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Operational Cash Flow and Return on Asset of Listed Manufacturing Firms in Kenya: A Panel Analysis

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Abstract:
The contribution of the manufacturing sector to the Kenyan economy has, over time, portrayed a declining trend when compared to the growth of other economies and the volume of exports. The average growth in value of manufacturing exports to other countries in Africa shows Kenya ranked the last below 10%. Rwanda ranked the highest at 35%, Nigeria secured 30%, while in East Africa, Tanzania topped the list with 23%. Cash flow has posed a challenge to the listed firms in this sector. The trend analysis across the firms in the sector shows that none has a consistent cash flow raising doubt if cash is properly managed among the firms. These companies reported negative operational cash flows, reduced sales volume, extreme losses, and complications in paying suppliers. These firms reported circles of increase and decrease in cash inflows and cash outflows which later had an impact on their Return on Asset. The reviewed studies revealed mixed results and adopted different methodologies. Some revealed positive relationships, while others showed negative relationships. Locally, the majority of the studies were carried out in different sectors like Sacco and Small and Medium Enterprises using either time series data or cross-section data. In contrast, the studies on listed manufacturing companies were done in other countries. Furthermore, none of the studies reviewed has attempted to incorporate operational cash flow management and return on an asset using panel data to study listed manufacturing firms within the same study period. The study employed a correlational research design. The target population was all the 9 companies listed, out of which 8 companies were purposively sampled. The study period was seven years: 2013-2019, yielding 56 data points. The collection of secondary data was aided by data collection sheets. The test for unit root indicated order zero (p=.000) after integrating the variables. Pooled regression analysis revealed that the panel model shows a good fit with an R squared of above 85.4%. Operational cash flow is a significant predictor of performance (β=341.508), (p=0.000) meaning a unit change in operational cash flow leads to an increase in ROA of 341.508. The study concludes that operational cash flow positively affects Return on assets.

Keywords: *Cash flow, unit root test, co-integration test, Hausman test, Nairobi securities exchange*

1. Introduction

A firm's performance is an undertaking that depicts management's in-depth application of efficient management practices to accelerate the efficiency and effectiveness of a company (Keinan & Karugu, 2018). Furthermore, performance requires measures to monitor and pinpoint the management strategy to foresee future internal and external situations and to make decisions in needed periods (Taouab & Issor, 2019). However, compared to countries like Taiwan, Malaysia, Singapore, Sri Lanka, and South Africa, the contribution of manufacturing companies to the national cake is low (KIPPRA 2013).

Nairobi Securities Exchange is a platform where local and international investors trade, aiming at gaining age in the East African Capital Market (NSE, 2018). However, companies in Kenya have been turbulently hit by financial crises, and among them are the manufacturing companies which trade in Nairobi Securities Exchange (CMA, 2020). The firms reported a decline in profit after tax, an increase in borrowing, low sales volumes, and a decrease in revenue and dwindling yield in both operating cash flows, investing cash flows, and annual cash balance totals. Consistently, KNBS (2016) asserts that the manufacturing sector quantum index registered a slow pace of growth of 3.9% in 2015 compared to 6.3% in 2014.

According to Thah & Nguye (2013), companies are usually gauged to be financially performing when they are in a position to maximize their shareholders' value. Consistently, the study anchored performance on shareholders' wealth maximization theory. Financial performances are measured by different variables. Cohen et al. (2006) measured accountants' returns with the help of Return on Asset (ROA). The researchers elaborated on the frequent use of ROA in market analysis to gauge financial performance because it gauges the effectiveness of an asset in yielding more revenue. The commonly used accounting measurement of financial performance is Return on Asset (Mc Guire et al., 1988; Mujahid & Abdullah, 2014) and Return on Equity (Shuaibu et al., 2019).

