WORKING CAPITAL MANAGEMENT AND FINANCIAL PERFORMANCE OF LISTED MANUFACTURING FIRMS IN KENYA

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ABSTRACT

This study investigated the effect of working capital management on financial performance of listed manufacturing companies in Kenya. The specific objectives were to determine the effect of accounts receivable, cash, inventory and accounts payable management on the financial performance. The theories of Operating Cycle, just –in n-time (JIT), Cash Management, Inventory theory of Cash Management, and Cash Conversion Cycle were utilised for the study. The study used a descriptive longitudinal design. The target population was 9 listed manufacturing firms in Kenya. A census sampling method was used over the period 2014-2023. Secondary data was collected from the financial reports of the companies. Inferential and Descriptive statistics were applied to analyse the data using panel regression analysis with the help of EViews software. Accounts receivables and inventory management had significant negative effects on financial performance while cash and accounts payables management had insignificant effects on the financial performance. The study concluded that at 5% significance level, accounts receivable and inventory management had statistically significant negative effects on financial performance while cash and accounts payables management had no effect on financial performance. The study recommended that manufacturing firms should reduce the levels of accounts receivable and inventories to improve financial performance.

Key Words: *Accounts Payable, Accounts Payable, Inventory, Cash Management, Financial Performance, Working capital Management*

INTRODUCTION

Management of working capital has been a major problem facing the manufacturing sector in Kenya. Poor working capital management prevents the firms from attaining the desired liquidity levels and this has led several companies to suffer bankruptcy and eventually delisted from trading at the Nairobi Securities Exchange (NSE). The poor performance and subsequent delisting of these companies points to improper management of working capital. Studies (Gakondi and Muturi, 2019; Asete and Kung'u ,2018) have shown that the management of working capital affects firm financial performance.

Statement of the Problem

For the period of five years preceding 2022, Kenya's manufacturing sector was hit by poor WCM with erratic profits (Nyaga, 2022). Ong'era et al. (2017) notes that some of these listed manufacturing firms have ended up going through restructuring, receiverships and even getting delisted from the NSE. Some of the companies that have suffered this fate include Mumias Sugar and Uchumi Supermarkets (Gibendi, 2015). Further, there have been issues of profit warnings due to poor working capital management problems emanating from some listed firms (Gibendi, 2015). Gakondi (2016) argues that despite the fact that manufacturing companies in Kenya account for 14% of the gross domestic product, most of them maintain inadequate levels of working capital due to various challenges and on average 10 to 15 manufacturing companies shut down every year. Mwiti (2016) highlighted the liquidity challenges faced by listed firms due to difficult economic environment leading to many of them issuing profit warnings. Evidence from Europe, Asia, Africa and Kenya by various authors (Elangkumaran and Nimalathasan, 2016; Falope and Ajilore (cited in Olaoye, Adekanbi and Oluwadare, 2019); Ong'era et al, 2017; Kung'u, 2017; Asete and Kung'u; 2018) particularly on the effect of WCM on financial performance have different outcomes.

Studies by Onikoyi, Babafemi, Ojo and Aje (2017); Yakubu and Gbenga (2019), Munene and Tibbs (2018) on the effect of working capital management (WCM) on firm financial performance found a positive relationship between WCM and financial performance while those by Lamptey et al (2023); Rathnayake and Pathirawasam (2020) and Owour, Agusioma and Wafula (2021) and gave an inverse relationship between WCM and financial performance. It is against this backdrop of the turbulence in manufacturing company performance and a lack of empirical consensus on the role WCM in determining performance that necessitated this study.

Research Questions

i) What is the effect of accounts receivable management on the financial performance of listed manufacturing firms in Kenya?

ii) What is the effect of inventory management on the financial performance of listed manufacturing firms in Kenya?

iii) What is the effect of cash management on the financial performance of listed manufacturing firms in Kenya?

iv) What is the effect of accounts payable management on the financial performance of listed manufacturing firms in Kenya?

LITERATURE REVIEW

Theoretical Review

Operating Cycle Theory, The Just –in n-time (JIT) Theory, Cash Management Theory and Cash Conversion Cycle Theory are used to underpin this study**.** The operating cycle hypothesis was put forth by Emery in 1972 and measures the amount of time that passes between the moment a company receives raw materials and the completion of cash collection following the sale of items (Nyangweso and Wepukhulu, 2019). Mwangi and Obwogi (2016) argue that additional material demonstrates that Park's "natural business ideas" from 1963,

which explained that the operational cycle might occur in less than a year depending on the industry, are the source of the operating cycle theory. This theory states that when a business offers its clients attractive credit terms, the profitability of the business may increase as the clients benefit from the favourable terms, but this may also cause illiquidity issues (Kipkoech, 2015). However, this perspective is criticised for omitting accounts payable, a crucial element of working capital management (Nyangweso and Wepukhulu, 2019).

