CASH MANAGEMENT TECHNIQUES AND FINANCIAL SUSTAINABILITY OF MANUFACTURING FIRMS IN NIGERIA

NNAEMEKA THADDEUS UKWUEZE

Accountancy Department, Enugu State Polytechnic, Iwollo. Emil: ukwueze.nnemeka@espoly.edu.ng

EJIKE JUDE UGWUODO

Accountancy Department, Enugu State Polytechnic, Iwollo. Email: iykecherio@yahoo.com

Abstract

The study examined the effect of Cash Management Techniques on the Financial Sustainability of Manufacturing Firms in Nigeria. The specific objectives of this study are to; Examine the effect of Cash and cash equivalent on the Financial Sustainability of Manufacturing Firms in Nigeria. Evaluate the effect of the Cash flow adequacy ratio (CFAR) on the Financial Sustainability of Manufacturing Firms in Nigeria. An ex-post facto research design was adopted. Meanwhile, the data source is secondary. The paper generates annual time series panel data gathered from the Nigerian Exchange Group (NGX) for the period of 12 years, 2012-2023. The data was analyzed using Eviews 13.0. The result revealed that Cash and cash equivalent have a significant positive effect on the Financial Sustainability with a p-value less than 0.001 of Manufacturing Firms and Cash flow adequacy ratio (CFAR) has a significant effect on the Financial Sustainability with a p-value less than 0.0059 of Manufacturing Firms in Nigeria. The study concluded that cash management techniques have significant positive effects on the financial sustainability of manufacturing companies in Nigeria. The study recommended among others that Firms should strive to optimize liquidity by efficiently managing working capital, streamlining inventory control, and accelerating receivables collection.

Keywords: Cash, Financial, Management, Sustainability, Techniques.

1. INTRODUCTION

The effective management of a company's cash inflows and outflows is the main goal of financial strategy, which includes cash management as a crucial element. It includes a range of methods and strategies designed to maximize the amount of cash available to satisfy the current and future demands of an organization (Soet, et al 2018).

A company that practices effective cash management will always have the liquidity needed to invest in expansion prospects, run efficiently, and weather financial storms. Important cash management strategies include working capital management, which balances current assets and liabilities to maintain operational efficiency, credit management, which regulates credit extended to customers to reduce the risk of bad debts, and cash flow forecasting, which involves projecting future cash needs and inflows to plan accordingly (Afrifa, & Tingbani, 2017).

Long-term corporate performance is largely dependent on their capacity to maintain their ability to pay their debts, make expansion investments, and weather economic ups and downs. Of all the tactics used to attain financial stability, cash management strategies are critical. These methods include a variety of approaches designed to maximize cash input

and outflow to preserve liquidity, lowering risks, and improving operational effectiveness. For firms to manage working capital, prevent insolvency, and make wise investment decisions, effective cash management is essential (Anggita, 2020).

In this regard, the advent of advanced cash management strategies has revolutionized the way companies function, providing instruments for precise cash flow forecasting, effective administration of accounts payable and receivable, and optimization of inventory levels. Through prudent use of excess capital and timely availability of cash, firms can enhance their financial sustainability and resilience (Obim, et al 2020).

A key factor in determining the general health of the industry and its contribution to the national economy in Nigeria is the financial sustainability of manufacturing companies. By increasing operational effectiveness, lowering financial risk, and maximizing liquidity, effective cash management strategies are essential to guaranteeing this sustainability (Okobo, et al 2022). The capacity to manage cash properly becomes even more important in the Nigerian setting, where economic swings, infrastructure issues, and regulatory uncertainties are common.

This introduction examines the effects that different cash management strategies—like credit control, working capital management, and cash flow forecasting—have on the long-term viability of Nigerian manufacturing companies. Through an analysis of these strategies, the study hopes to show how important they are for preserving these companies' solvency, fostering growth, and guaranteeing their long-term survival in Nigeria's dynamic and frequently unstable economic environment.