Empirical studies reviewed revealed mixed results concerning the association between operational cash flow and Return on Asset of different companies. Waema & Nasieka (2016) studied working capital management and performance of manufacturing companies listed at the Nairobi Securities Exchange. A Quantitative research design was adopted by the researcher together with secondary panel data to study ten listed firms from 2005 to 2014. The findings from this study are inconsistent with the findings of Wangari (2018), which examined the effect of working capital management on financial performance among listed manufacturing companies, Nairobi Securities Exchange. A panel data from 2011-2015 was used to study the ten companies listed at NSE. However, these studies neither used a correlational research design nor anchored their study on performance theory. Additionally, the two studies present a time difference from the current study.

In the vein of Ngugi et al. (2020), manufacturing companies should accelerate collections from debtors by minimizing debtors' collection days. With cash, daily operation and financial performance will increase. On the contrary, payments should be decelerated by negotiating with creditors for a longer payment period. Consistently, Nour (2005) opines that firms aiming at remaining solvent and liquid minimize investment in raw materials, engage in effective credit management, and accelerate cash flow through timely receivables. Implementing a cash discount policy facilitates and accelerates collections from debtors, reducing the percentage of bad and doubtful debts. Therefore, managers with the duty of managing cash should employ several strategies, including speeding up cash collection, centralization of cash, minimizing inventory investment, minimizing idle cash balances, and planning and budgeting (Faque, 2020).

2. Conceptual Framework

The study conceptualized a relationship between operational cash flow and Return on Asset of manufacturing companies in Kenya.

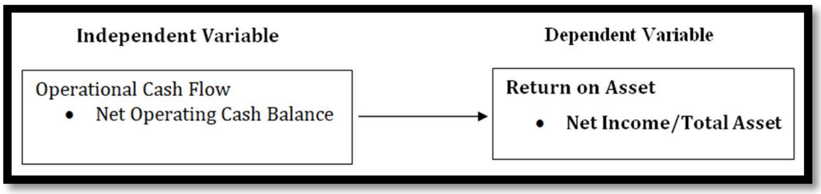

Figure 1: Relationship between Operational Cash Flow and Return on Asset (Adapted from Kinuthia et al., 2020)

3. Methodology

Research design forms the conceptual arrangement in which a study is carried out. It comprises the data collected, measurement of data, and analysis of the data collected (Kothari & Garg, 2019). The research adopted the correlational research method. A valid instrument reveals the degree to which the difference originating from an instrument of measure mirrors the actual disparity between the variables under test (Kothari, 2008). The test for validity was established by performing diagnostic tests. The data were standardized, where the raw data were converted into their natural logarithms, after which they were differenced.

The following regression equation model was adopted.

$$Y_{it} = \beta_0 + \beta_1 CFM_{it} + e$$

Where:

- Y_{it} = Return on Asset
- CFM_{it} = Operating Cash Flow
- B_0 = Regression intercepts which are constant
- B_1 = Coefficients of Regression
- E = Error term of the model (Assumptions: other variables not included)

3.1. Stationarity Test

This study investigated the tests for unit root at levels, at 1st difference and at 2nd difference, and at intercept and trend using Levin Lin Chu test together with a summary of I'm, pesaran & shin, Augmented Dickey Fuller-Fisher test and PP-fisher test methods for all the variables of CFM and ROA.

The null hypothesis was that variables showed non-stationarity, while the alternative hypothesis was that the variable showed stationarity.

	CFM		ROA	
Method	Stat	Prob.**	Stat	Prob.**
Levin, Lin & Chu t*	-5.34	(0.00)	0.12	(0.55)
Breitung t-stat	-5.20	(0.00)	3.60	(1.00)
I'm, Pesaran and Shin W	0.33	(0.63)	0.32	(0.62)
ADF - Fisher Chi-square	11.57	(0.77)	11.71	(0.76)
PP - Fisher Chi-square	16.23	(0.44)	4.08	(1.00)

Table 1: Unit Root Test at Levels
Source: Field Data, 2021
Note: Statistical Data Indicated on the Column of Every Variable Are the Estimates of Coefficients, While the Ones in Parentheses Are the P-Values at 1% Significance Level
*** Probabilities Derived from Fisher Tests Are Calculated with the Help of Asymptotic Chi-Square Distribution*
All Other Tests Are Inferred to Be Asymptotically Normal