The JIT theory of inventory management was developed in the 1950s by the Japanese businessman Taichii Ohno and relates to the concept of having the precise amount of inventory needed at the exact moment (Eugine and Rubha. 2017; Mankazana and Mukwakungu, 2018). According to this theory companies with less stock in the warehouse are more efficient than companies with more stock (Mankazana and Mukwakungu, 2018). The use of a JIT strategy helps to reduce storage and other associated costs of inventory, improve cash flows, ensure timely delivery and improve customer satisfaction (Ogbolu and Emeka, 2024)

The theory of cash management related to working capital was initially introduced by Bamoul in 1952. The theory aids in identifying the appropriate amount of cash that should be generated through the sale of marketable securities for each transaction (Kithinji et al, 2023). Numerous cash management models have been developed over the years including those by Archer (1966), Beranek (1963); Miller & Orr (1966), Pigou (1970, Lockyer (1973) and Gibbs (1976) but the Bamoul model stands out as the first formal cash management framework and it is regarded as the most straightforward and practical approach for establishing an optimal cash position (Mugambi, Njeru, Memba and Ondabu, 2015). Baumol's theory of cash management states that the optimal cash balance can be obtained by minimizing total costs, which include conversion costs and opportunity costs of holding excess cash (Oteyo, 2018).

The cash conversion theory of working capital management partially addresses the aspect of accounts payables management. Gitman, Forrester and Forrester (cited in Kangangi, 2020) introduced the concept of Cash Conversion Cycle into working capital management followed by an ultimate development of the theory of Cash Conversion Cycle in 1980 by Richards and Laughlin (cited in Kangangi, 2020). The Cash Conversing Cycle theory traces the lifecycle of the cash used for business activity. The theory states that a shorter cycle is preferable to as it indicates less time for cash to be tied up in accounts receivable or inventory thus leading to better efficiency and management of a company's operations (Oseifuah and Gyekye, 2016). The Cash Conversion Cycle theory is pertinent to the current study due to its ability to provide a comprehensive measure of ongoing liquidity management (Temtime, 2016). This is because the theory combines data from both the balance sheet and income statement thus creating a time dimension.

Empirical Review

Accounts Receivable Management and Financial Performance

Yakubu and Gbenga (2019) investigated the impact of accounts receivable management on financial performance using ten carefully chosen companies that were listed on the Nigerian Stock Exchange between 2012 and 2018. Using a multiple regression analysis and correlational study design, the study found that all of the measures had a positive impact on financial performance, leading to the conclusion that accounts receivable management has a positive impact on financial performance. The proxies for accounts receivable were revenue growth, debt ratio, and accounts receivable ratio, and the financial performance measure was return on equity. In their study, Ikechukwu and Nwakaego (2015) investigated the impact of receivables management on the profitability of Nigerian companies that manufacture paint, building materials, chemicals, and other products. They discovered that this management significantly increased profitability.

Using panel data for six listed manufacturing firms on the Ghana Stock Exchange between 2011 and 2020, Lamptey et al. (2023) used the OLS and correlational study design with accounts receivable period as a measure for accounts receivable management and discovered that accounts receivable had a significant negative impact on financial performance as measured by ROA. Owour, Agusioma, and Wafula (2021) investigated the impact of accounts receivable on financial performance using panel data from 31 public chartered universities in Kenya between 2017 and 2019. Owour et al (2021) discovered an inverse association between accounts receivable and financial performance using a census sampling method and average collection period as a measure of the accounts receivables management. Since public institutions are for-profit establishments, this study differs from the current one. Additionally, working capital management as indicated by the average collection period and current ratio has a positive and statistically significant effect on financial performance, according to Munene and Tibbs' (2018) study on the effects of accounts receivable on the financial performance of Embu Water and Sanitation. Additionally, Onwong'a et al (2023) found a positive statistically significant effect of debtors' management on financial performance of listed manufacturing and allied firms at the NSE for the period 2018-2022.

Inventory Management and Financial Performance

There is evidence in the empirical literature that inventory management and financial success are related. Rathnayake and Pathirawasam (2020) investigated the impact of inventory management on financial performance in Sri Lanka utilising a cross-section sample size of 29 manufacturing enterprises over the years 2014–2018 and a quantitative study design. The study's findings demonstrated that there was a statistically significant and negative relationship between inventory management and financial performance when measured using the inventory conversion period; however, this relationship vanished when inventory was measured using the inventory turnover ratio.

Onikoyi. Babafemi, Ojo and Aje (2017) examined how inventory management practices affected Lafarge Wapco Plc's performance in Nigeria from 2005 to 2013. Using a survey design and descriptive statistics, they discovered a statistically significant and positive correlation between inventory management and financial performance. Using primary data combined with an ANOVA and multiple regression analysis, Mohamed and Mukhongo (2018) studied the impact of inventory management on manufacturing companies in Mogadishu, Somalia. They purposefully sampled five companies and discovered that inventory management had a statistically significant positive effect on financial performance.