1.2 Statement of the Problem

Even though manufacturing plays a big part in Nigeria's economy, many businesses in this industry still struggle with long-term financial sustainability issues. Cash management is a crucial factor affecting their financial well-being. Ineffective cash management techniques can result in issues with borrowing costs, liquidity, and eventually financial difficulty. On the other hand, proficient cash management strategies can maximize liquidity, minimize financial hazards, and improve overall operational efficacy, all of which can augment financial sustainability.

Nonetheless, a thorough knowledge base and actual data regarding the effects of particular cash management strategies on the long-term viability of Nigerian manufacturing companies' finances are lacking. The lack of information in this area makes it difficult to create customized plans that small businesses can use to improve their growth and financial stability.

To help these businesses improve their financial health and resilience in a difficult economic environment, this study aims to explore the effects of various cash management techniques on the financial sustainability of manufacturing firms in Nigeria.

1.3 Objective of the Study

The main objective of this study is to examine the effect of Cash Management Techniques on the Financial Sustainability of Manufacturing Firms in Nigeria. The specific objectives of this study are to;

i. Examine the effect of Cash and cash equivalent on the Financial Sustainability of Manufacturing Firms in Nigeria.

ii. Evaluate the effect of the Cash flow adequacy ratio (CFAR) on the Financial Sustainability of Manufacturing Firms in Nigeria.

1.4 Statement of the Hypotheses

i. Cash and cash equivalent have no significant effect on the Financial Sustainability of Manufacturing Firms in Nigeria.

ii. Cash flow adequacy ratio (CFAR) has no significant effect on the Financial Sustainability of Manufacturing Firms in Nigeria.

2. REVIEW OF RELATED LITERATURE

2.1 Cash Management Techniques

Cash management is the practice of planning and controlling cash flows into and out of the business (John, 2018). It also entails taking the necessary actions to sustain adequate levels of cash to meet operational and capital requirements and to obtain the maximum yield on short-term investments. Efficient cash management involves the determination of the most favourable cash to hold by considering the trade-off between the opportunity cost of holding too much cash and the trading cost of holding too little (Nyabwanga et al., 2011).

As recognized by Alfred (2007), the management of cash in any business is crucial, as it aids the achievement of liquidity, and brings about proper planning about cash disbursement and receipts over cash positions to keep the firm sufficiently liquid and to use excess cash in some profitable venture. It also helps to predict accurately the cash flow behaviour of the business, develop appropriate strategies that serve as an innovation to cash receipts and payments, and finally aids in maintaining adequate control over cash position to keep the firm sufficiently liquid and to use excess cash in some profitable ventures.

Cash and Cash Equivalents (CCE)

Cash is one of the most essential figures contained by the assets portion in statement of financial position of every firm. Cash and cash equivalents (CCE) are the most liquid current assets found on a business's statement of balance sheet. Cash equivalents are short-term commitments in the interim idle that are easily convertible into a known cash amount (Hermanson, 1998). An investment generally counts to be a cash equivalent when it has a short maturity period of 90 days or even less (if the maturity period is more

than 90 days (for example, 100 days), then it will not be seen as cash and cash equivalents) from date of acquisition and when it carries an insignificant risk of changes in value. Equity investments typically are excluded from cash equivalents, except they are essentially cash equivalents, for instance, if the preferred shares are acquired within a short maturity period and with a specified recovery date (Denis, 2013).