In table 1, Levin, Lin & chi tests revealed that CFM was statistically significant and hence was subjected to integration at order 0 represented as I (0), implying that they were stationary at levels except for ROA. Breitung statistics revealed that CFM was statistically significant at order 0, meaning that it was stationary at levels. I'm, pesaran, and shin tests indicated CFM variable was not statistically significant of order 0 and hence was not stationary at levels. ADF–Fisher Chi-square revealed that it was not statistically significant at order 0 and hence was not stationary at levels. PP-fisher Chi-square method revealed that all CFM had insignificant probabilities at order 0 and hence not stationary at levels.

Given that the variables were not stationary at levels using the four methods, they were all subjected to 1st difference to determine whether they would all become stationary. The results are captured in table 2 below.

	CFM		ROA	
Method	Stat	Prob.**	Stat	Prob.**
Levin, Lin & Chu t*	-8.42	(0.00)	1.21	(0.89)
Breitung t-stat	-4.63	(0.00)	5.34	(1.00)
I'm, Pesaran and Shin W-st	-0.08	(0.47)	1.60	(0.95)
ADF - Fisher Chi-square	18.13	(0.32)	1.22	(1.00)
PP - Fisher Chi-square	31.65	(0.01)	0.00	(1.00)

Table 2: Unit Roots at 1st Difference
Source: Field Data, 2021

Statistical data indicated on the column of every variable are the estimates of coefficients, while the ones in parentheses are the p-values at 1% significance level.

** Probabilities derived from Fisher tests are calculated with the help of asymptotic Chi-square distribution.

All other tests are inferred to be asymptotically normal.

In table 2, Levin, Lin & chi tests revealed that CFM was statistically significant and hence was integrated at order 1, implying that it was stationary at 1st difference except for ROA. Breitung statistics revealed that CFM was statistically significant at order 1, meaning that it was stationary at 1st difference, while ROA was not statistically significant at order 1, meaning that it was not stationary at levels. I'm, pesaran and shin tests indicated the variables in totality were not statistically significant at order 1 and hence were not stationary at 1st difference. ADF–Fisher Chi-square indicated the variables in totality were not statistically significant at order 1 and hence were not stationary at 1st difference. PP- fisher Chi-square method revealed that CFM had significant probabilities at order 1, hence stationary at 1st difference except for ROA. Given that ROA remained insignificant using the 4 methods, an attempt was devoted to the 2nd difference while the results are captured in the table below.

	CFM		ROA	
Method	Stat	Prob.**	Stat	Prob.**
Levin, Lin & Chu t*	-1035	(0.00)	-1.76	(0.04)
Breitung t-stat	-2.16	(0.02)	0.07	(0.53)
I'm, Pesaran and Shin W-st	-0.64	(0.26)	0.24	(0.60)
ADF - Fisher Chi-square	18.22	(0.31)	6.68	(0.98)
PP - Fisher Chi-square	41.96	(0.00)	8.27	(0.94)

Table 3: Unit Roots at 2nd Difference
Source: Field Data, 2021
Note: Statistical Data Indicated on the Column of Every Variable Are the Estimates of Coefficients, While the Ones in Parentheses Are the P-Values at 1% Significance Level
*** Probabilities Derived from Fisher Tests Are Calculated with the Help of Asymptotic Chi-Square Distribution*
All Other Tests Are Inferred to Be Asymptotically Normal

From table 3, Levin, Lin & chi tests revealed that CFM and ROA were statistically significant and hence were integrated at order 2, implying that they were stationary at 2nd difference. Breitung statistics revealed that CFM is statistically significant at order 2, meaning that it is stationary at 2nd difference, while ROA was not statistically significant at order 1, meaning that they were not stationary at 2nd difference. I'm, pesaran and shin tests revealed that CFM and ROA are not stationary at 2nd difference. PP-fisher Chi-square method revealed that all the variables had significant probabilities and hence are integrated of order 2. Therefore, they are stationary at 2nd difference except for ROA. Given that the variables were stationary at 2nd difference. This study continued its analysis using variables at 2nd difference.