Lwiki, Ojera, Mugenda, and Wachira (2013) investigated how the performance of Kenya's sugar production sector was affected by inventory management. Surveys were employed in the study to gather primary and secondary data through the use of semi-structured and structured questions. Analysis of the data revealed a statistically significant positive correlation between financial success and inventory management. Similar findings were made by Koech, Muturi, Oluoch, and Kagiri (2021), who used a panel regression model to analyse 42 non-financial companies listed at the Nairobi Security Exchange (NSE) between 2004 and 2018 and discovered that inventory management significantly improved financial performance.

Onwong'a, Ndede and Omagwa (2023) investigated the effect of inventory management on financial performance of listed manufacturing and allied firms at the NSE for the period 2018-2022 found a statistically insignificant effect of inventory management on the financial performance. Wanjira and Njagiru (2018) investigated how inventory management affected the Laikipia County SMEs' financial performance between 2013 and 2016. The study discovered a statistically significant positive impact of inventory management on the financial

performance using both descriptive and inferential statistics. Musau, Namusonge, Makokha, and Ngeno (2017) investigated how inventory management affected the operational efficiency of Kenyan textile manufacturing companies. 139 respondents who were selected by stratified sampling provided primary data for the study, which employed convergent and parallel mixed approaches. The study discovered a statistically significant correlation between inventory management and the financial success of Kenyan textile manufacturing companies using both qualitative and quantitative analysis.

Cash Management and Financial Performance

Ariel et al. (2018) collected secondary data from five retail enterprises listed at the Philippines Stock Exchange in order to study the impact of cash management on the financial performance of the Philippines retail industry. Using regression and correlation analysis as well as the cash ratio as a measure of cash management, they discovered that cash management significantly improved the financial performance of each of the five enterprises. Dibie (2022) examined the impact of cash management on financial performance using a sample of 14 food and beverage companies in Nigeria from 2014 to 2018. The study used the cash conversion cycle, creditor's payment period, and cash flow margin. It found that all three had a positive and significant effect on financial performance.

Using a sample of 78 manufacturing enterprises in Nairobi Industrial area, Kenya, Gakondi and Muturi (2019) discovered a statistically significant favourable impact of cash management on the financial management of the organisation. Using primary data from a sample of 129 respondents from 25 manufacturing firms in Mombasa, Biasha and Mwanzia (2022) measured cash management by inventory turnover period, accounts receivable, and cash conversion cycle. They discovered that while accounts payable had a positive and significant impact on financial performance, the other three had an inverse relationship. Using 150 Unilever Kenya

respondents as primary data sources, Daisy et al. (2023) discovered a strong favourable impact of cash management on financial performance. Onwong'a et al (2023) studying the effect of working capital management on financial performance of listed manufacturing and allied firms at the NSE found a positive and statistically significant effect of cash management on the financial performance for the period 2018-2022.

Accounts Payable Management and Financial Performance

Ikechukwu and Nwakaego (2015) using ex post factor research design conducted a study in Nigeria to examine the impact of accounts payable ratio on the financial performance of food and beverage manufacturing enterprises. Their findings indicated that accounts payable had a statistically significant negative influence on financial performance. The impact of accounts payable on the financial performance of Nigerian manufacturing enterprises was examined by Nkwasibwe, Katsigaire, and Bwesigye (2023). In order to gather primary data from a sample of 66 respondents, a cross-section research design and quantitative methods were used. The study discovered a statistically significant positive impact of accounts payable on financial performance.

Achode and Rotich (2016) identified a positive and statistically significant association between accounts payable management and financial performance in a study conducted in Kenya. The study used a census sampling method to collect a sample of 15 manufacturing enterprises. Panel regression was then used to analyse the data. Nyachwaya (2019) examined the impact of accounts payable on the profitability of agricultural firms in Kenya using regression and ANOVA analysis. Using James Finlay's company as a case study, the study discovered a statistically significant negative relationship between accounts payable and profitability. Accounts payable has a negative and statistically significant impact on financial performance, according to Muia and Ibrahim's (2019) study on the impact of working capital

management on Kenyan supermarket performance. Rashid, Butali, and Odunga (2024) concluded that accounts payable had a statistically significant beneficial impact on financial performance. They studied the impact of working capital management strategies on the financial performance of hotels in Garissa and came to contradictory conclusions. Onwong'a et al (2023) found an insignificant effect of creditors management on the financial performance of listed manufacturing and allied firms at the NSE for the period 2018-2022.

2.4 Knowledge Gap

A continuum of measures has been used for the variables under study with differing results dependent on the measures used. In addition to the inconsistent findings of the reviews, the empirical literature on working capital management and financial performance has gaps in terms of geography, context, methodology, variables, and sectors. Spatially, a number of studies done in the area are in the distant past, and due to changes in the economy and other forms of environment current literature is needed in the area. Contextually a number of the reviewed studies are outside Kenya. This presents the biggest gap and hence the need for local literature in the area.

