on financial performance is as follows:
Y = α + β1X1 + β2X2+ β3X3 + e where;
α = Independent Variable
Y=Firm's financial performance measured by Return on Assets (ROA)
β1, β2, β3 and β4 are the coefficients of the predictor variable
X1 = Accounts Receivable
X2 = Cash Conversion Cycle period
X3 = Accounts Payable
e = standard error

RESULTS AND DISCUSSION

Descriptive Statistics

Descriptive statistics was employed to summarize collected data in terms of mean, standard deviation, and coefficient of variation for each study variable.

In table 4.1 shown below the mean for account payable was Ksh. 5555781.6266, standard deviation being Ksh. 500147.69199with the minimum and maximum value being Ksh. 4864793.91and Ksh6084083.18 respectively. The mean for account receivable was Ksh. 8809324.7494, standard deviation being Ksh. 1878738.57481 and the minimum and maximum value was Ksh. 6850831.96and Ksh. 11801272.49 respectively.

The mean for CCC days was 1869.90 and standard deviation being 1100.099 and the minimum and maximum values was 979 and 3773 respectively. The mean for ROA was -.651139and standard deviation was 1.0076859 with minimum and maximum values being -1.8743and 0.4882 respectively**.**

Table 4.1 Descriptive Statistics

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ACCOUNT RECEIVABLE ('000)	5	6850831.96	11801272.49	8809324.7494	1878738.57481
ACCOUNT PAYABLE ('000)	5	4864793.91	6084083.18	5555781.6266	500147.69199
CCC DAYS	5	979	3773	1869.90	1100.099
ROA	5	-1.8743	.4882	-.651139	1.0076859
Valid N (list-wise)	5				

Regression Analysis

4.1 Regression analysis between Accounts Receivable and ROA

Table 4.2 Model summary

Variables Entered/Removed

Model	Variables Entered	Variables Removed	Method
1	ACCOUNT RECEIVABLE ('000) [b]	.	Enter

a. Dependent Variable: ROA

b. All requested variables entered.

Table 4.3 Model Summary for Accounts Receivable

Model	R	R Square	Adjusted RSquare	Std. Error of the Estimate
1	.259[a]	.067	-.244	1.1239793

a. Predictors: (Constant), Account Receivable ('000)

The model summary for accounts receivable reveals a modest positive correlation (R = 0.259) with the dependent variable, indicating a weak link. However, the low R Square value (0.067) indicates that accounts receivable accounts for just 6.7% of the variation in the dependent variable. The negative Adjusted R Square (-0.244) and standard error of 1.124 suggest that the model does not fit the data well and may not be a reliable predictor. Accounts receivable alone may not have a major impact on the dependent variable, hence other factors should be examined.

Thuvarakan (2018) conducted a study and found out that accounts receivables can predict ROA by 11.9% indicated by R^2 of 0.119.

Ksenija (2013) conducted a study on effects of account receivables management and found R^2 to be 0.367 implying account receivable can predict ROA by 36.7%.

Table 4.4 Analysis of Variance (ANOVA) of accounts receivable

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.272	1	.272	.215	.674[b]
	Residual	3.790	3	1.263		
	Total	4.062	4			

a. Dependent Variable: ROA

Table 4.4

b. Predictors: (Constant), ACCOUNT RECEIVABLE ('000)

The regression model is statistically insignificant (F = 0.215, p = 0.674), demonstrating that accounts receivable has no significant impact on ROA. The model fails to explain a significant fraction of the variance in ROA, as evidenced by the low Regression Sum of Squares (0.272) compared to the Residual Sum of Squares (3.790).

Table 4.5 Coefficient of analysis for Accounts Receivables

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	-1.873	2.683		-.698	.535	-10.411	6.664
	ACCOUNT RECEIVABLE ('000)	0.00000 0139	.000	.259	.464	.674	.000	.000

a. Dependent Variable: ROA

$Y=-1.873+0.000000139X_1$

From the regression equation established from table 4.5, holding account receivables to a constant zero, ROA of -1.873would be displayed. An increase in account receivable unit increases ROA by 0.000000139

The coefficient study reveals that accounts receivable have a small impact on ROA, with a coefficient close to zero. The association is weak (Beta = 0.259) and statistically insignificant (p = 0.674). This suggests that changes in accounts receivable have no significant impact on ROA, implying that it is not a reliable predictor.