3.2. Residual Normality

Residual normality was employed in testing whether the disturbance term assumes a normal distribution. A normal distribution of an error term shows that the distribution sample of independent and dependent variables was distributed normally. As a normality test, Jacque Bera was adopted under the null hypothesis. Residual does not assume a normal distribution, and under alternative, that residual is normally distributed. The result is given below:

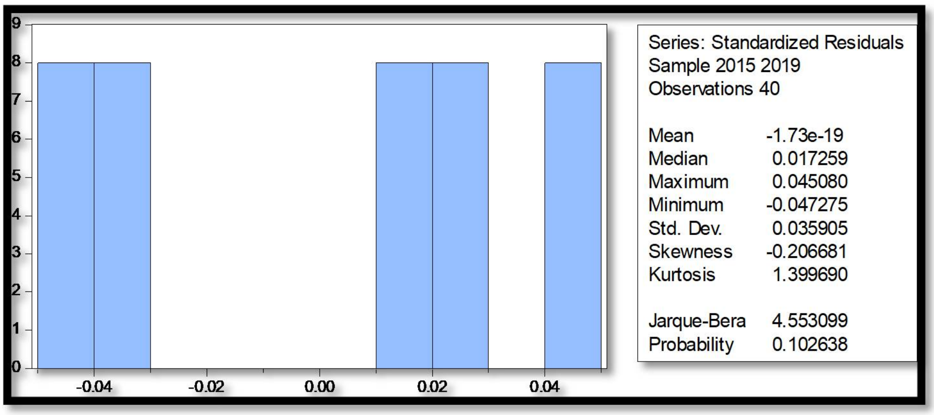

Figure 2: Testing Normality of the Study Variables

	CFM	ROA
Mean	19.45	4.89
Skewness	-0.31	1.47
Kurtosis	1.54	3.22
Jarque-Bera	4.19	14.57
Probability	0.12	0.00
Observations	40	40

Table 4: Testing Normality of the Study Variables
Source: Field Data, 2021

From the Jarque Bera results, the probability is insignificant (p=0.102638). Hence, the researcher rejected the null hypothesis and accepted the alternative hypothesis of normal distribution of the residual term.

3.3. Heteroscedasticity Test

According to Long & Ervin (2012), heteroscedasticity arises when the disturbance variance is not constant at all. The study involved time series data, which makes the variables carry with them many errors. However, it is not so in the case of cross-sectional data. The reason is that the sets of data are distributed over a long period of time. Hence, the accuracy of the variables may be inconsistent. Heteroscedasticity was tested using ***Breusch-Pagan-Godfrey*** under the null hypothesis of the heteroscedasticity test and the results tabulated are shown in table 5**:**

F-statistic	4.330484	Prob. F(3.38)	0.0101
Obs*R-squared	10.70064	Prob. Chi-Square(3)	0.0135
Scaled explained SS	9.954950	Prob. Chi-Square(3)	0.0190

Table 5: Heteroscedasticity Test: Breusch-Pagan-Godfrey
Source: Field Data, 2021

The results show that the Chi-square test reported a probability of 0.0135, which is lesser than 0.005. Hence, we accept the null hypothesis.

3.4. Hausman Test

Hausman test helps choose the applicable model between Fixed Effect and Random Effect models when using data. The null hypothesis was justified that Random Effect Model was consistent and thus useful, while under the alternative hypothesis, Fixed Effect Model was consistent and significant. This test is run on the assumption that the Random effect model is most suitable under the null hypothesis, whereas Fixed Effect Model is suitable under the alternative hypothesis. Results are tabulated below.

