

Effect of Cash Flow Management on Financial Performance of Listed companies at Nairobi Securities Exchange; Kenya.

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Abstract: This study sought to determine the effect of cash flow management on financial performance of listed companies at the Nairobi Securities Exchange. The research designs that were employed were casual and correlational research techniques. A census was done on 54 organizations that were listed at the Nairobi Securities Exchange during the period 2013-2017. Study data was obtained from the companies yearly audited financial statements for five years duration between 2013 and 2017. Data was analyzed using both descriptive and inferential statistics. Multiple linear regression analysis model was used to determine the association between the research variables. The results of the study indicated that there existed a positive and significant relationship between cash flow from operating activities and the financial performance of listed companies at the Nairobi Securities Exchange ($\beta=0.621$, $p\text{-value}=0.006$); a negative and significant relationship between cash flow from investing activities and financial performance of listed companies at the Nairobi Securities Exchange ($\beta=-0.387$, $p\text{-value}=0.029$) and a positive and significant relationship between cash flow from financing activities and financial performance of listed companies at the Nairobi Securities Exchange ($\beta=0.406$, $p\text{-value}=0.014$). The study thus concluded that cash flow from operating activities, cash flow from investing activities and cash flow from financing activities were significant predictors of the level of financial performance among listed companies at the Nairobi Securities Exchange, Kenya.

Keywords: Cash flow management, financial performance, investment cash flow, financing cash flow, operating cash flow.

I. INTRODUCTION

The functioning of modern day business organizations is an ever-changing process that is dependent on continuous flow of cash resources (Belobo & Pelser, 2014). One of the major problems that economic entities face is that their cash flows are not always preserved and restored. This is necessary if a company is to maintain enough cash for its operations and the demands for cash are to be met (Ogbeide & Akanji, 2017). It is the conscious, effective management of cash flows in the firm that can see to it that the company operates successfully (Omag, 2016). According to Parsian and Amir (2013), when a company's money is not well managed and planned for effectively, it will be impossible for it to manage its operations in the short term. When an organization has enough current cash then its operations will not come to a halt, the revenue will continue trickling in and the firm can get money for reinvestments (Kordlouie, Mosadegh & Rad, 2014). Ikechukwu, Nwakaego and Celestine (2015) argued that a look into the availability of cash for any company can help any analyst to determine if the organization will be able to sustain its operations and profitability, if the organization can pay its debtors, finance its assets, level of dependence upon external sources of financing, the anticipated dividend policy, the firm's ability to pay off debt, the firm's financial flexibility with regard to expected needs and opportunities, and the quality of income. In any enterprise the money that comes from investment, financing and operations business tasks are closely interlinked in that funds raised from any one of the three activities can be redirected into any of the other two activities depending on the needs of the organization at that particular time (Drake & Fabozzi, 2010). For instance, monies generated from operating activities can be used to support the organization's investments or be used in repayment of outstanding long-term debts. In a similar way, monies raised from financing activities can be utilized to meet the operational needs of the entity or be used in investment activities and the same applies to monies realized from investments and which can be utilized to meet the operational needs of the entity or be used in repayment of outstanding

long-term debts (Sharma, 2011). What is evident is that the flow of funds within and outside an organization from these three major activities is at the epicenter of the organization sustainability and profitability (Harford, Mansi & Maxwell, 2012). The introduction of cash flow statement as an integral part of a firm's annual reports introduces a new dimension to the information that can be accessed by the different stakeholders in their evaluation of the financial wellbeing of their organization (Hong, Shuting & Meng, 2012).