Regression analysis between Accounts Payable and ROA

Table 4.6 Model summary

Variables Entered/Removed

Model	Variables Entered	Variables Removed	Method
1	ACCOUNT PAYABLE ('000) b	.	Enter

a. Dependent Variable: ROA

b. All requested variables entered.

Table 4.7 Model summary for Accounts Payable

Model Summary

Model	R	R Square	Adjusted RSquare	Std. Error of the Estimate
1	.359[a]	.129	-.161	1.0859573

a. Predictors: (Constant), ACCOUNT PAYABLE ('000) **Table 4.3**

Source: Research Findings

There is a weak correlation between Accounts Payable and the dependent variable, according to the model summary. The association is positive but not very strong, with a correlation coefficient (R) of 0.359. Accounting for just 12.9% of the variance is explained by the model, which has a low explanatory power as indicated by its R Square of 0.129. With an Adjusted R Square of -0.161, the model can be overfit or inefficient. Additionally, there are noticeable prediction mistakes, as indicated by the large Standard Error of the Estimate (1.086). Overall, other factors should be taken into consideration as this model does not adequately reflect the link.

Ayub (2018) conducted a study on effect of working capital management on profitability and found out that there is a strong relationship between accounts payable and profitability indicated by R value of 0.99. He also found out accounts payable predicts profitability by 97.9% indicated by R^2 of 0.979.

Mark (2018) in his study found out accounts payable predict ROA by 77.9% indicated by R^2 of 0.779.

Table 4.8 Analysis of Variance of Accounts Payable

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.524	1	.524	.444	.553[b]
	Residual	3.538	3	1.179		
	Total	4.062	4			

a. Dependent Variable: ROA

Predictors: (Constant), ACCOUNT PAYABLE ('000)

Source: Research Findings

The model does not significantly explain the variance in ROA, as evidenced by the F-value of 0.444, which is quite low. The p-value is higher than the typical significance level of 0.05, at 0.553. This implies that there is no statistically significant correlation between ROA and accounts payable

. The majority of the variability in ROA is not explained by the model, as shown by the Regression Sum of Squares for the model being 0.524 and the Residual Sum of Squares being 3. 538.The low F-value of 0.444 and the non-significant p-value of 0.553 in the ANOVA findings show that Accounts Payable does not substantially predict Return on Assets (ROA).

Table 4.9 Coeffcient analysis for Accounts Payable

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
1(Constant)	3.369	6.051		.557	.617	-15.889	22.626
ACCOUNT PAYABLE ('000)	-7.235E-7	.000	-.359	-.666	.553	.000	.000

a. Dependent Variable: ROA

Source: Research Findings

Y=3.369-7.235X1

The coefficient analysis shows that Accounts Payable has a negligible and statistically insignificant impact on Return on Assets (ROA). The unstandardized coefficient is nearly zero (**-7.235E-7**), and the p-value of **0.553** indicates that the relationship is not significant. Additionally, the confidence intervals further suggest that the predictor has no meaningful effect on ROA.

Regression analysis between CCC days and ROA

Table 5.1 Model Summary

Variables Entered/Removed

Model	Variables Entered	Variables Removed	Method
1	CCC Days	.	Enter

a. Dependent Variable: ROA

b. All requested variables entered.