Methodologically, the time series periods under study are different for different studies with some of them being as short as 3 years and hence putting into question the validity of the findings. The period for the current study is relatively long compared to that of a number of the reviewed studies. Additionally, in the reviewed studies, various variables different from the ones used in this study have been used to measure both liquidity management and financial performance. Furthermore, some studies, where primary data is used, have methodological issues of exact measurement. This presents an opportunity for empirical literature review of various ways of measuring the variables under study. Lastly, most of the reviewed studies are mainly from sectors (banking and agricultural) other than manufacturing. For example, a

number of the studies are from the banking sector and thus making a case for new and current literature on the manufacturing sector.

METHODS

Research Design

A descriptive longitudinal research design was used for this study. Since the focus was on data acquired at different times, usually from the same individuals, longitudinal designs are primarily distinguished by temporal components (Cockcroft, Goldschagg, and Seabi, 2019).

Target Population

The manufacturing companies listed on the Nairobi Securities Exchange as of December 31, 2023, made up the study population. The NSE website (www.nse.co.ke) lists nine (9) businesses under the manufacturing category.

Research Instruments

Secondary data was collected on the study variables by using a secondary data collection template.

Sample and Sampling Procedures

Due to the small number of firms a census sampling method was used, and all the elements of the population constituted the sample. Thus, the cross-sectional sample size was the 9 manufacturing companies listed at the NSE and the time series sample was 10 years, which is the period 2014 - 2023. This period is long enough and according to Hsiao et al (1995) this improves the efficiency of panel econometric estimates.

Data Collection Procedures

Techniques from secondary research were used to gather data. This involved obtaining every annual report and set of audited financial statements for the companies that this study looked

at from 2014 to 2023. The factors under study provided guidance on the kinds of data that needed to be gathered from the financial reports in order to accurately assess cash management, accounts payable, inventory management, accounts receivable, and financial performance.

Data Analysis Procedures

After the gathered data was cleaned and any missing values were corrected, it was tested and analysed for specifications and for diagnostic purposes. Using panel regression methods, both inferential and descriptive statistics were used to evaluate the data. The analysis was assisted by the EViews software. The procedures covered in the subsequent sections were adhered to.

Hausman Test

Hausman test was the first diagnostic test that was carried out to determine if the analytical model would be random or fixed effects. This test is important as it ensures that the modelling is best linear unbiased estimates (BLUE). Besides, many other subsequent tests are based on the regression residues and thus the need to get the initial choice of model effects right (Frees, 2004). The Huasman test tests the null of random effects against the alternate of fixed effects (Sheytanova, 2015).

Normality Test

Normality of the regression residues is one of the assumptions of the ordinary least squares methods that was employed in the analysis. The normality test explores the extent of skewness and kurtosis in the data allowing the researcher to identify departures away from the gaussianity in both error components of a standard regression panel, separately or jointly (Alejo and Galvao, 2015). The Jarque-Bera test is used to determine normalcy, pitting the null hypothesis of normality against the alternative of non-normality. Pek, Wong and Wong (2018) suggest a number of methods of addressing the problem of non-normality that include data

transformation (e.g., Box Cox transformation) which the author intended to use in this study in case of non-normality.

Stationarity Test

When non-stationarity is present, spurious significant results when no relationship is there are produced. The Dickey-Fuller test, using the Levin,Lin & Chu t* test statistic, was used to verify the stationarity assumption (Aziz, 2017). The Dickey-Fuller test compares the alternative of having no unit root (stationarity) with the null hypothesis of having a unit root (non-stationarity). General differencing is used to address non-stationarity

Multicollinearity Test

Multicollinearity is the presence of correlations between pairs of the independent variables which ends up distorting the results of the overall model. Presence of multicollinearity was tested by Pearson's pairwise correlations matrix (Noora, 2020) and its presence would be treated by substituting the offending variables with proxies or by merging them (Hacini, 2017).

Autocorrelation and Heteroscedasticity Tests

These two tests were not performed in the study because they only apply to macro panels with lengthy time series (20–30 years), as opposed to micro panels, which have shorter time series (10 years) (Torres-Reyna, 2007).

Analytical Model

Descriptive statistics were used in the initial data analysis to ascertain the means and standard deviations for the purposes of parametric testing. Conversely, inferential statistics were employed to ascertain the correlation between the independent and dependent variables. The regression model with panel least squares was employed. Data was organized and tabulated

according to the indicators/parameters in the conceptual model. The panel data regression model that was used are presented below in equation (i)

$$FP_{it} = \alpha + \beta_1 ACRM_{it} + \beta_2 INVM_{it} + \beta_3 CASHM_{it} + \beta_4 ACPM_{it} + \varepsilon_{it}\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\text{(i)}$$

Where,

FP_{it} = Financial performance of company *i* at time *t*

α = constant

$\beta_1, \beta_2, \beta_3, \beta_4$ = Regression Coefficient to be estimated

ACRM$_{it}$ = Accounts receivable management of company *i* at time *t*

INVM$_{,it}$= Inventory management of company *i* at time *t*

CASHM$_{,it}$ = Cash management of company *i* at time *t*

ACPM$_{it}$ = Accounts payable management of company i at time t

ε $_{it}$ = error term

The findings from the analyses were shown using tables and graphs. Furthermore, the link between the variables was explained using the PLS model.