1. Statement of the Problem

Cash flow management is an area of business management that has been a priority on the policy agenda among corporates in both the developed and developing countries for over a decade (Kroes & Manikas, 2014). The pecking order theory and many other corporate management mechanisms suggest that good cash flow management improves firm performance (Sayari & Muga, 2013). However, recent global events that have seen high profile companies such as HTC, ExxonMobil, Chevron, Carillion and IBM scale down their operations due to cash flow problems have awakened the call for corporates to strengthen their cash flow management in both developed and developing countries (Foerster, Tsagarelis & Wang, 2016). In Kenya, a number of prominent companies have had to significantly curtail down their operations and even facing the prospect of closing down with Nakumatt, Mumias Sugar and National Oil as good examples (Ndung'u, 2016). There is need therefore for corporates in Kenya to strengthen their cash flow management practices (Mutende et al., 2017). Despite cash flow management being an integral part of the financial reporting of modern day business organizations, existing empirical evidence presents a paradox with some studies reporting that increasing net cash flows from operating, financing and investing activities of firms corresponds with increased financial performance (Alslehat & Al-Nimer, 2017; Amuzu, 2010; Nwanyanwu, 2015) while others reported decreased financial performance (Hong et al., 2012; Bingilar & Oyadonghan, 2014). Locally, studies on the impact of cash flow management on performance of SMEs have established a favorable association between cash flow from operating and investing activities but a negative relationship between cash flow from financing activities and performance of SMEs (Guda, 2013; Oluoch, 2016). In contrast, a study done in Nigeria found a positive relationship between financing cash flows and firm profitability while investing cash flows had a negative relationship with firm profitability (Ikechukwu et al., 2015). On his part, Kimonge (2011) study concluded that no favorable association was found between Nairobi based NGOs financial performance and cash flow management. These results from different studies showed that there were discrepancies and consequently further research on the subject was necessary. Further, studies done by Guda (2013) and Oluoch (2016) were not on companies listed at the NSE as was with the current study. Other local studies include Chepkwony (2014) and Mundia (2016) study which found that a favorable association existed between cash flows and stock returns of firms listed at the NSE. However, the current study was a bit different since its emphasis was on the link between cash flow management and financial performance of firms listed at the NSE.

2. Objective of the Study

The general objective of the study was to establish the effect of cash flow management on financial performance of listed companies at the Nairobi Securities Exchange. Specific objectives included;

- i. To determine the effect of cash flow from operating activities on financial performance of listed companies at the Nairobi Securities Exchange.
- ii. To examine the effect of cash flow from investing activities on financial performance of listed companies at the Nairobi Securities Exchange.
- iii. To investigate the effect of cash flow from financing activities on financial performance of listed companies at the Nairobi Securities Exchange.

3. Research Questions

The study was guided by the following research questions;

- i. What is the effect of cash flow from operating activities on financial performance of listed companies at the Nairobi Securities Exchange?
- ii. What is the effect of cash flow from investing activities on financial performance of listed companies at the Nairobi Securities Exchange?
- iii. What is the effect of cash flow from financing activities on financial performance of listed companies at the Nairobi Securities Exchange?

II. LITERATURE REVIEW

1. Theoretical Review

This research was guided by four theories as discussed below;

Agency Cost Theory

Jensen and Meckling founded the named theory in 1976. The model provides the association between the principals who are mainly the shareholders and agents who are mainly the company executives and managers (Sayari & Mugan, 2013). Agency cost theory holds that shareholders expect the agents to act and make decisions in the principal's best interest. However, this is not always the case as the managers of organizations can be self-interested (Sharma, 2011). The model looks into the conflict affecting the shareholders and their managers - agents (Khanji & Siam, 2015). This model was useful to the current study as the responsibility of running the named Kenya companies is bestowed on managers who are expected to make decisions that favour the shareholders with ensuring a stable cash flow position and sound financial performance being a good indication of the managers' execution of this responsibility.

The Modigliani and Miller Theory

This theory was a continuation of Modigliani and Miller work in 1961 after a paper titled: Dividend Policy, Growth, and the Valuation of Shares were published by the two in the Journal of Business (Mirosky & Debrah, 2014). They provided a new concept when it came to the use of dividends as an important measure of an organization's value. Based on various assumptions their argument was that investors should not make investment decisions based on whether a company gives dividend or not (Smith & Barclay, 2015). According to this model in the investors view dividends and capital gains are the same. A company's value is thus pegged on the earnings that it gets that are determined by how lucrative the industry is and the investment decision the firm makes (Stiglitz, 2010). If the investors can access the organization's investment policy then they can successfully opt to invest in the firm or not based on this information (Brusov, Filatova, Orehova, Brusov & Brusova, 2011). This model was relevant to the current study given that the investment policy of a firm has significant implications on its cash inflows and outflows as well as on the earning power of the firm. As such, when evaluating the cash flow position of a firm, activities in its investment section cannot be ignored.