Cash Flow Adequacy Ratio

Cash flow is the net amount of cash and cash equivalents moving into and out of a business (John, 2018). It is used to assess the quality of a business firm's income. That is, how liquid a company is, which can indicate whether the company is positioned to remain solvent (Okoye et al., 2016). Positive cash flow is an indication that a firm's liquid assets are increasing, while negative cash flow indicates that a firm's liquid assets are decreasing. The cash flow adequacy ratio determines if the cash flow of a particular company is enough to meet current commitments, particularly in the area of asset acquisition, payout of dividends, and payment of financial obligations (Accounting and Tax, 2009). The formula is shown below: Cash flow adequacy ratio = Operating cash flow Non-Current Asset ∓ Current liability + Cash Dividend In its interpretation, a cash flow adequacy ratio of less than 1 means that the company must either liquidate its investments or obtain additional equity or debt financing to meets its capital expenditures, debt repayment, and dividend policy obligation.

Financial Sustainability

Financial sustainability refers to the ability of an organization, government, or individual to manage its financial resources in a way that ensures its long-term viability, stability, and growth. In a broader context, financial sustainability means maintaining sufficient financial health to cover operating expenses, and service debt, invest in future growth, and manage economic shocks or fluctuations without jeopardizing future operations Tumba, Onodugo, Akpan & Babarinde, 2022). Cash management techniques are essential tools for ensuring financial sustainability in manufacturing firms, where efficient handling of cash flow is critical for smooth operations and long-term viability. In the manufacturing sector, firms face high operational costs, including raw materials, labour, maintenance, and overhead expenses, along with the need to invest in equipment and technology. Effective cash management enables these firms to optimize their liquidity, reduce financial risks, and make informed financial decisions to support sustainable growth (Okobo, Ugwoke & Akpan, 2022). Here are key cash management techniques used in manufacturing firms to achieve financial sustainability (Costin, 2017):

i. **Cash Flow Forecasting**: Manufacturing firms use cash flow forecasting to predict future cash needs and identify potential cash shortages. By anticipating inflows and outflows, managers can make proactive decisions about securing financing, adjusting expenditures, or increasing cash reserves, reducing the risk of cash shortages that could disrupt operations.

ii. **Inventory Management**: Inventory management is crucial for manufacturing firms, as holding excess inventory ties up significant cash resources. Techniques like Just-in-Time (JIT) inventory or Economic Order Quantity (EOQ) help optimize inventory levels, ensuring that cash is not unnecessarily locked in stock, thus freeing up funds for other operational needs.

iii. **Accounts Receivable Management**: Efficient accounts receivable (AR) practices help manufacturing firms accelerate cash inflows. Techniques such as early payment discounts, credit analysis of clients, and timely invoicing reduce the time it takes to convert sales into cash. By minimizing the cash conversion cycle, firms can maintain a steady cash flow, which is essential for sustainability (Dutta, et al 2018).

iv. **Accounts Payable Optimization**: Managing accounts payable (AP) involves strategically timing payments to suppliers. By negotiating favorable payment terms, extending payment cycles, and taking advantage of early payment discounts when possible, firms can better control cash outflows without compromising supplier relationships (Dutta, et al 2018).

v. **Cost Control and Reduction**: Manufacturing firms often adopt cost control measures to maintain a healthy cash balance. This may include streamlining operations, implementing energy-saving initiatives, or adopting lean manufacturing practices. By minimizing costs, firms can reduce cash outflows and allocate resources more effectively toward revenue-generating activities (Endri, & Fathony, 2020).

vi. **Debt Management**: Manufacturing firms may need to take on debt for growth, equipment upgrades, or operational expansion. Effective debt management, including refinancing, securing favorable interest rates, and balancing short- and long-term debt, helps firms avoid excessive interest costs and reduces the risk of cash flow strain, thereby contributing to financial sustainability.

vii. **Short-term Investment Strategies**: To make the most of idle cash, manufacturing firms often invest surplus funds in short-term, low-risk investments. These investments provide liquidity while generating a modest return, ensuring that cash is available when needed while still contributing to overall financial stability (Endri, & Fathony, 2020).

Manufacturing companies can improve their liquidity, lower their risk of financial deficits, and lay the groundwork for long-term financial success by putting these cash management strategies into practice.