RESULTS

The descriptive statistics included the mean, median, mode, maximum value, minimum value, standard deviation, and skewness and Jarque-Bera test of normality. The purpose of descriptive statistics was to determine how the data was distributed and whether it was suitable for parametric testing. The commonly referred distribution for parametric testing is the normal distribution.   The results of the descriptive statistics are shown in Table 1.

Table 1: Descriptive Statistics

	FP	ACRM	INVM	CASHM	ACPM
Mean	-0.013738	4.718054	4.786961	2.856943	1.032553
Median	0.066794	4.352529	4.067227	0.820338	0.861263
Maximum	0.503207	13.18613	13.36289	268.9624	3.884064
Minimum	-2.003937	6.10E-05	0.001355	-49.41210	6.61E-05
Std. Dev.	0.374973	3.052593	3.216392	29.00019	0.857508
Skewness	-2.757120	0.647064	0.762348	8.654040	1.251630
Kurtosis	12.39010	3.017808	2.935586	80.67823	4.061599
Jarque-Bera	444.6778	6.281564	8.733174	23750.54	27.72489
Probability	0.000000	0.043249	0.012694	0.000000	0.000001
Sum	-1.236464	424.6249	430.8265	257.1249	92.92978
Sum Sq. Dev.	12.51380	829.3307	920.7207	74849.99	65.44350
Observations	90	90	90	90	90

The Jarque-Bera test statistic tests the null of normality against the alternate of non-normality. Based on the p-values of the Jarque-Bera tests, Skewness and Kurtosis the following can be concluded about the descriptive statistics: At 5% significant level, all the variables are not normally distributed. However, variables whose skewness and kurtosis fall within the range of │3│ and │10│ respectively can be taken to be approximately normal and therefore suitable for parametric testing (Ooko, Githui and Omurwa, 2018). This qualifies the variables ACRM, INVM and ACPM and disqualifies FP and CASHM which need to be transformed to obtain approximately normal distributions.

From Table 1, the FP series is skewed to the left and upon inspection it was found to have an extreme negative value which was then replaced by the mean to obtain and an approximately normal distribution, where the values skewness and kurtosis were respectively -2.120446 and 7.875058. The results are shown in Figure 2.
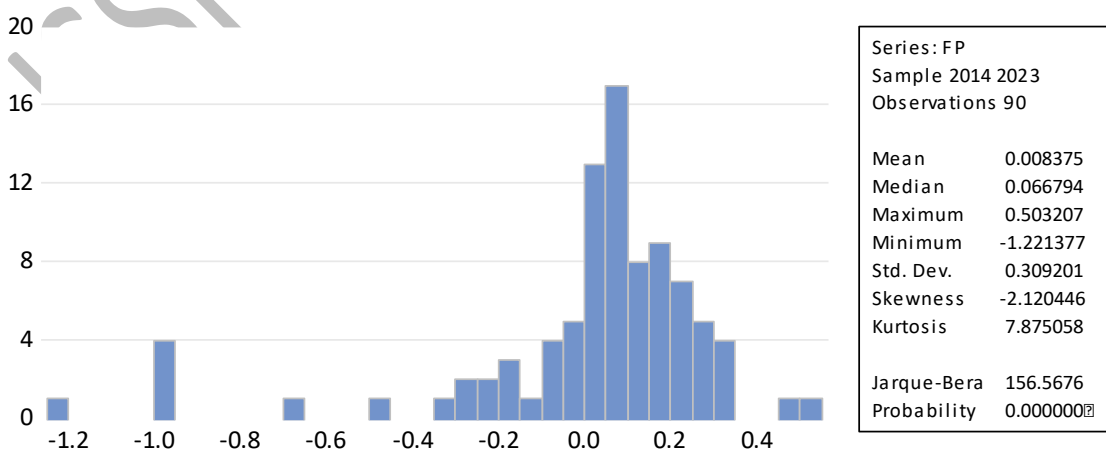

Series: FP	
Sample 2014 2023	
Observations 90	
Mean	0.008375
Median	0.066794
Maximum	0.503207
Minimum	-1.221377
Std. Dev.	0.309201
Skewness	-2.120446
Kurtosis	7.875058
Jarque-Bera	156.5676
Probability	0.000000

