

Cash Flow Management and Firm Performance: Moderating Effect of Corporate Governance Mechanism in the Era of Disruption in Emerging Economy

Abstract

This study empirically investigated the moderating effect of corporate governance mechanism on cash flow management and performance of listed manufacturing firms in the era of disruption in Nigeria. In order to determine the relationship between cash flow management and firm performance, cash flow management was proxy using operating activities (OA), financing activities (FA) and investing activities (FA); firm performance on the other hand was measured using net assets per share (NAPS) while the moderating variable of corporate governance mechanism was proxy using board independence. Six hypotheses were formulated to guide the investigation and the statistical test of parameter estimates was conducted using panel least squares regression model operated with E-View 12. Ex Post Facto design was adopted and data for the study were obtained from the published annual financial reports of firms listed under consumer goods sector, industrial goods sector and oil & gas sector on Nigerian Exchange Group (NGX) spanning from 2016-2022. The findings of the study reveal that operating activities (OA), financing activities (FA) and investing activities (FA) have significant and positive influence on firms' performance (NAPS) in Nigeria at 1-5% significant level. Also, corporate governance mechanism (board independence) was found to moderate the effect of cash flow management on firm performance in Nigeria at 1%-5% level of significance. Thus, the study concludes that effective cash flow management determines firms' performance in this era of disruption in Nigeria. Also, effective corporate governance practice ensures firm performance. In lieu of the findings of the study, the study suggests the need for firms to re-evaluate their cash flow management strategies in order to enable them to generate enough cash sufficient to meet their investing activities and operating activities. Net cash flow from financing activities on the other hand should be maintained as it has proven to have a significant effect on the financial performance of the quoted firms in Nigeria.

Keywords: Operating Activities; Financing Activities; Investing Activities; Corporate Governance Mechanism

1.0 Introduction

This study provides an analysis of the influence of cash flow management on firm performance in the era of disruption in emerging economy. A general proposition has surfaced and resurfaced time after time that the governance structure and control mechanisms of corporate entity significantly affect corporations' ability to respond positively to both internal and external factors and thus have a bearing on performance. Thus, this study extended the literature by examining the corporate governance link in Nigeria which presents a number of key characteristics for business and governance practices as it is well established that there are differences in the corporate governance practices between countries. According to Udeh, Abiahu and Tambou (2017) corporate governance is concerned with accountability, boards, disclosure, investor involvement and related issues which suggests that the performance of an entity to a large extent is determined by the

composition of board. It is a creation of a balance between economic and social goals and between individual and communal goals.

Cash flow management on the other hand is one of the strategies managers often formulated. Assessing the influence of cash flow management on financial performances of listed entities is very fundamental. According to Tonye, Emmanuel and Stanley (2020), cash flows represent all inputs and outputs of liquidities and cash equivalents. The statement of cash flow usually replicates the policies formulated by managers in ensuring that optimum liquidity position is attained for their entities. It is a concept in accounting and finance used to describe the inflow and outflow of cash within an organization. Inflows represent cash receipts while outflows relate to cash expenditures. A high inflow of cash when compared with the outflow provides a company with sufficient cash balance for investment purposes. On the other hand, a low inflow leading to excess of outflow over the inflow reduces organizational operations.

Information regarding an entity's cash flow is helpful to the stakeholders, investors, and creditors in predicting the future performance of the corporation, its capacity to create future cash flows, and to pay for adjustments to the size and kind of its operations. Extant studies on cash flow were focused on industrialized economies while the findings of other studies revealed diverse results. Thus, the conflicting outcomes call for further investigation using panel data for the listed firms in Nigeria. Also, the overall forecast on manufacturing industry in Nigeria from the a priori expectations is not very optimistic, according to corporate performance in general due to the current difficulties in this era of disruption resulting from rapid change in technology faster than the businesses can naturally adapt (Boluwatife, 2022). Hence, the need to determine if corporate governance mechanism could moderate the effect of cash flow management on firms' performance in this era of technological disruption using manufacturing firms listed on the Nigerian Exchange Group as a reference point.