In addition to supporting day-to-day operations, this proactive approach to cash management puts businesses in a position to manage unforeseen costs, market swings, and expansion prospects (Tumba, Onodugo, Akpan & Babarinde, 2022).

2.2 Theoretical Framework

Dividend Signaling Theory

Dividend Signaling Theory was propounded by Bhattacharya (1979). The theory proposes that the value of a firm's stock is influenced by the financial performance of the firm and investors believe that an unexpected dividend increase is a favourable signal. Particularly, according to this theory, the information presented in the firm's financial report becomes a signal for investors to make investment decisions. Investors need relevant and reliable information as an analytical tool in making investment decisions. When firms publish information that contains a positive value (good news), then the trend of the market will react positively. Based on signaling theory, the motivation of company management to current financial information is to give a signal of prosperity for shareholders, both in the form of dividend growth and an increase in stock price.

The underlying concept is that the value of a firm's stock is influenced by the financial performance of the firm. However, information is individual, meaning that individuals may respond differently to the same source of information (Puspitaningtyas, 2015). According to the financial theory known as "Dividend Signaling Theory," a company's dividend announcements may give investors clues about its stability, future earnings potential, and overall financial health.

The hypothesis was put forth by economist Franco Modigliani and Nobel laureate Merton Miller to explain why changes in a company's dividend policy could affect stock prices even though it is believed that in a perfect market, dividend policy shouldn't have an impact on firm value.

2.3 Empirical Review

Eyisi and Okpe (2014) investigated the effect of operating cash flows attributed to total assets and operating cash flows attributable to total liabilities on the performance of (35) companies listed on the Nigeria Stock Exchange during the period (2009-2013). The results of the study showed that there is a significant effect of both operating cash flows attributable to total assets and operating cash flows attributable to total liabilities on the financial performance measured by earnings per share.

Sulaman et al. (2016) conducted a study on determinants of corporate cash holdings of non-financial companies among different company sizes and different industries in Pakistan. The study analyzed samples of 50 Public Limited firms listed on the Karachi Stock Exchange from 2012 to 2014. The study used descriptive statistics, correlation, and multiple regression mechanisms and discovered that firm size, board size, net working capital, and investment significantly affect corporate cash holdings, while debt structure, leverage, and return on asset exert a negative and non-significant relationship with cash holdings.

Amahalu and Ezechukwu (2017) examined the extent at which cash holding affects the financial performance of listed insurance firms in Nigeria. Pearson's correlation and multiple regression analyses were used in testing the formulated hypotheses with the aid of STATA 13 statistical software. Findings revealed that cash holding (proxy by cash to total book value of assets and cash) has a positive and significant effect on financial performance (proxied by Return on Asset, Return on Equity, and Tobin's Q) at a 5% significant level.

Soewignyo and Soewignyo (2017) aimed to investigate the effect of a set of financial ratios, namely: the ratio of operating cash flows attributable to total liabilities, and the ratio of operating cash flows attributable to current liabilities on the company's performance measured by (earnings per share, returns on assets and returns on equity) for the sample of (40) companies listed on the Indonesia Stock Exchange during the period (2010-2016). The study showed that there is a significant effect of both the operating cash flows attributable to the total liabilities and the operating cash flows attributable to the current liabilities on the profitability of the company in all its indicators (earnings per share, return on assets, and return on equity).

Limam and Mohammed (2018) conducted a similar study entitled The Influence of the Operating Cash Flow on the Profitability of Listed Nigerian Firms. The data analysis was carried out using a panel regression mechanism. Results disclosed an insignificant impact of operating cash flow on Return on Assets (ROA) but a direct and significant influence of the operating cash flow on the Return on Equity (ROE).

Soet (2018) focused on the effect of financing cash flow management on the financial performance of mutual funds in Kenya. The objective of the paper was to look into the relationship between financing cash flow management and the financial performance of mutual funds in Kenya. The study employed a causal research design. Secondary panel data from the audited financial statements of 22 mutual funds was retrieved from financial reports for the period 2011-2016. Descriptive statistics namely; mean, median, minimum, maximum and standard deviation were generated using E-views software. The results indicated that financing cash flow management had a significant and negative effect on return on assets and return on equity.