Figure 1: Descriptive statistics of FP after adjusting extreme value

From Table 1, the CASHM series had extreme values of -49.41210 and 268.9624 which were adjusted by replacing them with the mean. The resultant data had a minimum value of -19.77162. All the data values were transformed to positive values by adding a constant of 20 and after subjecting the data to a power transformation of 4, an approximately normal distribution data with skewness and kurtosis of. -1.010058 and 9.457953 respectively. The results are shown in figure 2.
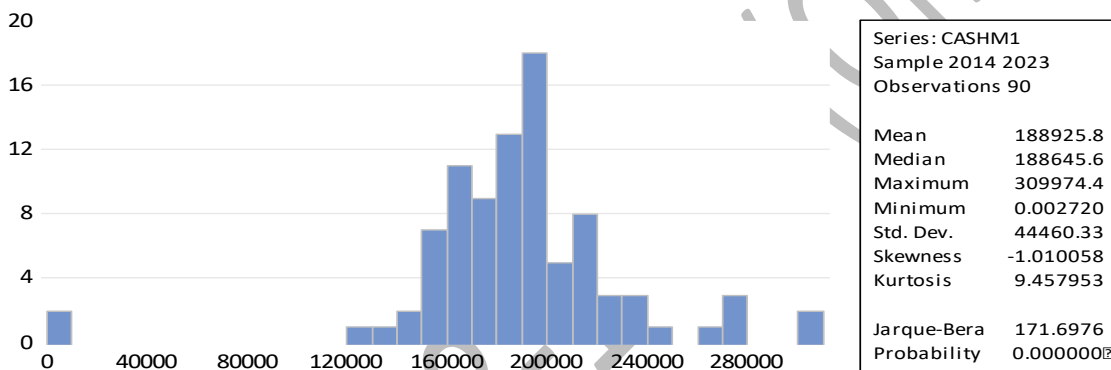

Series: CASHM1	
Sample 2014 2023	
Observations 90	
Mean	188925.8
Median	188645.6
Maximum	309974.4
Minimum	0.002720
Std. Dev.	44460.33
Skewness	-1.010058
Kurtosis	9.457953
Jarque-Bera	171.6976
Probability	0.000000

Figure 2: Descriptive statistics of CASHM1 (transformed CASHM)

Panel Diagnostics

Hausman Test

The Hausman test determines whether fixed or random effects should be used. It tests the null of random effects against the fixed effects. The results in Table 3 show a p-value of 0.1530 which is higher than the significance level of 5% and therefore led to failure to reject the null of a random fixed effects model.

Table 2: Hausman Test

Correlated Random Effects - Hausman Test
Equation: Untitled
Test period random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Period random	6.693591	4	0.1530

Normality Test

The residue normality test was done using Jarque –Bera test statistic and the showed a p-value of zero (0) thus leading to rejection of the null hypothesis of normality in favour of the alternate hypothesis of non-normality. However, using the tolerance limits of $|3|$ and $|10|$, respectively, as suggested Ooko et al (2018), the residues are considered to be approximately normal.
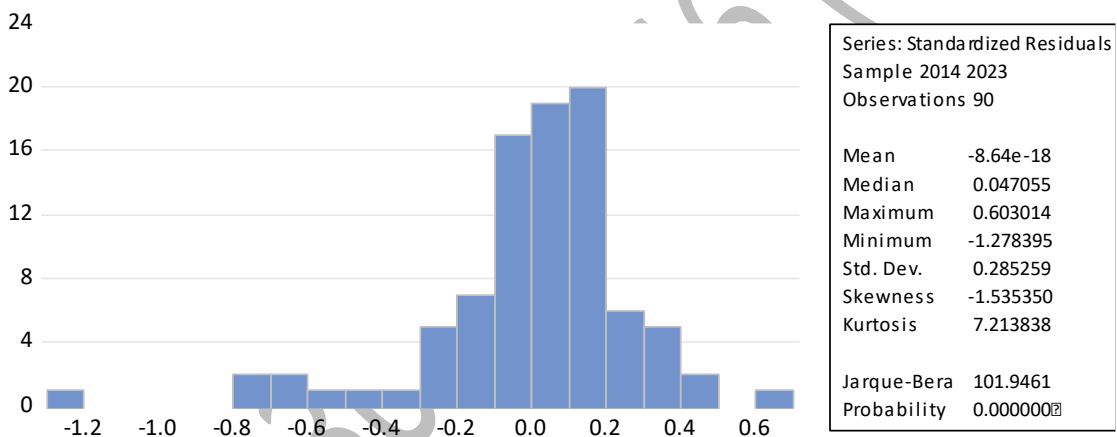

Series: Standardized Residuals
Sample 2014 2023
Observations 90

Mean	-8.64e-18
Median	0.047055
Maximum	0.603014
Minimum	-1.278395
Std. Dev.	0.285259
Skewness	-1.535350
Kurtosis	7.213838
Jarque-Bera	101.9461
Probability	0.000000

Figure 3: Normality Test

Stationarity Test

The stationarity tests were done using the Levin, Lin & Chu t* unit root test in EViews and the results were as shown in Table 3.