Pecking Order Theory

Pecking order theory is also referred to as the information asymmetry theory. Donaldson is the developer of the theory in 1961 and later it was modified by Stewart Myers and Nicolas Majluf in 1984 (Al-Najjar, 2013). The theory states companies will always prefer to finance their operations by use of internal financing rather than from equity and will only go for equity financing if they are out of options. Thus, a firm will first use its internal finances and once these are depleted the firm will opt for debt financing and equity financing as the last resort (Frank & Goyal, 2013). Based on this theory, firms prefer to finance their investments, first internally with retained earnings, then with debt and finally with the issue of new equity (Harford et al., 2012). The choice to use internal funds to fund investments is based on the assumption that they have no transaction costs while the use of debt is preferred to stock given that it signals positive information regarding the firm's ability to repay both the borrowed funds and accruing interest (Smith & Barclay, 2015). This model will be significant to this study since managers are expected to make wise decisions that distinguish between the conservative and aggressive financing strategies to optimize a firm's performance (Omag, 2016). This theory was relevant to the current study given that internal financing (through ploughed back earnings) and external financing (through issue of shares or debt instruments) form the major sources of corporates' financing and where a firm's internal funds are depleted, use of debt instruments and issue of equity provide the mechanisms through which the firm can raise much needed cash inflows for its continued operation.

Miller-Orr Model of Cash Management

The Miller-Orr model of cash management is one of the prominent cash management models developed by M.H Miller and Daniel Orr in 1966. This stochastic cash management model helps the present day business enterprises to manage their cash while taking into consideration the fluctuations in daily cash flow. This model deals with cash inflows/outflows that change on a daily basis (Drake & Fabozzi, 2010). The model specifies two control limits, the upper control limit (beyond which the cash balance should not be carried) and the lower control limit (to which the firm should maintain cash resources at least to the extent of the lower limit), and a target cash balance (which is the return

point for the firm's cash balances or the desired level of the cash balances) (Nagano et al., 2015). This theory was relevant to the current study given its focus on cash flow management

2. Empirical Review

Cash flow from Operating Activities and Financial Performance: In a study carried out in South Africa by Belobo and Pelsler (2014) to test the hypothesis that poor operational performance experienced by Mafikeng SMEs happened due negative cash flows of these businesses due to volatilities in the business environment in general prior to the global crisis. Mixed method approach was employed with views and experiences of participants being captured through in-depth interviews. The findings indicated a favorable significant association between management of operating cash flows and the operational performance of the selected SMEs. Similarly, Guda (2013) descriptive study on Nairobi based SMEs showed a favorable and significant association between profitability and their management of OCFs. In a descriptive study conducted in Kenya, Kimonge (2011) study that used NGOs secondary data and multiple regression analysis found that a significant association did exist between proper management of OCFs and the financial performance of the Kenyan based NGOs. Alslehat and Al-Nimer (2017) quantitative descriptive study of 23 Jordanian insurance companies revealed that the activities that generated the highest cash flows were operating activities and that the firms did not face liquidity problems. There was also a significant positive relationship between the firms' management of OCF and their financial performance.

Cash flow from Investing Activities and Financial Performance: In a descriptive survey study conducted in Kenya, Ndung'u (2016) evaluated the effect of cash flow management on market performance of public construction companies. The research utilized secondary semi-annual financial data spanning between 2008 and 2015 of construction firms listed on the NSE. The study findings indicated that cash flows from investing activities had a negative effect on the market performance of construction companies listed at the NSE. In a related study, Khanji and Siam (2015) studied the impact of cash flow on share price of Jordanian commercial banks listed in Amman Stock Exchange. The study's population consisted of all Jordanian commercial banks listed in Amman stock Exchange in the years 2010-2013. However, the study sampled 12 banks. Descriptive research technique was used. The study results showed that there was no statically significant relationship between operational, investment and financing cash flows and share market value of the listed Jordanian commercial banks