3. METHODOLOGY

3.1 Research Design and Data Sources

An ex-post facto research design was adopted. Meanwhile, the data source is secondary. This paper generates annual time series panel data gathered from the Nigerian Exchange Group (NGX) for the period of 12 years, 2012-2023.

3.2 Model Specification

The model framework for this study is a multiple linear regression model following the foundation as documented in Woodridge (2009). Generally, the model is specified thus:

$$Y_{it} = \alpha + \sum_{k=1}^{j} \beta_k X_{kit} + \mu_{it}; \ \ k = 1, \dots, J \ \ \ \ \ \dots\dots\dots(3.1)$$

Where Y represents the dependent variable and X represents the explanatory variables. The subscript 'i' refers to the individual companies, t represents the time, while k stands for the position of the variable that is being estimated. μ_{it} is the composite error term.

Equation (3.1) above can be linearized as:

$$y_{it} = \alpha + \beta_1(X_1)_{it} + \beta_2(X_2)_{it} + \mu_{it} \ \ \ \ \ \dots\dots\dots(3.2)$$

While the composite error term can further be decomposed into specific effects and remainder disturbance term as follows:

$$\mu_{it} = \pi_i + \varepsilon_{it} \ \ \ \ \ \dots\dots\dots(3.3)$$

Where π_i denotes the unobservable individual-specific effect and ε_{it} denote the remainder disturbance.

In line with the study variables, the econometric representation of the POLS regression model is as shown below:

$$LASG_{it} = \alpha + \beta_1(\text{LCASH})_{it} + \beta_2(\text{LCFAR})_{it} + \pi_i + \varepsilon_{it} \ \ \ \ \ \dots\dots(3.7)$$

Where,

LASG	=	Firm Asset Growth, (dependent variable);
LCASH	=	Cash and cash equivalent, (independent variable);
LCFAR	=	Cash flow adequacy ratio, (independent variable);
β_0	=	Constant term;
β_1 & β_2	=	Coefficients of the independent variables in the model.
μ_t	=	Random error associated with the model,
L	=	Log transformation operator,
t	=	time.

The study used a static panel regression model and employed the Hausman test to estimate and make the choice of the most appropriate model between the fixed effect (FE) and random effect (RE) panel models. Both the FE and RE models have their underlying assumptions; the study ensured that these assumptions were met and that the best model was selected. Furthermore, the Hausman test was performed to determine whether the individual effects calculated are indeed random and are uncorrelated with the explanatory variables. When the statistic is statistically significant, the null hypothesis is rejected for the fixed effect model to be used; otherwise, the random effect model is preferred over the fixed effect model.

3.3 Techniques of Analysis

Analysis of the quantitative data used in this study covered both descriptive and inferential methods. The descriptive statistics show the mean, standard deviations, skewness, kurtosis, and Jarque-Bera statistics which were all summarised in tables with relevant parameters. Other essential econometric methods captured were panel unit root test (Levin, Lin & Chu t* method), and fixed and random effects panel regression models.

However, the Hausman test was performed to ascertain which of the fixed or random effect models is more appropriate for validating the research hypotheses. The outcome of the tests performed and their respective findings were judged using the threshold of 5% level of significance.

4. RESULTS AND DISCUSSION

The results of the statistical analysis were presented in tables and charts.