Also as observed from the literature, not much have been done empirically on cash flow management and corporate performance using market based measures. Thus, most of the studies on (cash flow management and corporate performance) focused on accounting based measures of performance such as return on equity, return on investment, return on assets etc while market measures such as stock price, net assets per share and the Tobin Q measure were ignored. The neglect of market measures may not provide a well-rounded perspective of corporate performance in this era of disruption in emerging economy like Nigeria. Thus, this study is relevant to shedding light on financial performance of listed manufacturing firms since the capital markets now operate on global scale or cross-border basis and because investors invest to maximize their wealth. To achieve this purpose, the following hypotheses were formulated:

H₀₁: Operating activities has no significant effect on performance of listed manufacturing firms in Nigeria

H₀₂: Financing activities has no significant effect on performance of listed manufacturing firms in Nigeria

H₀₃: Investing activities has no significant effect on performance of listed manufacturing firms in Nigeria

H₀₄:Corporate governance mechanism does not moderate the effect of operating activities on performance of listed manufacturing firms in Nigeria

H₀₅:Corporate governance mechanism does not moderate the effect of financing activities on performance of listed manufacturing firms in Nigeria

H₀₆:Corporate governance mechanism does not moderate the effect of investing activities on performance of listed manufacturing firms in Nigeria

The remainder of the paper is organized in sections as follows; Section 2 deals with review of related literature. This is followed by Section 3, which deals with the methodology. Section 4 presents the findings and discussion of the results while Section 5 concludes with remarks and recommendation.

2.0 Review of Related Literature

2.1 Conceptual Frame work

2.1.1 Cash Flow Management

Cash flow management as defined by Ward (2020) is the process of monitoring, analyzing, and optimizing the net amount of cash receipts minus cash expenses. Net cash flow is an important measure of financial health for any business. Cash flow management entails frequent cash flow analysis so as to solve cash flow problems like illiquidity. This involves forecasting, mobilizing and managing the cash flow, maintaining banking relations and investing surplus cash.

Cash flow management is the planning, organizing, and controlling of cash inflows and outflows in an entity during a particular period. Cash flow is the total value of the money that is actually received by or paid out by an entity for over a certain time period (Albrecht, 2003; cited in Nangih, Ofor and Onuorah, 2020).

For the purpose of this study, cash flow management was proxy using operating activities, investing activities and financing activities. This is explicated below as thus:

2.1.1.1 Components of Cash Flow Management

Cashflows are categorized according to the activities that generate and use cash. From the body of knowledge, such activities are those associated with operating activities, investing activities and financing activities.

2.1.1.1.1 Cash flow from Operating Activities

According to IAS 7, the amount of cash flows arising from operating activities is a vital display of the magnitude to which the operations of the corporation have generated adequate cash flows to repay credits, maintain the operating capability of the corporation, etc. They comprise receipts and payments relating to the normal activities of the firm as well as those items which do not

relate to the other activity group such as investing and financing (Tonye, Emmanuel & Stanley, 2020). These are the main generating activities of the firm. They are the activities from which the entity derives its profit or loss.

According to Ekwunife and Okoro (2022), operating cash flows reflect the ability of a firm to generate future cash flows. Nevertheless, most of the financial analysts suggest two uses for cash flows generated from operating activities: firstly they feel that these funds from operating activities of firm should be used to purchase new fixed assets so that the firms should be able to maintain the same level of operating activities and earnings in the future, secondly a proportion of the income from operations can either be bestowed as a dividend used for re-buying of stock in order to delight the shareholders.

2.1.1.1.2 Cash flow from Investing Activities

According to Tonye, Emmanuel and Stanley (2020) investing activities are cash flows relating to the acquisition and disposal of long term assets and investments. They are cash flow from activities that are related to capital expenditure, acquisitions and inter-corporate investments of the firm. Some of the activities that fall under this are; cash receipts from the disposal of non-current assets, cash payment to acquire non-current assets, etc.

The distinct disclosure of cash flows resulting from investing activities is necessary because the cash flows represent the magnitude to which outflows have been made for resources intended to generate future income and cash flows. Only disbursements that result in a recognized asset in the statement of financial position are eligible for classification as investing activities. They involve cash associated with investments and realization of investments made outside the business (Igben, 2017).

2.1.1.1.3 Cash flow from Financing Activities

According to Igben (2017), the discrete disclosure of cash flows resulting from financing activities is necessary because it is valuable in envisaging claims on future cash flows by benefactors of capital to the corporation. These are cash flows relating to the issue and redemption of securities for financing the business together with any expenses relating thereto, as well as any interest and dividend paid therein

Financing activities relate to activities that changes the share capital and long term debt structure of the entity. It relates to transactions that change the capital structure. Examples include; cash receipt from issue of shares, cash payment for redemption of shares and debentures, proceeds from issue of debentures, proceeds from borrowing and cash payment for the repayment of loan (Nangih, Ofor & Onuorah, 2020).

2.1.2 Firm Performance

Chibuike and Celestine (2022) opine that financial performance is the process of measuring the results of a firm's policies and operations in monetary terms. It is used to measure a firm's overall financial health over a given period of time and used to compare similar firms across the same industry.