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	0	3	1.000

Table 6: Hausman Test
Source: Field Data, 2021

In table 6, the fixed effect model is rejected under the alternative hypothesis that the cross-section random has an insignificant probability (p=1.000). As a result of this, this study accepted and used the random effect model expressed in discussing its objectives. The multi-regression (random effect) technique was adopted while analyzing the relationship between the variables under examination.

4. Descriptive Statistics of the Variables

Descriptive statistical analysis investigated the operational cash flow and Return on Asset. The descriptive statistics help to check if the variables meet a normal distribution in their behavior. The *mean* defines the arithmetic average of the values.

	CFM	ROA
Mean	19.45	4.89
Skewness	-0.31	1.47
Kurtosis	1.54	3.22
Jarque-Bera	4.19	14.57
Probability	0.12	0.00
Observations	40	40

Table 7: Descriptive Statistics
Source: Field Data, 2021

Table 7 reveals the descriptive statistics for operational cash flow and Return of Asset firms across all the sampled companies. The mean ROA is 4.89. This is in tandem with Lawal et al. (2020), which reported a mean ROA of 0.0532, showing the highest of 0.0809 and the lowest of 0.0034. Too & Omwono (2021) had a mean of 3, and Iftikar (2017) had a mean value for ROA OF 5.6% of total assets. However, from the results, CFM had a mean of 19.45, which was consistent with Efeeloo et al. (2020). CFM is normally skewed, given the magnitude of skewness. CFM had a mean of 19.45 and was normally skewed, given the magnitude of skewness. Its kurtosis indicated that it had a thin tail, while its JB test indicated that it was normally distributed.

5. Correlation Analysis

Correlation analysis was done to study the linear relationship existing between the variables. The correlation coefficient tells us the magnitude of the association among variables and the direction of the association between the two variables.

Table 8 indicates the level of relationship existing across the CFM and ROA.

Probability	ROA	CFM		
ROA	1			

CFM	0.517	1		
	(0.001)	-----		

Table 8: Correlation Analysis
Source: Field Data, 2021

Table 8 shows that there is a strong positive and significant correlation existing among ROA & CFM (r= 0.517; p=0.001). Guajarati (2007) posits that a correlation coefficient exceeding 0.8 across independent variables is a pointer to multi-collinearity. The results show that there exists no extreme multi-collinearity challenge since the coefficient of correlation across the predictor variables is lower than 0.8.

5.1. Co- integration Equation

Co-integration test is done to determine the long-run association existing between the variables. If there are variables that do not exhibit stationarity and the normality in regression analysis is done, the findings may be meaningless. If the data is subjected to differentiation, they are subject to stationarity but lose the long-run association. Co-integration is thus carried out to grasp the long-run association among the variables and only applies if the variables used are non-stationary at levels. Kao residual test was used to detect all co-integrated vectors. An Automatic lag length was selected on the basis of SIC with a max lag of 0. Newey-West automatic bandwidth selection and Bartlett kernel were put into consideration. The results were as follows:

	t-Statistic	Prob.
ADF	-4.78704	**0.000**
Residual Variance	0.000993	
HAC Variance	0.000993	

Table 9: Kao Residual Co-integration Test
Source: Field Data, 2021

Table 9 shows that the no co-integration, which represents the null hypothesis (r=0) against the existence of co-integration representing the alternative hypothesis, is annulled at 1% significance level. This points to the existence of co-integration among variables, and hence, the study accepts the alternative hypothesis. This shows a long-term relationship between cash planning, cash flow management, investing cash flow, and return on asset when pooled.