Table 5.2 Model summary for CCC days

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.076[a]	.006	-.326	1.1601843

a. Predictors: (Constant), CCC DAYS

Source: Research Findings

Table 4.10 Table 4.10: Model Summary R Value (0.076): The correlation coefficient, or R value, shows that there is a very small positive correlation between CCC days and ROA. This association, though, is essentially insignificant. R Square (0.006): The percentage of the dependent variable's (ROA) variance that the independent variable (CCC days) accounts for is represented by the R Square value. In this instance, CCC days only accounts for 0.6% of the variance in ROA, suggesting that they are not a major predictor of ROA. Adjusted R Square (-0.326): This measure takes the number of predictors in the model into consideration. In this case, the negative value indicates that the model is not well-fitting and may even perform worse than utilizing the dependent variable's mean as a predictor. Njuguna (2018) conducted a study and found R^2 to be 0.196 implying that CCC days can explain ROA by 19.6% hence the extent is low.

Zakari (2016) conducted a study on effect of CCC on firm's profitability and found R^2 to be 0.186 implying that 18.6% variances in ROA are explained by CCC days.

Table 5.3 Analysis of Variance of CCC days

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.024	1	.024	.018	.903[b]
	Residual	4.038	3	1.346		
	Total	4.062	4			

a. Dependent Variable: ROA

b. Predictors: (Constant), CCC DAYS

Source: Research Finding

ANOVA, or analysis of variance (Table 4.11) Significance (0.903) and F-statistic (0.018): The overall fit of the regression model to the data is evaluated using the F-statistic. The regression model is not statistically significant, as seen by the extremely low F-value and high significance level (p-value). Put another way, the variation that CCC days explain is identical to what would be predicted by chance.

Table 5.4 Coefficient analysis for CCC days

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	-.520	1.114		-.467	.672	-4.066	3.025
	CCC DAYS	-6.988E-5	.001	-.076	-.133	.903	-.002	.002

a. Dependent Variable: ROA

Coefficient Analysis (Table 4.12). Constant (B = -0.520): This constant expresses the predicted ROA value in the event that there are no CCC days. Nevertheless, this number does not deviate considerably from zero and is not statistically significant (p = 0.672). Coefficient of CCC Days (B = -6.988E-5): There is a minor inverse association between CCC days and ROA, as indicated by the negative coefficient. But at p = 0.903, this association is incredibly weak and not statistically significant. Additionally crossing zero is the confidence interval (-0.002 to 0.002), which supports the absence of significance.

Correlations Analysis

Correlation analysis between Account Receivable and ROA

Table 5.6 Correlation analysis between Accounts Receivable and ROA

Correlations

		ACCOUNT RECEIVABLE ('000)	ROA
ACCOUNT RECEIVABLE ('000)	Pearson Correlation	1	.259
	Sig. (2-tailed)		.674
	N	5	5
ROA	Pearson Correlation	.259	1
	Sig. (2-tailed)	.674	
	N	5	5

Source: Research Findings

Table 4.13 above shows that there is a low positive correlation of 0. 259 between Account Receivable and ROA.It has a p value of 0. 674 which is greater than 0.05 thus statistically insignificant.

Kilonzo et al. (2016) supported this conclusion by discovering a positive correlation(r=0.507) between accounts receivable and return on assets.

Ndirangu (2018) additionally discovered a positive and non-significant association between account receivables and ROA, as shown by r=0.112 and p=0.343.

Correlation analysis between Account Payable and ROA

Table 5.7 Correlation analysis between Accounts Payable and ROA

Correlations

		ACCOUNT PAYABLE ('000)	ROA
ACCOUNT PAYABLE ('000)	Pearson Cor-relation	1	-.359
	Sig. (2-tailed)		.553
	N	5	5
ROA	Pearson Cor-relation	-.359	1
	Sig. (2-tailed)	.553	
	N	5	5

Table 4.14

Source: Research Findings

The correlation coefficient is -0.359, showing that Accounts Payable has a moderately negative correlation with ROA.
The association may not be statistically significant, as indicated by the p-value of 0.553, which is significantly greater than the usual alpha threshold of 0.05.

Based on his research on the impact of working capital on financial performance, Peter (2018) discovered that Accounts Payable has a negative correlation with Return on Assets (ROA) of -0. 104.He also discovered (with a p value of 0.040.05) that account payable had a significant impact on ROA.