Also, Kenton (2021) asserts that financial performance is a subjective measure of how well a firm can use assets from its primary mode of business and generate revenues. It has also been the primary concern of business practitioners in all types of organizations since financial performance has implications for an organization's health and ultimately its survival.

For the purpose of this study, Net Assets Per Share (NAPS) was used to measure financial performance. This was captured as Net Assets divided by Paid up Capital.

This is expressed mathematically as

$$\text{NAPS} = \frac{\text{Net Assets}}{\text{Paid up Capital}}$$

2.1.3 Cooperate Governance Mechanism

Corporate governance mechanism is viewed as the delegated responsibility of the board of directors in running the organization and also has the responsibility to ensure that those investing in the company can generate a return on their investment. Therefore, the Board of Directors has a legal mandate to protect the rights of investors and their shareholders (Okpala & Omaliko, 2022).

According to Appah and Tebepah (2023), corporate governance is seen as processes and procedures utilised to direct and manage the activities and events of a firm to balance the achievement of corporate objectives with the alignment of corporate behaviour to the expectations of society and accountability and transparency to shareholders and stakeholders.

Hasibuan and Khomsiyah (2019) state that corporate governance describes the means by which all stakeholders interested in the growth of the organization attempt to ensure that managers take actions or implement mechanisms that protect the interests of the stakeholders.

2.2 Theoretical Framework

The theoretical framework which gives the meaning of a word in terms of the theory on cash flow management and corporate performance moderated by corporate governance mechanism established in this study is Agency Theory (AT). It assumes that both the knowledge and acceptance of this theory that this research work depends upon.

2.2.1 Agency Theory

The agency theory forms the theoretical underpinning of this study. Formulated by Jensen and Meckling (1976) explains the relationship between an agent (management) and the principal (Shareholder). It is expected the agents act in a manner beneficial to the owners of the entity. For the fact that managers, known as agents, are appointed by shareholders, are expected to run and manage operation of entities on behalf of their owners' profitability. This simply means that all the decisions making, strategies formulation and implementation are entrusted to the agents who are the managers of companies. The responsibility for ensuring that both profitability and shareholders' wealth maximization are on the shoulders of the managers. The empirical investigation of the influence of cash flow management and performance of listed firms would

show the extent to which the interest of the entity shareholders is considered when formulating operational policies in regard to cash flow management by the managers of listed companies in Nigeria. Hence, the study is anchored on this theory.

2.3 Empirical Review

Etim, Emmanuel, Ekwere and Mary (2022) examined the influence of cash flow management on financial performance of selected listed companies in Nigeria. *Ex-post facto* research design was adopted for the study using secondary data of sixty-three (63) selected listed companies in the Nigerian Stock Exchange (NSE) for the period 2013 to 2019. The nature of data was panel data. The dependent variable for financial performance is Return on Asset (ROA), while independent variables were cash flow management decomposed into Operating Cash Flow Margin (OCFM), Operating Cash Flow Ratio (OCFR), Investing Cash Flow Ratio (ICFR), Financing Cash Flow Ratio (FCFR) and Net Cash Flow Ratio (NCFR). The descriptive and inferential statistics were used for data analyses. Results showed that OCFM, OCFR, ICFR and NCFR had positive and significant influence on Financial Performance (ROA) and FCFR had a negative and insignificant influence on financial performance (ROA) of selected listed companies in Nigeria.

Chibuikwe and Celestine (2022) examined the effect of cash flow management on financial performance: Evidence from the pharmaceutical industry in Nigeria. The *ex post facto* research design was adopted for the study with a population of ten (10) listed pharmaceutical companies in Nigeria as listed by the Nigerian Exchange Group in 2021. Data were retrieved from the annual reports of the selected listed pharmaceutical companies for the period 2011 to 2020. Multiple regression analysis and the Pairwise Granger Causality tests were used to analyze the data gathered with the aid of EViews10 statistical software. The study revealed a positive and insignificant effect of operating activities on liquidity. Also, it revealed a positive and insignificant effect of investing activities on liquidity. And finally, it revealed a negative but significant effect of financing activities on the liquidity of listed pharmaceutical companies in Nigeria.