Cash flow from Financing Activities and Financial Performance: In a descriptive longitudinal study carried out in the USA, Kroes and Manikas (2014) looked at the association between USA manufacturing companies' cash flow management and financial performance. Generalized Estimating Equations methodology was employed and an analysis of a longitudinal sample of twelve quarters of cash flow and financial performance data from 1,233 manufacturing firms between 2008 and 2011. The study results revealed that there was a favorable association between cash flows from financing activities and the financial performance of the USA organizations. Amah et al. (2016) ex post facto research survey study analyzed the relationship between the research variables using correlation technique. According to the results, financing cash flow ratios did negatively and insignificantly impact on the financial performance of the Banking sector in Nigeria. In a study conducted in Nigeria, Ikechukwu et al. (2015) used a case study of selected banks and ex-post research design. Financial data got from the banks financial records for a period of four years was used and multiple analyses used to test the research hypothesis. According to the outcomes financing cash flow had a significant positive effect on the profitability of the three surveyed banks in Nigeria. A related study by Nwanyanwu (2015) investigated cash flow and organizational performance in Nigeria based on perspectives of the hospitality and print media industries. Descriptive survey technique was used. Data were collected through questionnaire. Analyses of the data were performed by means of descriptive statistics. The study results indicated a significantly strong positive relationship between financing cash flows and selected firms' net profit.

III. METHODOLOGY

1. Research Design ,Target Population And Sampling

This study adopted correlational and causal research design. Correlational research is concerned with establishing relationships between two or more variables in a given population. Causal research design focuses on an analysis of a situation or a specific problem to explain the patterns of relationships between variables. The design was favourable for this research since it helped the researcher establish whether or not a relationship existed between the study variables. The current research target population was the 54 firms listed at the NSE during the period 2013-2017 as per the NSE

database (NSE, 2013-2017). A census of all the 54 listed companies in Kenya during that study period was conducted in this study.

2. *Research Instruments and data collection*

Secondary data used was extracted from the yearly audited firms' financial data for duration of 5 years between 2013 and 2017. The five year study period also allowed the researcher to perform a trend analysis of the firms' cash flow from the 3 main activities [operating, investment and financing] there by being able to establish the relationship between cash flow management and the firms' financial performance. . Data collection schedules were used to collect secondary data.

3. *Data Processing and Analysis*

Coding and classification of the data was done for easier and proper analysis. The study data was summarized descriptively using percentages, frequencies, mean and standard deviation using the Statistical Package for Social Science (SPSS version 23.0). Given the time series nature of the study data, panel data model was used. As such, analysis of relationships was done using a panel regression model. Kothari (2004) takes note of that, the utilization of a board relapse model is suggested in situations where the analyst is attempting to decide the impact of different factors or factors on a reliant variable over a given timeframe. The relapse investigation model was valuable to the examination as it helped the specialist to break down the relationship between the exploration factors and decide whether changes in any of the indicator factors influenced the result variable of the examination. Regression model was embraced as the examination thought about a few factors over some undefined time frame and the investigation information included two measurements; a cross-sectional measurement, meant by the quantity of firms recorded at the NSE, and a period arrangement measurement, meant by the examination information time of 5 years somewhere in the range of 2013 and 2017 – these two measurements are qualities of board information. However, before the analysis, diagnostic tests were carried out. The diagnostic tests carried out included normality, homoscedasticity and multicollinearity tests. The study findings were presented in Tables.

The panel regression model specification was as follows;

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \epsilon_{it}$$

Where; Y = Financial performance (The dependent variable), X_1 = Cash flow from operating activities , X_2 = Cash flow from investing activities, X_3 = Cash flow from financing activities, i = the 65 listed companies in Kenya from the 1st to the 65th , t = time period in years, starting from year 1 to year 5 [that is, 2013 - 2017], β_0 = Value of response variable when all predictors equal zero, β_1 , β_2 & β_3 = Beta coefficients of independent variables, ϵ = Error term. To test the significance of the overall model, F-statistic was used. The regression estimators were tested for significance using t-test at 5% level of significance

4. *Diagnostic Tests*

Panel data was subjected to diagnostic tests to evaluate conformity with multiple regression model assumptions. This ensured validity of the results. The study employed normality, homoscedacity and multicollinearity diagnostic tests.