4.1 Data Description and Normality Test

Table 1: Descriptive statistics showing the mean, standard deviation, skewness, kurtosis and normality test results of the study variables

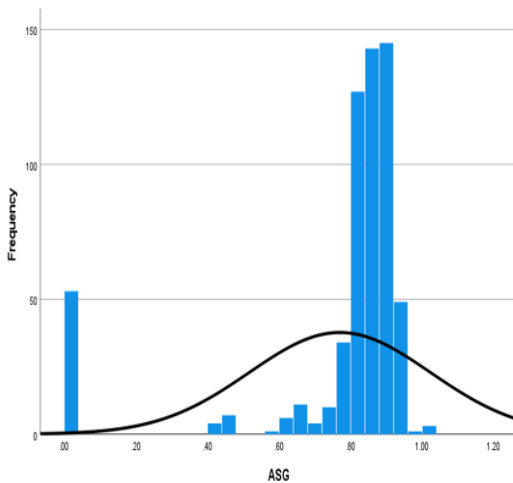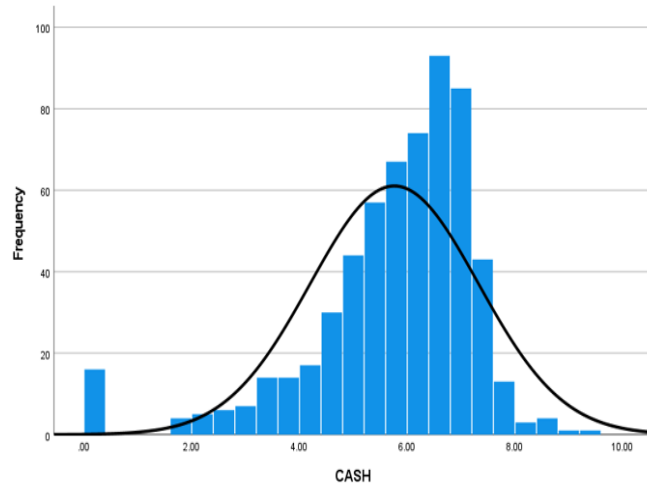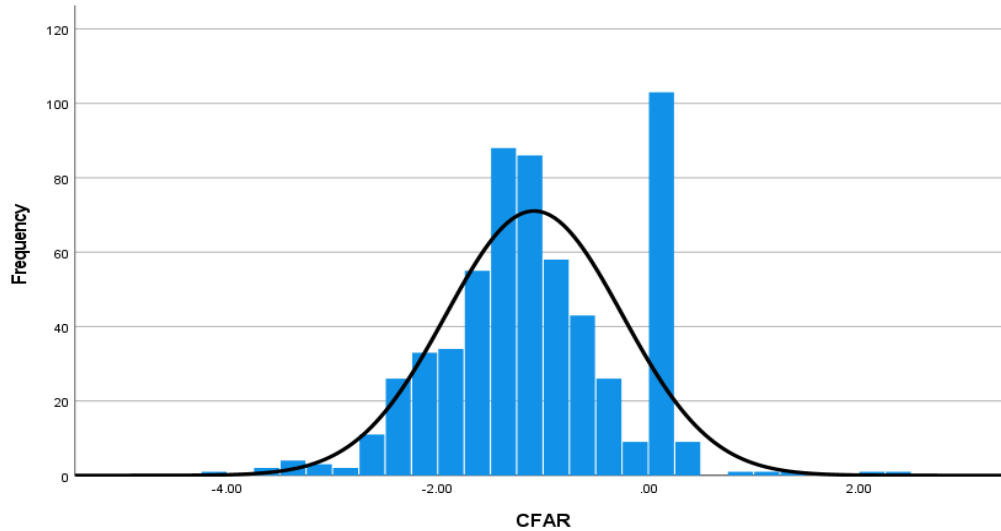| Variables	Mean	Std. Dev.	Skewness	Kurtosis	Obs.	K-S test stat.	Prob.(K-S stat.)
LASG	0.77	0.253	-2.475	4.745	598	0.340	<0.001
LCASH	5.76	1.563	-1.549	6.320	”	0.103	<0.001
CFAR	-1.08	0.839	-0.071	3.625	”	0.098	<0.001

Fig. 1(a)

Fig. 1(b)

Fig. 1(c)

Source: *Author's Eviews 13.0 result*

The descriptive result presented in Table 1 revealed that the average assets growth rate (LASG) of the companies for the period of study was 77.0%, LCASH(5.76), and CFAR(-1.08).