Table 3. Unit Root Test

Variable	Levin,Lin & Chu t*	Difference	P-value	Comment at 5% SL
FP	-5.36473	Level	0.0000	Stationary at level
ACRM	-2.75404	Level	0.0000	Stationary at level
INVM	-1.74115	Level	0.0408	Stationary at level
CASHM1	-5.68122	Level	0.0000	Stationary at level
ACPM	-1.86913	First	0.0308	Stationary at 1st difference

From Table 3 it can be seen that all the variables except accounts payable management (ACPM) which was stationary at first difference, were stationary at level.

Multicollinearity Test

Multicollinearity test was done using variable pairwise correlations. The results are shown in Table 4. From the table there was no pair with a correlation of at least 0.5 meaning that the data did not suffer from the problems of multicollinearity.

Table 4: Multicollinearity test

	FP	ACRM	INVM	CASHM1	ACPM
FP	1.000000	0.030246	-0.279946	0.094045	0.162819
ACRM	0.030246	1.000000	0.251287	0.265335	0.299564
INVM	-0.279946	0.251287	1.000000	0.153001	0.263231
CASHM1	0.094045	0.265335	0.153001	1.000000	0.199046
ACPM	0.162819	0.299564	0.263231	0.199046	1.000000

Findings

The following analytical model was used for data analysis:

$$FP_{it} = \alpha + \beta_1 ACRM_{it} + \beta_2 INVM_{it} + \beta_3 CASHM_{it} + \beta_4 ACPM_{it} + \varepsilon_{it}$$

The exponential transformation was applied to variables with small values (FP, ACRM, INVM) and the log transformation to the variables with big values (CASHM). The output was as shown in Table 5.

Table 5: Panel Least Squares Output

Dependent Variable: FP1
Method: Panel EGLS (Period random effects)
Date: 07/26/24   Time: 14:55
Sample: 2014 2023
Periods included: 10
Cross-sections included: 9
Total panel (balanced) observations: 90
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.008295	0.146103	6.901261	0.0000
ACRM1	-8.03E-07	3.28E-07	-2.451888	0.0163
INVM1	-7.21E-07	2.62E-07	-2.749258	0.0073
CASHM2	0.005392	0.012156	0.443555	0.6585
ACPM1	0.000534	0.003677	0.145122	0.8850

R-squared   = 0.754080
Adjusted R-squared = 0.689492
Durbin-Watson Stat. = 1.827814
F-Statistic   = 3.286612
Prob(F-Statistic)   = 0.015373

DISCUSSION

At the 5% significance level, the constant C was found to be 1.008295 with a p-value of zero, suggesting that it was significant. When every independent variable is zero, the dependent variable's value is represented by the untransformed data's C value.

Effect of Accounts Receivable Management on Financial Performance

Accounts receivable management (ACRM) was shown to be significant at the 5% significance level. This meant that FP would decrease by -0.803×10^{-7} if the ACRM grew by 1. The first objective was to examine how Kenyan listed manufacturing companies' financial performance was impacted by their accounts receivable management. The following was the hypothesis:

H01: Accounts Receivable management has no effect on the financial performance of listed manufacturing firms in Kenya. Because the p-value which was 0.0163, was below the 5% significance level, the null hypothesis was rejected in favour of the alternative.

Empirical results on the relationship between accounts receivable management and financial performance are mixed. Results by Yakubu and Gbenga (2019), Ikechukwu and Nwakaego (2015), Munene and Tibbs (2018) found a statistically positive significant effect on financial performance. On the other hand, Lamptey et al (2023) and Owour, Agusioma and Wafula (2021) found that accounts receivable had a negative and statistically significant influence on financial performance. This study's results align with those of Lamptey et al (2023) and Owuor et al (2021) by supporting the position of a statistically significant negative relationship between accounts receivable management and financial performance. These results however differ from those that hold a view of a positive relationship. The agreements/ differences in results could be due to differences in sample size, methodology and context, but further research is needed in this area to reach a consensus. Additionally, the results of this results differs from that of Onwong'a et al (2023) who investigated the effect of inventory management on financial performance of listed manufacturing and allied firms at the NSE for the period 2018-2022 and found a statistically insignificant effect of cash management on the financial performance.

Effect of inventory management on Financial Performance

Regarding the second objective, which was on the effect of inventory management on financial performance, the hypothesis was stated as: *H02: Inventory management has no effect on financial performance of listed manufacturing firms in Kenya*. The coefficient for the inventory management (INVM) was -7.21×10^{-7} with a p-value of 0.0073 indicating that it was significant at 5% significance level. This meant that if the INVM increased by 1, FP would reduce by -7.21×10^{-7}.