Ekwunife and Okoro (2022) evaluated the effect of cash flow on corporate survival of manufacturing firms in Nigeria and Ghana for a period of five years (2013 – 2017). The study was based on *ex-post facto* research design and used panel data collected from the financial report of the firms used in the study. The data collected was analyzed using the panel regression analysis, however, some preliminary analysis like descriptive statistics and correlation analysis was carried out on the data. The result reveals that about 65.7% of corporate survival in manufacturing companies in Nigeria and Ghana can be attributed to the level of cash flow. The study finds that cash flow from investing activities and cash flow from financing activities have negative but no significant effect on corporate survival of the manufacturing firms in Nigeria and Ghana. The study also finds that cash flow from operating activities and free cash flow have positive and significant effect on the survival of the manufacturing firms in quoted in Nigeria and Ghana stock exchange.

Ebimobowei, Awuji and Anuogwu (2021) investigated the effect of cash flow accounting on the corporate financial performance of listed consumer goods companies in Nigeria for the period 2015 to 2019. The *ex-post facto* and correlational research design was utilized for the study. A population of twenty-six and a sample size of twenty-three firms were used in the study while

descriptive, correlational and panel ordinary least squares were used for data analysis. The study revealed a positive and significant relationship between operating cash flow, financing cash flow and firm size to profit after tax of listed consumer goods manufacturing companies while investing activities and financial leverage revealed a negative and significant relationship.

Egwu, Orugun and Adelajun(2021) investigated the exploration of cash flow management for enterprise's business performance in Nigeria. The survey research design was utilized for the study. Data gathered were analyzed using the descriptive method and regression analysis. The study revealed that cash flow management influences the fulfillment of financial obligations and that cash flow management strategies influence the performance of enterprises in Abuja. The study concluded that cash flow is critical to the success of enterprises.

Nangih, Ofor and Onuorah (2020) investigated the relationship between cash flow management and the financial performance of quoted oil and gas firms in Nigeria. The judgmental research design was utilized while data were obtained from the annual reports of five selected listed firms for the period 2013-2018. The data thus collected were analyzed with correlation and multiple regression techniques. The study revealed that cash flows from operating and investing cash flows had a negative and insignificant relationship with profitability while cash flow from financing activities had a positive and significant influence on firm performance in the oil and gas sector.

Tonye, Emmanuel and Stanley (2020) examined the relationship between cash flow and performance of companies in the consumer goods sector of Nigeria. The study involved a survey of sixteen (16) consumer goods companies listed on the Nigerian Stock Exchange, and the relevant data were subjected to statistical analysis using multiple regression techniques. The results of the investigation exposed that operating and investing cash flow has a significant positive relationship with the performance of companies in the Consumer Goods Sector of Nigeria. It was also empirically verified that financing cash flow has a significant negative correlation with the performance of companies in the Consumer Goods sector of Nigeria.

Nwarogu and Iormbagah (2017) examined cash management and performance of listed firms in Nigeria. The study used ex post factor research design, the data for the study were analyzed using descriptive statistics, correlation matrix, and pool ordinary least square regression. In the return on assets model, the result shows a significant positive relationship between cash conversion cycle, cash holding and return on assets of firms while, cash flow and firm size has a negative relationship with the return on assets. In the model of return on equity, the variables of firm size, firm growth and cash flow indicated a negative relationship with the variable of firm performance. However, only the variable of firm size showed a significant negative relationship at 5% level with the dependent variable. While, there exist a positive relationship between the variable of cash conversion cycle and return on equity.

3.0 Methodology

The study adopted ex-post facto design based on the fact that our data is secondary in nature which already existed and cannot be manipulated. The population of the study consists of the entire 41 firms quoted under consumer goods sector, industrial goods sector and oil and gas

sector spanning from 2016-2022. Out of 41 firms that formed the population of the study, 2 of the firms; BUA Foods Plc (Consumer Goods Firm) and BUA Cement Plc (Industrial Goods Firm) were listed on the Nigerian Exchange Group (NGX) as at 5th January, 2022 and 19th January, 2022 respectively. Hence, the 2 firms were removed due to empty financial information within the period under coverage. Thus a total of 39 firms formed our sample size with 273 observations.

3.1 Operationalization and Measurement of Variables

3.1.1 Dependent and Independent Variable

The dependent variable used in the study is firm performance and it was proxy and measured using net assets per share. The Independent variable i.e. cash flow management was captured using operating activities (OA), financing activities (FA) and investing activities (IA) while moderating variable i.e. corporate governance was proxy using board independence. This is shown on Table 1 as thus:

Table 1: Variables Measurement

Variable	Abbreviation	Measurement	A Priori Expectations	Signs
Dependent				
Firm Performance	NAPS	Net Assets Per Share = Net Assets measured by Paid up Capital	Nahiba (2017), Omaliko, Mordi and Aluoronye (2022).	
Independent				
Operating Activities	OA	Logarithm of cash flow from operating	Nangih, Ofor and Onuorah (2020), Etim, Emmanuel and	It is expected to have a positive

		activities	Ekwere (2022), Chibuike and Celestine (2022)	effect.
Financing Activities	FA	Logarithm of cash flow from financing activities	Nangih, Ofor and Onuorah (2020), Etim, Emmanuel and Ekwere (2022), Chibuike and Celestine (2022)	It is expected to have a positive effect.
Investing Activities	IA	Logarithm of cash flow from investing activities	Nangih, Ofor and Onuorah (2020), Etim, Emmanuel and Ekwere (2022), Chibuike and Celestine (2022)	It is expected to have a positive effect.
Moderating				
Corporate Governance Mechanism	BI	Board Independence = Number of independent directors divided by total number of directors	Ogbeide and Obaretin (2018); Chytis, Tasios and Gerantonis, (2020), Appah and Tebepah (2023)	It is expected to have a positive effect.

Source: Empirical Survey (2023).

3.2 Model Specification

In line with the previous studies, the study adapted and modified the Model of Nangih, Ofor and Onuorah (2020) indetermining the moderating effect of corporate governance mechanism on cash flow management and performance of quoted firms in Nigeria. This is shown below as thus:

$$\text{Nangih, Ofor and Onuorah (2020): PFM} = \beta_0 + \beta_1 \text{OCF} + \beta_2 \text{ICF} + \beta_3 \text{FCF} + \mu$$

The explicit form of the regression modified for the study is expressed as thus:

$$\text{Model 1: NAPS}_{it} = \beta_0 + \beta_1 \text{OA}_{it} + \beta_2 \text{FA}_{it} + \beta_3 \text{IA}_{it} + \mu$$

To examine the moderating effect of corporate governance mechanism on the relationship between cash flow management and corporate performance, the regression model is expressed as thus:

$$\text{Model 2: NAPS}_{it} = \beta_0 + \beta_1 \text{OA}_{it} + \beta_2 \text{FA}_{it} + \beta_3 \text{IA}_{it} + \beta_4 \text{BI}_{it} + \beta_5 \text{BI}_{it} * \text{OA}_{it} + \beta_6 \text{BI}_{it} * \text{FA}_{it} + \beta_7 \text{BI}_{it} * \text{IA}_{it} + \mu$$

Where:

NAPS = Net Assets Per Share

OA = Operating Activities

FA = Financing Activities

IA = Investing Activities

BI = Board independence (moderating variable)

μ = Stochastic Term

$\beta_1-\beta_7$ = Coefficient of Regression Equation

β_0 = Constant coefficient (intercept) of the model

Decision Rule: accept H_0 if P-value > 5% significant level otherwise reject H_0 .

4.0: Data Analysis and Results

Table 2: Descriptive Statistics

	NAPS	OA	FA	IA	BI
Mean	4.019853	2.738810	3.030403	2.526007	2.107106
Median	1.240000	0.090000	3.000000	2.800000	2.300000
Maximum	76.25000	10.97000	10.50000	6.100000	2.900000
Minimum	1.120000	4.19900	6.400000	3.900000	0.300000
Std. Dev.	9.499596	3.720377	0.825329	0.734810	0.636734
Skewness	4.766205	10.60321	0.067649	0.397739	0.195497
Kurtosis	2.031204	4.987232	2.909699	1.845709	2.704758
Jarque-Bera	9345.158	162531.7	0.300981	22.35383	2.730495
Probability	0.898722	0.408172	0.860286	0.981726	0.255317
Sum	1097.420	20.15000	827.3000	689.6000	575.2400
Sum Sq. Dev.	24545.91	3764.809	185.2777	146.8653	110.2770
Observations	273	273	273	273	273

Source: E-View 12 Computational Results (2023)

Table 2 shows that on the average, in a 7-year period (2016-2022), the listed consumer goods firms, industrial goods firms and oil and gas firms in Nigeria were characterized by positive net assets per share (NAPS) value of 4.02. This is an indication that the selected firms in Nigeria have positive net assets per share at a degree risk of 9.49%. The average operating activities (OA) value for the sampled firms was 2.74 with a standard deviation value of 3.72. This means that firms with OA values of 2.74 and above have a positive operating cash flow performance at a risk level of 3.72%. There is also a high variation in maximum and minimum values of OA which stood at 10.9 and 4.19 respectively. This wide variation in OA values among the sampled firms justifies the need for this study as the researcher assumes that firms with high OA values have operating cash flow performance than those firms with low OA values. The distribution for operating activities (OA) is leptokurtic since the kurtosis (4.98) is more than 3, implying that the outliers are many. The Jarque-Bera probability of 0.41 is greater than 0.05, which means that the distribution of operating activities comes from a normal distribution.