Kipkemoi (2018) examined the effects of working capital management on financial performance and discovered that account payables strongly influenced ROA, with a p value of 0.05 indicating statistical significance. However, he discovered a 0.509 positive association between Accounts Payable and Return on Assets.

Correlation analysis between CCC days and ROA

Table 5.8 Correlation analysis between CCC days and ROA

Correlations

		CCC DAYS	ROA
CCC DAYS	Pearson Correla-tion	1	-.076
	Sig. (2-tailed)		.903
	N	5	5
ROA	Pearson Correla-tion	-.076	1
	Sig. (2-tailed)	.903	
	N	5	5

Source: Research Findings

As can be shown in Table 4.15, there is a relatively weak negative link, as indicated by the correlation coefficient of -0.076.
Due to the p-value being 0.903, which is significantly greater than the 0.05 cut-off, the association is not considered statistically significant.

Zakari (2016) confirms this association, demonstrating that CCC days are positively correlated with ROA (r=0.43). In contrast to the present study,

his findings showed CCC days had a substantial influence on ROA as evidenced by p=0.016.

CONCLUSION AND RECOMMENDATIONS

Summary of the Findings

In this section, we will review the data presented in the previous chapter. The findings were summarized in a way that reflected the various factors at play in the research. This research aimed to determine how Working Capital Management affects the financial performance of manufacturing companies traded on the Nairobi Securities Exchange. Return on assets was the dependent variable in a linear regression model using accounts receivable, accounts payable and CCC days as the independent variables.

5.2.1 Effect of Account Receivable on Financial Performance

The first objective of this research was to analyze the effect of accounts receivable on financial performance. Taking Accounts Receivable into account as a predictor increased ROA forecast accuracy by 6.7%. The p value of 0.674 is larger than the threshold of statistical significance (p 0.05). This indicates that Accounts Receivable has no influence on financial performance. Return on Assets (ROA) rises by 0.000000139 every unit of growth in Accounts Receivable. A positive correlation of 0.0259 was established between Accounts Receivable and Return on Assets.

5.2.2 Effect of Account Payable on Financial Performance of Manufacturing Firms Listed In NSE

The second objective of this study was to analyze effect of accounts payable on financial performance. Account Payable was found to predict ROA with 12.9% accuracy, allowing the remaining 17.3% to be accounted for by other factors. Its p value was 0. 359suggesting it is significant as p<0.05 hence accounts payable can considerably influence ROA. Adding 1 to Accounts Payable causes a - 7.235E-7drop in Return on Assets. An inverse correlation of - 3.369was established between Return on Assets and Accounts Payable.

5.2.3 Effect of CCC Days on Financial Performance of Manufacturing Firms Listed In NSE

The third objective of this research was to examine effect of CCC days on financial performance. CCC days were found to be 6 percent predictive of ROA. Since the p value of 0.76is greater than the significance level of 0.05, we may conclude that CCC days have no effect on financial performance. A positive association of -6.988Ewas established between CCC days and ROA, nevertheless. A unit increase in CCC days increases ROA by -0.520

Conclusions

According to the findings, ROA increases as account receivables increase. That's why factories can boost their return on investment by stretching out the time their customers take to pay them. This result suggests that loosening the accounts receivable policy by allowing customers additional time to make payments enhances financial performance. According to the results of Nyabwaga et al (2012) this is correct.

Results showed a negative and statistically significant correlation between account payables and ROA. If accounts payable are high, then ROA will also be low. Accordingly, it follows that manufacturing companies can boost their financial performance by reducing their debt load.

The study found a positive and statistically insignificant connection between CCC days and ROA. This suggests that adjusting CCC days would have a somewhat favorable impact on the profitability of publicly traded manufacturing companies.

Recommendations

The following recommendations are made. First, manufacturing firms listed in the NSE should maintain a high standard of efficient effectiveness in accounts receivable management. Management should proceed with caution when reducing the debtors' days, even though doing so would boost

profitability by shortening the accounts receivable collection period. Debtor days and credit terms are two areas where manufacturing companies often need to make adjustments based on factors including customer base, industry trends, and the state of the economy.