5.2. Pooled Regression

This investigated the level of relationship that exists between CFM and ROA without considering the cross-sectional nature of the firms and also the constant.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CFM	342.375	23.506	14.566	0.000
R-squared	0.854	Mean dependent var		0.013
Adjusted R-squared	0.846	S.D. dependent var		0.095
Sum squared residuals	0.051	Akaike info criterion		-3.681
S.E of Regression	0.037	Schwarz criterion		-3.554
Log-likelihood	76.614	Hannan-Quinn criteria.		-3.635
Durbin-Watson stat	1.726			

Table 10: Pooled Regression Analysis
Source: Field Data, 2021

The results (regression analysis) of table 10 indicate that CFM is positive and significant in determining ROA. A percentage change in CFM leads to ROA changing by 342.375%; p =0.000, which is at 1% significant level. This means accelerating cash inflow while decelerating cash outflow will increase profit for the firm, thus increasing ROA. The findings support the shareholders' wealth maximization and the findings of Nwakaego & Ikechukwu (2016), Pandey (2019), Elizabeth (2016), and Augustine & Jacob (2017). The Durbin-Watson statistics (1.726) oscillate around 2, meaning there is no serious autocorrelation, and hence the errors are uncorrelated. Using Durbin – Watson statistics, if DW falls between 1.5 and 2.5, it shows no autocorrelation. If DW falls at a point lower than 1.5, it indicates positive autocorrelation, and DW above 2.5 shows negative autocorrelation.

5.2.1. Random Effect Model

This study used a panel data, and it is believed that the 'group' effect is random if it is observed that the group is a sample from a larger population. They are used in circumstances where one thinks that there is no omission of variables or in circumstances where the omissions of variables are not correlated with the independent variables in the model. The reason is that they will generate coefficient estimation, which is not biased of the coefficients, utilize all the data given and generate a standard error which is minute (Williams, 2017). The results were as follows:

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CFM	341.508	26.458	12.908	0.000
R-squared	0.856	Mean dependent var		0.013
Adjusted R-squared	0.844	S.D. dependent var		0.095
S.E. of Regression	0.037	Sum squared residuals		0.050
F-statistic	71.163	Durbin-Watson stat		1.786
Prob(F-statistic)	0.000			

Table 11: Random Effect Analysis
Source: Field Data, 2021

The results of table 11 indicate that CFM is significant in determining ROA. CFM is positively influencing ROA. A percentage change in CFM results in 341.508 changes in ROA.

The variations between the firms' R square within the companies were also found to be larger than 85.6%, compared to the variance of other firms' R squares.

- Arfan et al. (2017) had an R square= 21.0%,
- Musdholifah (2016) had an R square = 52.5%,
- Efeeloo et al. (2020) had an R square = 46.4%,
- Iftikhar (2017) had an R square = 70.14%

5.3. Influence of Operational Cash Flow on Return on Asset among Listed Manufacturing Companies

From the random effect results in table 11, CFM had a positive effect on Return on Asset at a significant level. A percentage change in CFM results in 341.508 changes in ROA. This value is significant because p-values fall below 0.05. It can be inferred from these findings that units change in cash flow management results in increased ROA of companies trading at NSE, Kenya of 341.508, other factors being constant. It can be deduced that the existence of a trade-off between cash inflow and cash outflow should be maintained with a pointer at cash inflows. The result is congruent with the results of other researchers, such as Pandey (2019), Elizabeth (2016), Augustine & Ikechukwu (2016), Nekoye et al. (2019), Gakondi & Muturi (2019), Onyieko et al. (2018), Cheptum (2019), Achode & Rotich (2016) and Moodley et al. (2017). These researchers found cash flow management and financial performance to be associated positively among the companies listed at Nairobi Securities Exchange. However, Kinuthia (2020) showed that cash flow management and financial performance have a negative relationship, thus inconsistent with the findings of this study. A study by Onyieko et al. (2018) revealed that cash management had a mean of 10.19 with R square= 24.0%, while cash flow management had a mean of 19.45 under the current study with R squared= 85.6%. Nekoye et al. (2019) had an R square of 45.1%. Therefore, when firms accelerate cash inflow, while decelerating cash outflow, the performance of firms measured by ROA will be significantly increased.

6. Conclusion and Recommendations

The summary of the findings above informed the three conclusions drawn in tandem with the objective of the study. The conclusion was drawn that operational cash flow management was critical for the companies. It varies as the performance of the manufacturing companies varies in the same direction, thus significant. Therefore, it is concluded that cash flow management has a positive but significant effect on Return on Asset of manufacturing companies trading at NSE. Therefore, the null hypothesis that cash flow management does not have a significant effect on Return on Asset of the companies is rejected.