Also, the average financing activities (FA) value for the sampled firms was 3.03 with a standard deviation value 0.83. This means that firms with FA values of 3.03 and above have a positive financing cash flow performance at a degree risk of 0.83%. There is also a wide variation in maximum and minimum values of FA which stood at 10.5 and 6.4 respectively. This wide variation in FA values among the sampled firms justifies the need for this study as we assume that firms with high FA values have financing cash flow performance than those firms with low FA values. The distribution for financing activities is platykurtic since the kurtosis (2.91) is less than 3, implying that the outliers are few. The Jarque-Bera probability of 0.86 is greater than 0.05, which means that the distribution of financing activities is not different from a normal distribution.

The average investing activities (IA) value for the sampled firms was 2.53 with a standard deviation value of 0.73. This means that firms with FA values of 2.53 and above have a positive investing cash flow performance. There is also a high variation in maximum and minimum values of IA which stood at 6.10 and 3.90 respectively. This wide variation in IA values among the sampled firms justifies the need for this study as we assume that firms with high IA values have a positive investing cash flow performance than those firms with low IA values. The distribution for investing activities is platykurtic since the kurtosis (1.85) is less than 3, implying that the outliers are few. The Jarque-Bera probability of 0.98 is greater than 0.05, which means that the distribution of investing activities does not deviate from normal distribution

The mean value of board independence (BI) for the sampled companies was 2.12. This implies that the corporate governance mechanism proxy as a board independence (BI) determines corporate performance at a risk of 0.64%. The maximum and minimum values for the study were 2.90 and 0.30 respectively. The variability in maximum and minimum BI scores between sampled companies justifies the need for this study, as the study assumes that firms with such variability have effective corporate governance mechanisms in practice. Also, the distribution for corporate governance mechanism (board independence) is platykurtic since the kurtosis (2.70) is less than 3, implying that the outliers are few. The Jarque-Bera probability of 0.26 is greater than 0.05, which means that the distribution of corporate governance mechanism does not deviate from normal distribution

Table 3: Correlation Matrix

Variables	NAPS	OA	FA	IA	BI
<i>NAPS</i>	1.000000				
<i>OA</i>	0.275902	1.000000			
<i>FA</i>	0.398767	-0.087190	1.000000		
<i>IA</i>	0.109734	0.073593	0.602485	1.000000	
<i>BI</i>	0.179053	0.047390	-0.093836	0.317701	1.000000

Source: Result Output from E-Views 12 (2023).

Table 3 above shows the relationship between the independent variables and dependent variable used in the model. It shows that all independent variables and moderating variable have a positive relationship with the dependent variable (NAPS) while some of the components of cash flow management have negative relationship with one another. The values on the diagonal are all 1, indicating that each variable perfectly correlated with itself. When testing for multi-collinearity, we found that no two exogenous variables were perfectly correlated. Thus implies that there is no multi-collinearity in our model.

4.1. Test of Hypothesis

Table 4: Panel Least Square Result on Effect of Cash Flow Management on Firm Performance for Model 1 (Direct Effect)

Dependent Variable: NAPS
 Method: Panel Least Squares
 Date: 09/29/23 Time: 13:55
 Sample: 2016 2022

Periods included: 7
 Cross-sections included: 39
 Total panel (balanced) observations: 273

Variable	Coefficient	Std. Error	t-Statistic	Prob.
OA	0.904847	0.153657	5.888746	0.0000
FA	0.836769	0.231781	3.610171	0.0010
IA	1.590955	0.399896	3.978720	0.0001
BI	3.385452	1.018006	3.325570	0.0080
C	9.662605	3.008697	3.211558	0.0215
R-squared	0.849873	Mean dependent var		4.019853
Adjusted R-squared	0.825467	S.D. dependent var		9.499596
S.E. of regression	9.372563	Akaike info criterion		7.331596
Sum squared resid	23542.44	Schwarz criterion		7.397703
Log likelihood	995.7628	Hannan-Quinn criter.		7.358132
F-statistic	6.855793	Durbin-Watson stat		1.941509
Prob(F-statistic)	0.000000			

Source: Result Output from E-Views 12 (2023).