Various studies such those by Munene and Tibbs (2018), Onikoyi, Babafemi, Ojo and Aje (2017), Mohamed and Mukhongo (2018), Lwiki, Ojera, Mugenda and Wachira (2013),

Koech, Muturi, Oluoch and Kagiri (2021), Musau, Namusonge, Makokha and Ngeno (2017) and Wanjira and Njagiru (2018) found a significant positive influence of inventory management on financial performance. On the contrary, Lamptey et al (2023), Owour, Agusioma and Wafula (2021), Rathnayake and Pathirawasam (2020) found a statistically negative and significant relationship between accounts receivable management and financial performance. The results of this study support a statistically significant negative relationship between inventory management and financial performance but disagree with those that hold a positive view. These empirical results imply that for these variables the findings are inconclusive. Further the finding of this study differs from that of Onwong'a et al (2023) who found a statistically insignificant effect of inventory management on the financial performance.

Effect of Cash management on Financial Performance

The third objective sought to evaluate the effect of cash management on the financial performance of listed manufacturing firms in Kenya. The hypothesis was stated as: *H03: Cash management has no effect on the financial performance of listed manufacturing firms in Kenya*. The p-value was found to be 0.6585 which was more than the 5% significance level thus leading to rejection of the null hypothesis. The coefficient for the cash management (CASHM) was 0.005392 implying that a 1 % change in CASHM would have an insignificant increase in FP.

The findings for all the reviewed studies (Ariel et al 2018; Dibie 2022; Gakondi and Muturi, 2019; Biasha and Mwanzia, 2022; Daisy et al, 2023) showed the relationship between cash management and financial performance was positive and significant. This current study, however, found an insignificant positive influence of cash management on financial management. Thus, all the results point to a positive relationship between cash management

and financial performance. A lack of significance in this can be due to a small sample size. Results by Onwong'a et al (2023) greatly differs from those of the current study as the study found a positive and statistically significant effect of cash management on the financial performance for the period 2018-2022.

Effect of accounts payable management on Financial Performance

The fourth and last objective was about accounts payable management and financial performance. The following was the hypothesis: *H04: Accounts payable management has no effect on the financial performance of listed manufacturing firms in Kenya*. Accounts payable management (ACPM) had a coefficient of 0.000534 and a p-value of 0.8885, meaning that a 1% change in ACPM would result in an insignificant rise in FP at the 5% significance level. The null hypothesis could not be rejected since the p-value of 0.8850 was greater than the 5% significance level.

On accounts payable management this study found an insignificant positive effect between accounts payable management and financial performance. These results contrast those of Ikechukwu and Nwakaego (2015), Nyachwaya (2019), Janaki (2026) and Muia and Ibrahim (2019) that all found a negative relationship and Nkwasibwe et al (2023); and Achode and Rotich (2016) and Rashid et al (2024) who found a statistically significant positive effect on financial performance. Again, the insignificance could be attributable to the small sample size.Another study that support the findings of this study are those by Onwong'a et al (2023) who found an insignificant effect of creditors management (management of accounts payable) on the financial performance of listed manufacturing and allied firms at the NSE.

The Overall Model

The overall model had an F-statistic of 3.286612 with a p-value of 0.015373 showing that it was significant. Adjusted R– squared of 0.609492 implied that approximately 69% of the variation in financial performance would be explained by the management of the variables under study while about 31% of the variation would be attributed to factors other than those in this study. The Durbin-Watson value, which is a measure of serial correlation in the model, was 1.827814 which was very close to the threshold of 2 indicating that the data didn't have a problem of serial correlation. Thus overall, the model was a good fit.

CONCLUSIONS

This study's main goal was to investigate the impact that accounts receivable management has on the financial performance of Kenyan listed industrial companies. The researchers rejected the null hypothesis, which claimed that there was no discernible influence, and concluded that the alternative hypothesis was true in light of the investigation's findings.

The study results indicate that the financial performance of manufacturing enterprises in Kenya was significantly impacted by the handling of accounts receivable, in both good and negative ways. The results demonstrated that this influence was statistically significant at a significance level equivalent to 5%. Evaluating the financial performance of Kenyan industrial enterprises listed on the stock market was one of our other goals. Analysing these businesses' inventory management strategies was part of this. The researchers rejected the null hypothesis, which claimed that there was no discernible influence, and concluded that the alternative hypothesis was true in light of the investigation's findings. The research's conclusions indicate that inventory management significantly affects Kenyan manufacturing companies' financial performance in both good and negative ways. The cutoff point of five percent was used to assess the significance of this discovery.

In addition, our goal was to assess the financial performance of Kenyan industrial companies that are publicly traded, focusing especially on the cash management strategies used by these companies. The study concluded that there was no evidence to suggest that the financial performance of Kenyan listed industrial enterprises was significantly impacted by cash management. This result was arrived at after taking into account the available facts. The fourth goal was to assess the financial performance of Kenyan industrial companies that are publicly traded. The goal of this assessment was to ascertain how these businesses managed their accounts payable responsibilities. The research conclusions indicate that there is no proof that cash management affects listed industrial enterprises in Kenya's financial performance in a way that is statistically significant. This result was possible since the significance threshold was determined to be 5%. This result was drawn because there was insufficient data to refute the null hypothesis, which claimed that accounts payable administration had no impact on financial performance.

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