The standard deviations, especially of LCASH and LASG show wide variations from the mean; thereby, indicating low predictivity of the data series behavior. Also, the data series for all the variables are negatively skewed (Sk<0), indicating that a greater percentage of the data points fall below the average.

The non-symmetrical distributional picture of the data series as presented by the skewness report equally shows in the result of the kurtosis estimates where there is excess kurtosis (k>3.0) in all the data series.

Kolmogorov-Smirnov test with probability values less than 0.001 stands as evidence that the data series are not normally distributed. In other words, the data values are clustered on one side of the normal curve; hence, they did not make a bell shape.

See also the histogram plots (fig. 1a, 1b, and 1c) for further clarifications.

4.2 Unit Root Test

H0: ϕ=0 (Stationary)

   versus

H1: ϕ<0 (Not Stationary)

Table 2: Result of Levin, Lin & Chu t* Unit Root Test

Variable	ADF-Stat	Critical Values @5%	p-value	Order of Integration	Inference
LASG	-4.205	-3.023	0.0134	I(0)	Stationary
LCASH	-3.992	-2.765	0.0078	I(0)	"
CFAR	-4.616	-3.109	0.0053	I(0)	"

Source: *Author's Extract from E-views 13.0 Result*

From the stationarity test result in Table 2 which employed the Levin, Lin, and Chu t* method, it was proven that all the research variables were stationary at their level form; for which course, they are stationary at order zero [i.e., I(0)]. This means that the series are already stable and do not require differencing, thereby making them suitable for analysis in their current form. Also, the outcome of the unit root test equally indicates that Panel Least Squares (POLS) is suitable for subsequent analysis.

4.3 Panel Least Squares Regression

Table 3: Panel Regression Result of effect of Cash management techniques on the financial sustainability of Manufacturing firms in Nigeria (Fixed Effect Model, Random Effect Model, and Pooled estimate)

Variable	Fixed Effect estimate [Prob.]	Random Effect Estimate [Prob.]	Pooled estimate [Prob.]
LCASH	0.270 [0.0038]	0.266 [0.0064]	0.131 [0.0293]
CFAR	0.182 [0.0059]	0.103 [0.0056]	0.031 [0.0434]
C	6.113 [0.0000]	5.157 [0.0003]	0.280 [0.0457]
R-Square	0.623	0.039	0.043
F-Statistic	11.368	1.162	1.267
Prob. (F-Statistic)	0.0000	0.0331	0.0287
Hausman Test Chi-Sq. Statistic = 35.120; Prob.(Chi-Sq. Statistic) = 0.0000			

Source: Researcher's extract from Eviews 13.0

Table 3 is the panel regression result showing the effect of cash management techniques on the financial sustainability (asset growth) of manufacturing firms in Nigeria. Firstly, the Hausman test result (35.120) with a p-value less than 0.001 indicates that the fixed effect model is more appropriate than the random effect model for the data. The significant p-value leads to the rejection of the null hypothesis, suggesting that the unobserved individual differences are correlated with the independent variables, making the fixed effect model the better choice for analysis.

The panel regression result shows that cash management techniques (cash and cash equivalent, and cash flow adequacy ratio) with associated coefficients (*LCASH=0.270, CFAR=0.182*) and probability values [*Prob. (LCASH) = 0.0038; Prob.(CFAR) = 0.0059*] indicates positive and statistically significant effects on Assets Growth (LASG) of the manufacturing firms in Nigeria. Collectively, the cash management techniques contribute significantly to explaining variations in LASG of the manufacturing firms in Nigeria (*F-stat. = 11.368, p=0.0000*).