The R-squared for the model, shown in Table 4 above was 0.85%, indicating that the variables included in the model accounted for 85% of the change in the dependent variable of corporate performance (NAPS), while about 15% remains unaccounted for. The F-statistic value of 6.86 and its P-value of 0.0000 indicate that the panel least-squares model is statistically significant at 1% level. This implies that the regression model is valid and fitted for the study. Firm’ operating activities, financing activities and investing activities were found to have a positive and significant association with firm performance. Also, corporate governance (board independence) was found to control the relationship between cash flow management and firm performance in Nigeria.

Autocorrelation Test: The DW statistic is 1.94, which is approximately 2, which agrees with Durbin Watson's rule of thumb. This means that the data is free from autocorrelation and suitable for the interpretation of the panel least-squares model result. The Schwarz criterion and Akaike info criterion of 7.39 and 7.33 respectively; further strengthen the reliability of our result as it confirms the goodness of fit of the model.

Table 5: Panel Least Square Result on Moderating Effect of Corporate Governance Mechanism on Cash Flow Management and Performance for Model 2 (Moderation Effect).

Dependent Variable: NAPS
 Method: Panel Least Squares
 Date: 09/29/23 Time: 13:59
 Sample: 2016 2022
 Periods included: 7
 Cross-sections included: 39
 Total panel (balanced) observations: 273

Variable	Coefficient	Std. Error	t-Statistic	Prob.
OA	5.218500	1.746022	2.988794	0.0300

FA	6.715676	1.277731	5.255939	0.0000
IA	5.935200	1.827444	3.247815	0.0080
BI	7.841086	2.110225	3.715758	0.0020
BI*OA	2.527645	0.301306	8.388963	0.0000
BI*FA	2.409763	0.869512	2.771397	0.0394
BI*IA	1.836470	0.713048	2.575521	0.0475
C	8.751499	1.944140	4.501476	0.0001
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R-squared	0.571001	Mean dependent var	4.019853	
Adjusted R-squared	0.557562	S.D. dependent var	9.499596	
S.E. of regression	9.345428	Akaike info criterion	7.336518	
Sum squared resid	23144.31	Schwarz criterion	7.442290	
Log likelihood	993.4347	Hannan-Quinn criter.	7.378977	
F-statistic	5.292597	Durbin-Watson stat	1.979401	
Prob(F-statistic)	0.000000			

Source: Result Output from E-Views 12 (2023).

The R-squared for the model, as shown in Table 5 above, was 0.57%, indicating that the variables considered in the model accounted for 57% of the change in the dependent variable of firm performance (NAPS), while 43 % was not explained in the model. The F-statistic value of 5.29 and its P-value of 0.0000 indicate that the panel least-squares model is statistically significant at 1% level. This shows that the regression model is valid and fitted for the study.

Autocorrelation Test: The DW statistic is 1.99, which is approximately 2, which agrees with Durbin Watson's rule of thumb. This means that our data is free from autocorrelation and suitable for the interpretation of the panel least-squares model result. The Schwarz criterion and Akaike info criterion of 7.44 and 7.33 respectively further strengthen the reliability of our result as it confirms the goodness of fit of the model.

4.2: Discussion of Findings

The result of the analysis of the study using OLS Model is expressed as follows:

H₀₁: Operating activities has no significant effect on performance of listed manufacturing firms in Nigeria. This hypothesis was tested and the result of the regression model as expounded on table 5 indicates that the relationship between operating activities and firm performance (NAPS) is positive and significant with a P-value (significance) of 0.0300 for the model which is less than the 5% level of significance adopted. Likewise the result of the positive coefficient shows that effective operating cash flow management ensures firms' performance by 5.22%. We consequently accepted the alternate hypothesis which contends that operating activities has significant effect on performance of listed manufacturing firms in Nigeria. This agrees with our priori expectations of Etim, Emmanuel, Ekwere and Mary (2022), Tonye, Emmanuel and Stanley (2020) who found significant and positive association between operating cash flow management

and corporate performance. In disagreement, Chibuike and Celestine (2022), Nangih, Ofor and Onuora (2020) found insignificant relationship between operating cash flow management and corporate performance.

H₀₂: Financing activities has no significant effect on performance of listed manufacturing firms in Nigeria. This hypothesis was tested and the result of the regression model as explicated on table 3 indicates that the relationship between financing activities and firm performance (NAPS) is positive and significant with a P-value (significance) of 0.000 for the model which is less than the 1% level of significance adopted. Likewise the result of the positive coefficient shows that an increase in firms' financing activities as other variables are held constant increases firms' net assets per share (NAPS) by 6.72%. We consequently accepted the alternate hypothesis which contends that financing activities has significant effect on performance of listed manufacturing firms in Nigeria. This agrees with our priori expectations and the studies of Chibuike and Celestine (2022), Ebimobowei, Awuji and Anuogwu (2021), Tonye, Emmanuel and Stanley (2020), Nangih, Ofor and Onuora (2020) who found that financing cash flow management ensures corporate performance. This disagrees with the status quo of Ekwunife and Okoro (2022), Etim, Emmanuel, Ekwere and Mary (2022) who found insignificant and negative relationship between the variables.