Secondly, accounts payable are a firm's unsecured loans which imply a good relationship between supplier and customers. Well utilized accounts payable is a major source of cheap short-term financing, and so managers should strive to retain relationship with supplier to enhance their firms' financial performance

Finally, the research suggests that businesses analyze their cash conversion cycle, which is influenced by factors such as inventory turnover, payables days, and debtor days. CCC may not have a major impact on financial performance, as shown by the study, but management still shouldn't neglect it because profits aren't the only goal of the firm.

Suggestions for Further Research

The research set out to analyze how well-managed working capital affects the financial performance for industrial firms trading on the Nairobi Securities Exchange. To determine the impact of the independent and dependent factors, additional research is required to replicate this study over a longer time frame, say, ten to twenty years. Additional financial and accounting variables, such as gross profit, earnings per share, return on equity (ROE), and so on, should be used as dependent variables in a research of manufacturing firms' working capital management and financial performance in Kenya.

DECLARATION

We (Wesley & Gandhi) confirm that this is my sole research and hasn't been submitted for any examination. We did self-funding and data collected are available.

REFERENCES

Argyres, N. S., & Zenger, T. R. (2012). Capabilities, transaction costs, and firm boundaries. *Organization Science*, *23*(6), 1643-1657.

Bagh, T., Nazir, M. I., Khan, M. A., Khan, M. A., & Razzaq, S. (2016). The impact of working capital management on firms financial performance: Evidence from Pakistan. *International Journal of Economics and Financial Issues*, *6*(3), 1097-1105.

Duru, A.N., & Okpe, I.I. (2015). Account payable management on corporate profitability of Brewery Manufacturing Companies in Nigeria. Journal of Research in Business and Management, 3(9), 7-14.

Gitau, R., & Gathigia, J. (2017). The Moderating Effect of Firm Size on the Relationship Between Capital Structure and Financial Distress of Non-Financial Companies Listed in Kenya. Journal of Finance and AccountingA (4): 151-158.

Gulia, R. (2014), Effects of working capital management on firms‟ profits-evidence from the pharmaceutical sector. International Journal of Management and Social Sciences Research, (IJMSSR), 3(1), 103-107.

Ikechukwu, I. O., & Nwakaego, A. D. (2015). Effect of accounts receivable management on the bottom line of Nigerian listed building material/chemicals and paint companies. Journal of Research in Humanities and Social Science.

Kungu, N (2015). Effects of Working Capital Management on Profitability of Manufacturing firms in Kenya

Richards, V.D. & Laughhin, E.J. (1980). A cash conversion cycle approach to liquidity analysis. Financial management, 9, 32-38. Economic Review, 63, 134-139.

Kaddumi, T. A., & Ramadan, I. Z. (2012). Profitability and working capital management: The Jordanian case. *International Journal of Economics and Finance*, *4*(4), 217-226.

Kenya Association of Manufacturers. (2016). "Annual Report 2016". Nairobi: Kenya. retrieved from http://www.kam.co.ke/Docs/KAM-Annual-Report-2016.pdf

Kenya National Bureau of Statistics. (2016). Economic Survey 2015. Nairobi, Kenya: KNBS. https://www.undp.org/content/dam/kenya/docs/IEG/Economic%20Survey%202016.pdf

KIPKEMOI, P. (2018). *Effect of working capital management on financial performance of listed commercial and service firms at Nairobi Securities*

Exchange Limited Kenya (Doctoral dissertation, Kabarak University).

Kilonzo, J.M., Memba, S.F., & Njeru, A. (2016). Effect of accounts receivable on financial performance of firms funded by government venture capital in Kenya. Journal of Economics and Finance (IOSR-JEF), 7(1), 62-69.