Recommendations are made that managers of listed companies should determine the optimum cash holding to avoid the negative effect on firm performance, such as tax disadvantage or the opportunity cost of holding more cash. Companies should maximize cash flow management since it increases the performance of a company. Cash inflows should be accelerated, while cash outflows should be decelerated. The goal of any firm is to balance cash receipts and cash payments to cushion the firm against liquidity challenges. Firms should monitor their cash inflow and outflow through practices such as; cash forecasting, cash budgeting, concentrated banking, and electronic fund transfer services. Furthermore, the prosperity of any firm is anchored on the ability of its managers to plan and take care of cash flows. Inadequate cash will disrupt firms' operational activities. When firms plan cash by holding more idle cash in volume, their liquidity status is increased. However, on the contrary, profitability is minimized.

7. References

i. Achode, B. M., & Rotich, G. (2016). Effects of Accounts Payable as A source of Financing on Performance of Listed Manufacturing Firms at The Nairobi Securities Exchange. *International Journal of Research Studies in Agricultural Sciences (IJRSAS), 2*(4), 24-32.

ii. Augustine, N. I., & Jacob, I. A. (2017). Cash Management and Performance of Listed Firms in Nigeria. *Journal of Economics, Management, and Trade, 18*(1), 1-13. Retrieved from https://doi.org/10.9734/JEMT/2021/33719.

iii. Cheptum , F. J. (2019). Effects of Debtors' Approval on Financial Performance of Manufacturing Firms in Kenya. *American Journal of Finance, 4*(1), 31-56. Retrieved from https://doi.org/10.476.72/ajf.386.

iv. CMA. (2020). The Capital Market Authority Quarterly Statistical Bulletin Q3 2020. (44/2020). Retrieved 10 16, 2021, from https://www.cma.or.ke

v. Cohen, S. G., Chang, L., & Ledford Jr., G. E. (2006). A Hierarchical Construct of Self Management Leadership and its Relationship to Quality of Work Life and Perceived Work Group Effectiveness. *Personnel's Psychology, 50*(2), 275-308. Retrieved from https://doi.org/10.1111/j.1744-6570.1997.tb00909.x

vi. Elizabeth, O. E. (2016, May). Imperativeness of Cash Flow Management as A tool for Business Success: An Empirical Survey of Selected Firms in Delta State Nigeria. *Journal of Policy and Development Studies, 10*(2), 1-7.

vii. Faque, M. (2020). Cash Management Strategies and Firm Financial Performance: A Comprehensive Literature Review. *Bussecon Review of Finance and Banking, 2*(2), 36-43.
Retrieved from https://doi.org/10.36096/brfb.v2i2.207

viii. Gakondi, E. W., & Muturi, W. (2019, May). Effects of Working Capital Management on Financial Performance of Private Manufacturing Firms in Kenya. *International Journal of Social Science and Information Technology, 5*(5).

ix. HC, R. K., Mamduh, H. M., & Wayan, L. N. (2019). The Effect of Optimal Cash and Deviation from Target Cash on the Firm Value: Empirical Study in Indonesian Firms. *Jurnal Dinamika Manajemen, 10*(1), 1-13.

x. Iftikhar, R. M. (2017). Impact of Cash Holding on Firm Performance: A case study of Non-Financial Listed Firms of Karachi Stock Exchange. *2*(1).

xi. KAM. (2018). Manufacturing Priority Agenda 2018. Retrieved 04 23, 2021, from Retrieved from kam.co.ke/kam/wp-content/uploads/2018/02/2018-Manufacturing-Priority-Agenda.pdf

xii. Keinan, A. S., & Karugu, J. (2018). Total Quality Management Practices and Performance of Manufacturing Firms in Kenya: Case of Bamburi Cement Ltd. *International Academic Journal of Human Resource and Business Administration, 3*(1). Retrieved from http://www.iajournals.org/articles/iajhrba v3 i1 81 99 .pdf

xiii. Kinuthia, D. N., Koori, J. M., & Mwangi, L. W. (2020). Working Capital Management and Financial Performance of Listed Manufacturing Companies in Kenya. *International Journal of Business Management and Finance, 3*(2), 325-336.