IV. RESULTS AND DISCUSSIONS

1. *Diagnostic Tests*

Prior to performing regression analysis, the study performed various diagnostic tests which included normality, homoscedasticity and multicollinearity tests. These tests were critical in ensuring that the study data met the specific assumptions for the proposed regression analysis. The results of the tests are as described in subsequent subsections:

Tests of Normality: The significance values for the Shapiro-Wilk tests were 0.645 for cash flow from operating activities, 0.724 for cash flow from investing activities, 0.703 for cash flow from financing activities and 0.670 for financial performance. Given that the p-values of Shapiro-Wilk tests for the study variables were greater than the chosen alpha level of 0.05 then the study accepted the hypothesis that the data came from a normally distributed population.

Homoscedasticity Tests: The Levene test for equality significance values for the study variables were as follows; 0.373 for cash flow from operating activities, 0.475 for cash flow from investing activities, 0.249 for cash flow from financing activities and 0.282 for financial performance. Given that the p-values of Levene test for equality for the study variables

were greater than the chosen alpha level of 0.05, the study failed to reject the null hypothesis and concluded that the error variance was equal across groups and thus heteroscedasticity was not a problem in the study data.

Multicollinearity Test: From the multicollinearity tests, there was no multicollinearity among the independent variables of the study since their VIF values were all less than 3 while their Tolerance Statistics values were all > 0.1. There being no multicollinearity in the study data meant that regression analysis could be carried out.

2. Regression Analysis

To check the quality of relationship between the free factors and the needy variable, relapse investigation was completed on every one of the factors. This was finished by relapsing the free factors (cash flow from operating activities, cash flow from investing activities and cash flow from financing exercises) against the independent variable (financial performance). Both the model outline and examination of difference were utilized to discover if the model was fit. The model rundown results are as appeared in Table 4.45.

Table 4.1 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.866 ^a	.749	.734	.7855

Predictors: (Constant), cash flow from operating activities, cash flow from investing activities and cash flow from financing activities

Source: Research Data (2019)

From table 4.45 the value of R square is 0.749 which means that 74.9% variation in the financial performance of listed companies at the Nairobi Securities Exchange was due to variations in the levels of their cash flow from operating activities, cash flow from investing activities and cash flow from financing activities. Hence, 25.1% of variation in the level of financial performance of listed companies at the Nairobi Securities Exchange was explained by other factors not in the study model or not the subject of the current study. To ascertain whether the regression model was fit, analysis of variance was conducted and the results are as shown in Table 4.46.

Table 4.2 Analysis of Variance (ANOVA)

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	95.814	3	31.938	49.769	.0000 ^a
1	Residual	32.086	50	.64172		
	Total	127.900	53			

a. Predictors: (Constant), cash flow from operating activities, cash flow from investing activities and cash flow from financing activities

b. Dependent Variable: Financial performance

Source: Research Data (2019)

Analysis of variance (ANOVA) consists of calculations that provide information about levels of variability within a regression model and forms a basis for tests of significance. From the findings in Table 4.46, the significance value is .0000 which is less than 0.05 implying that the study's regression model was statistically significant in predicting how the predictor variables (cash flow from operating activities, cash flow from investing activities and cash flow from financing activities) influenced the response variable (financial performance of listed firms in Kenya). The F critical at 5% significance level was 2.79. Since F calculated (value = 49.769) was greater than the F critical (2.79), this also showed that the overall model was fit. Thus, the analysis of variance confirmed that the model was fit. Since, the overall model was fit regression analysis was carried out for all the variables, the results of which are shown in Table 4.47.