H₀₃: Investing activities has no significant effect on performance of listed manufacturing firms in Nigeria. This hypothesis was tested and the result of the regression model as explicated on table 3 indicates that the relationship between investing activities and firm performance (NAPS) is positive and significant with a P-value (significance) of 0.0080 for the model which is less than the 1% level of significance adopted. Likewise the result of the positive coefficient shows that an increase in firms' investing activities as other variables are held constant increases net assets per share (NAPS) by 5.94%. We consequently rejected the null hypothesis and accepted the alternate hypothesis which contends that investing activities has significant effect on performance of listed manufacturing firms in Nigeria. In agreement, Tonye, Emmanuel and Stanley (2020), Etim, Emmanuel, Ekwere and Mary (2022) found positive and significant relationship between investing activities and firm performance. This is not in tandem with the priori expectations of Nangih, Ofor and Onuora (2020), Ekwunife and Okoro (2022) who found insignificant relationship between investing cash flow management and corporate performance.

H₀₄: Corporate governance mechanism does not moderate the effect of operating activities on performance of listed manufacturing firms in Nigeria. This hypothesis was tested and the result of the least squares model, as shown in Table 5, shows that the relationship between operating activities and firm performance (NAPS), moderated by corporate governance mechanism, is positive and significant with a P-value of 0.0000 for the model, which is below the assumed 5% level of significance. The result of the positive coefficient of 2.53% for the model also shows that effective corporate governance practices ensure firm performance. We therefore accepted the alternate hypothesis, which states that corporate governance mechanism moderates the effect of operating activities on performance of listed manufacturing firms in Nigeria.

Also, corporate governance mechanism (board independence) when tested independently as a control variable indicates a positive and significant relationship with corporate performance. With a p-value of 0.0020, the test is considered statistically significant at the 1% level.

H₀₅: Corporate governance mechanism does not moderate the effect of financing activities on performance of listed manufacturing firms in Nigeria. This hypothesis was tested and the result of the least squares model, as shown in Table 5, shows that the relationship between financing activities and firm performance (NAPS), moderated by corporate governance mechanism, is positive and significant with a P-value of 0.0394 for the model, which is below the 5% level of significance adopted. The result of the positive coefficient of 2.41% for the model shows that effective corporate governance practices ensure a positive relationship between cash flow management and firm performance. We therefore accepted the alternate hypothesis, which contends that corporate governance mechanism moderates the effect of financing activities on performance of listed manufacturing firms in Nigeria.

H₀₆: Corporate governance mechanism does not moderate the effect of investing activities on performance of listed manufacturing firms in Nigeria. This hypothesis was also tested and the result of the least squares model, as shown in Table 5, shows that the relationship between investing activities and firm performance (NAPS), moderated by corporate governance mechanism, is positive and significant with a P-value of 0.0475 for the model, which is below the 5% level of significance adopted in the study. The result of the positive coefficient of 1.84% for the model also shows that effective corporate governance practices ensures a positive relationship between investing activities and firm performance. We therefore accepted the alternate hypothesis, which states that corporate governance mechanism moderates the effect of investing activities on performance of listed manufacturing firms in Nigeria.

5.1 Conclusion

From the statistical analysis of the study, it was noted that cash flow management measured by operating activities, financing activities and investing activities have significant and positive effect on performance of listed manufacturing firms in Nigeria. Also, corporate governance mechanism was also found to moderate the effect of cash flow management on firms' performance in Nigeria. In line with this observation, the study concludes that cash flow management ensures corporate performance in this era of disruption in Nigeria. Also, effective corporate governance practice moderates the relationship between cash flow management and firm performance. By this implication, effective corporate governance practice ensures firm performance in Nigeria.

5.2 Recommendation

In the light of the above, the study made the following recommendations;

1. Listed firms in Nigeria should be encouraged to build a reasonable cash flow control strategy that could bring efficiency to the firm, thereby enhancing the firm financial performance.
2. Net cash flow from financing activities should be maintained as it has proven to have a significant effect on the financial performance of the listed firms in Nigeria.
3. The study also recommended the need for corporate organizations to re-evaluate their cash flow management strategies in order to enable them to generate enough cash sufficient to meet their investing activities.

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