xiv. Kibaya, I. (2019). Effect of Cash Holding on Value of Non-Financial Firms Listed at Nairobi Securities Exchange. *Doctoral Dissertation*.

xv. KNBS. (2018). Kenya Economic Survey 2018. Retrieved 05 03, 2020, from Retrieved from dc.sourceafrica.net/documents/118278-Kenya-National-Bureau-Of-Statistics-Economic.html

xvi. Kothari, C. R., & Garg, G. (2019). *Research Methodology. Methods and Techniques* (4 ed.). International Publishers.

xvii. Matianyi, B. J., & Ndirangu, A. W. (2019). Influence of Cash Management Practices on Financial Performance of Deposit Taking SACCOs in Kakamega County. *The Strategic Journal of Business & Change Management, 6*(2), 1994-2005.

xviii. McGuire, J. B., Sundgren, A., & Schneeweis, T. (1988). Corporate Social Responsibility and Firm Financial Performance. *Academy of Management Journal, 31*(4), 854-872.

xix. Moodley, T., Ward, M., & Muller, C. (2017). The Relationship Between the Management of Payables and the Return to Investors. *South Africa Journal of Accounting Research, 31*(1), 35-43. Retrieved from https://doi.org/10.1080/10291954.2015.1105555.

xx. Mujahid, M., & Abdullah, A. (2014). Impact of Corporate Social Responsibility on Firms' Financial Performance and Shareholders Wealth. *European Journal of Business and Management, 6*(31), ISSN 2222-1905.

xxi. Mugenda, O. M., & Mugenda, A. G. (2003). *Research Methods. Quantitative and Qualitative Approaches.* African Centre for Technology Studies.

xxii. Musdholifah, P. N. (2016). Cash Holding, Good Corporate Governance and Firm Value. *Journal of Dinamika Minajemen, 7*(2), 117-128.

xxiii. Nah, F., Ijaz, F., & Naqvi, F. (2016). Financial Performance of Firms: Evidence from Pakistan Cement Industry. *Journal of Teaching and Education, 5*(01), 81-94. Retrieved from https://ssrn.com/abstract=2788357.

xxiv. Nekoye, K. R., Makokha, E. N., & Namusonge, G. (2019). Determinants of Working Capital Management on Financial Performance of Orchards in Kenya: A Case of Study of Mount Elgon Orchards. *International Journal of Recent Research in Social Sciences and Humanities, 6*(2), 103-113.

xxv. NSE. (2018). Nairobi Securities Exchange 2018 Annual Report. Retrieved 03 4, 2021, from Retrieved from africanfinancials.com/document/ke-nse-2018-ar-00.

xxvi. Shuaibu, K., Muhammad, A., & Isah, U. (2019). Cash Conversion Cycle and Profitability of Listed Cement Companies in Nigeria. *IOSR Journal of Humanities and Social Science (IOSR-JHSS), 24*(6), 25-33. Retrieved from http://www.iosrjournals.org.

xxvii. Taouab, O., & Issor, Z. (2019, Jan). Firm Performance: Definitions and Measurement Model. *European Science Journal, 15*(1), 93-106. doi:10.19044/esj.2019.v15n1p93.

xxviii. Thah, V. H., & Nguyen, M. H. (2013). The Effect of Banking Relationship on Firm Performance in Vietnam. *International Journal of Economics and Finance, 5*(5), 148-158. doi:doi:10.5539/ijef.v5n5p148.

xxix. Thanh, C. N. (2019). Optimal Cash Holding Ratio for Non-Financial Firms in Vietnam Stock Exchange Market. *Journal of Risk and Financial Management, 12*(104). doi:10.339/jrfm12020104.