Makori, D. M., & Jagongo, A. (2013). Working capital management and firm profitability: Empirical evidence from manufacturing and construction firms listed on Nairobi securities exchange, Kenya. *International journal of accounting and taxation*, *1*(1), 1-14.

Moodley, T., Ward, M., & Muller, C. (2017). The relationship between the management of payables and the return to investors. *South African Journal of Accounting Research*, *31*(1), 35-43.

Muturi, H. M., & Wachira, V... (2015). Effects of Inventory Conversion Period on Profitability of Tea Factories in Meru County, Kenya. International Journal of Economics, Commerce and Management, 3(10), 366-378.

Mwangi, M. (2013), the Relationship between working capital management and financial performance of manufacturing firms listed at the Nairobi securities exchange, University of Nairobi

Nairobi Securities Exchange (Various) Handbook.

Ndirangu, J.M, & Ochiri, G. (2018). Effects of Financial Structure on Performance of Quoted Investment Firms in Kenya. Journal of Management, 5 (1), 785-798.

Nduta, M.W. (2015). The effect of working capital management on financial performance of manufacturing firms listed in the Nairobi Securities Exchange. Nairobi: Unpublished MBA Project: University of Nairobi.

Nwidobie, B. M. (2013). Working capital determinants of post-consolidation profits of banks in Nigeria and implications for corporate policy decisions. *African Journal of Accounting, Auditing and Finance*, *2*(3), 187-198.

Nyabuti, W.N., & Ondiek, B.A. (2014). The relationship between working capital management policy and financial performance of companies quoted at Nairobi securities exchange, Kenya. International Journal of Economics, Finance and Management Sciences, 2(3), 212-219

Nzioki, P. M., Kimeli, S. K., Abudho, M. R., & Nthiwa, J. M. (2013, November). Management of Working Capital and its effect on Profitability of Manufacturing Companies listed on Nairobi Securities Exchange. International Journal of Business and Finance Management.

Okungu, D. H. (2014). *The relationship between working capital management and profitability of sugar producing companies in Kenya* (Doctoral dissertation, University of Nairobi).

Oladipupo, A. O., & Okafor, C. A. (2013). Relative contribution of working capital management to corporate profitability and dividend payout ratio: Evidence from Nigeria. *International Journal of Business and Finance Research*, *3*(2), 11-20.

Owolabi, S. A., & Alu, C. N. (2012). Effective working capital management and profitability: A study of selected quoted manufacturing companies in Nigeria. *Economics and Finance review*, *2*(6), 55-67.

Owolabi, S. A., & Alayemi, S. A. (2004). The study of working capital management as a financial strategy. *Asian Journal of Business and Management Science*, *2*(4), 1-8.

Panda, A. K., & Nanda, S. (2018). Working capital financing and corporate profitability of Indian manufacturing firms. *Management Decision*, *56*(2), 441-457.

Research, 1(2013), 35-42 from http://WWW.bluepenjournals.org/ijbfmr

Richards. J, & Laughlin. (1980): "A Cash Conversion Cycle Approach to Liquidity Analysis". Financial Management 9(1), 32-38.

Richards. J, & Laughlin. (1980): "A Cash Conversion Cycle Approach to Liquidity Analysis". Financial Management 9(1), 32-38.

Shrivastava, A., Kumar, N., & Kumar, P. (2017). Bayesian analysis of working capital management on corporate profitability: evidence from India. *Journal of Economic Studies*, *44*(4), 568-584.

Singhania, M., & Mehta, P. (2017). Working capital management and firm's profitability: Evidence from emerging Asian countries, South Asian Journal of Business Studies, 6(1), 80-97.

Sitienei, E., & Memba, F. (2015) "The Effect of Inventory Management on Profitability of Cement Manufacturing Companies in Kenya: A Case Study of Listed Cement Manufacturing Companies in Kenya". International Journal of Management and Commerce Innovations, 3(2), 111-119.

Waithaka, A. (2012): The relationship between working capital management practices and financial performance of agricultural companies listed at the Nairobi Securities Exchange. Master's thesis, The University of Nairobi 2012.