Table 4.3 Regression coefficients results

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	4.295	.714		6.015	.000
Cash flow from operating activities	0.621	.215	.547	2.888	.006
Cash flow from investing activities	-0.387	.172	.328	2.250	.029
Cash flow from financing activities	0.406	.159	.371	2.553	.014

Source: Research Data (2019)

Based on the results shown in Table 4.47, the regression model becomes;

$$Y = 4.295 + 0.621X_1 + -0.387X_2 + 0.406X_3$$

The results are as described below;

The results as shown in Table 4.47 indicated that there was a positive and significant relationship between cash flow from operating activities and the financial performance of listed companies at the Nairobi Securities Exchange with a beta coefficient of 0.621 and a p-value of 0.006 which is < 0.05. The results indicate that increases in cash flow from operating activities would lead to improved financial performance among the listed firms in Kenya. The results implied that cash flow from operating activities, as a cash flow management component, is a critical predictor of financial performance among listed firms in Kenya. The study examined the effect of cash flow from investing activities on financial performance of listed companies at the Nairobi Securities Exchange. The results as shown in Table 4.47 indicated a negative and significant relationship between cash flow from investing activities and financial performance of listed companies at the Nairobi Securities Exchange with a beta coefficient of -0.387 and a p value of 0.029 which is < 0.05. The results indicate that increases in cash flow from investing activities among the listed firms in Kenya would lead to the firms' decreased financial performance. The study also sought to investigate the effect of cash flow from financing activities on financial performance of listed companies at the Nairobi Securities Exchange.

The results as shown in Table 4.47 indicated that there was a positive and significant relationship between cash flow from financing activities and financial performance of listed companies at the Nairobi Securities Exchange with a beta coefficient of 0.406 and a p value of 0.014 which is < 0.05. The results indicate that increases in cash flow from financing activities would lead to improved financial performance among the listed firms in Kenya. This implied that cash flow from financing activities, as a cash flow management, had an effect on the financial performance of firms listed at the Nairobi Securities Exchange.

V. CONCLUSION

The purpose of the study was to establish the effect of cash flow management on financial performance of listed companies at the Nairobi Securities Exchange. The specific objectives evaluated the effect of cash flow from operating activities, cash flow from investing activities and cash flow from financing activities on financial performance of listed companies at the Nairobi Securities Exchange. In view of the aftereffects of the examination, a few ends were drawn. The study findings showed that there was a positive and statistically significant relationship between cash flow from operating activities and the financial performance of listed companies at the Nairobi Securities Exchange as denoted by a beta coefficient of 0.621 and a p-value of 0.006 which was < 0.05. As such, it was implied that cash flow from operating activities, as a cash flow management component, was a critical predictor of financial performance among listed firms in Kenya. The investigation discoveries demonstrated that there was a negative and factually huge connection between cash flow from investing activities and the financial performance of organizations at the Nairobi Securities Exchange as meant by a beta coefficient of - 0.387 and a p-estimation of 0.029 which was < 0.05. The examination discoveries demonstrated that there was a positive and factually noteworthy connection between income from financing exercises and the firms listed at the Nairobi Securities Exchange as indicated by a beta coefficient of 0.406 and a p-estimation of 0.014 which was < 0.05. In this manner, all the autonomous factors were huge indicators of financial performance among organizations listed at the Nairobi Securities Exchange.

Recommendations: Based on the study findings, the following recommendations are drawn thereto; Given that cash flow management has been shown to have a significant effect on the listed firms' financial performance, it is imperative that companies listed at the NSE should develop a cash flow management policy tailor made to their unique needs based on the dynamics of the industry in which they operate. The cash flow management policy should be aligned with other important organization financial policies such as the working capital management policy, investment policy, dividend policy, debt management policy among others. From this study, there is no doubt that a healthy cash flow position is important to the listed firm's financial performance. However, it is to be appreciated that different firms will have different and unique cash flow challenges which can impact on their solvency, in turn affecting their general performance. The study thus recommends that individual listed firms in Kenya should identify their own unique cash flow related challenges and strengths so as to devise ways of capitalizing on their cash flow management with a view of enhancing their financial performance.

Suggested Areas for Further Research: Since this study explored the effect of cash flow management on financial performance of listed companies at the Nairobi Securities Exchange, a wider study involving both listed and non listed companies is recommended. This will allow for broader comparisons and generalization of the study findings. In addition, an investigation on the cash flow management related challenges affecting listed firms in the country would equally be academically informative and illuminative.

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