The R-squared value of 0.623 indicates that 62.3% of the variation in LASG is explained by the cash management techniques (LCASH and CFAR) included in the model. This suggests a relatively good fit, meaning that the model captures a significant portion of the changes in LASG, therefore indicating that, truly, they have a strong positive and statistically significant impact on the LASG of the manufacturing firms in Nigeria. Based on these results, the null hypotheses were rejected, while the conclusion was drawn that cash management techniques have significant positive effects on the Assets growth (LASG) of manufacturing companies in Nigeria.

5. CONCLUSION

In conclusion, effective cash management techniques are critical to the financial sustainability of manufacturing firms in Nigeria, where economic fluctuations and operational challenges make efficient cash handling essential. The positive impact of cash and cash equivalents on financial sustainability underscores the importance of maintaining liquidity, as this provides firms with the flexibility to meet operational expenses, invest in growth opportunities, and manage unexpected costs. Furthermore, the significant role of the Cash Flow Adequacy Ratio (CFAR) highlights the need for manufacturing firms to focus on generating sufficient cash flow to cover obligations without depleting resources, thereby ensuring long-term stability and resilience. Together, these findings suggest that prioritizing cash management strategies such as optimizing inventory levels, enhancing receivables collections, and judiciously managing payables can improve the financial health and sustainability of manufacturing firms in Nigeria, allowing them to navigate industry-specific challenges while contributing positively to economic growth. The study concluded that cash management techniques have significant positive effects on the financial sustainability of manufacturing companies in Nigeria.

Recommendation

To enhance the financial sustainability of manufacturing firms in Nigeria, it is recommended that these firms adopt robust cash management practices that prioritize maintaining adequate levels of cash and cash equivalents and improving their Cash Flow Adequacy Ratio (CFAR). Given the significant positive effect of cash and cash equivalents on financial stability,

i.   Firms should strive to optimize liquidity by efficiently managing working capital, streamlining inventory control, and accelerating receivables collection.

ii. Focusing on improving the CFAR can help ensure that firms generate sufficient cash flows to meet both current and long-term financial commitments. Manufacturing firms should implement cash flow forecasting tools to better anticipate cash needs and avoid liquidity shortfalls. They should also consider extending payment terms with suppliers where feasible and negotiating early payment discounts to improve cash outflows.

Acknowledgement

References

1) Afrifa, G. A., & Tingbani, I., (2017). Working Capital Management, Cash Flow and SMEs' Performance. Munich Personal Repec Archive. Online at https://mpra.ub.uni-muenchen.de/82894/ MPRA

2) Alfred, D. D. (2007). Corporate finance (2nd Ed.). Lagos: High Rise Publishers. Retrieved from https://doi.org/10.1142/S0219590817470063.

3) Amahalu, N. N. & Ezechukwu, B. O. (2017). Effect of cash holding on the financial performance of selected quoted insurance firms in Nigeria. Journal of Marketing Management and Consumer Behavior, 2(1) 90-112. Retrieved from https://doi.org/10.1142/S0219590817470063.

4) Anggita, L. W. (2020). The effect of audit quality on firm value: A case in Indonesian manufacturing firm. Journal of Accounting, Finance and Auditing Studies, 6(1), 1-15. Retrieved from https://doi.org/10.2991/icame-17.2020.2.

5) Bhattacharya, S., (1979). Imperfect information, dividend policy, and the bird-in-hand fallacy. The Bell Journal of Economics, 10, (1), 259-270. Retrieved from https://doi.org/10.1142/S0219590817470063.

6) Denis, D. (2013). IAS 7 Statement of cash flows- identification of cash equivalents. Retrieved from https://doi.org/10.2415/-2013-0112.

7) Dutta, S., Mukherjee, T., & Sen, S. (2018). Impact of financial leverage on the value of the firm: Evidence from some NSE listed companies. The BESC Journal of Commerce and Management, 4, 42-52. Retrieved from https://www.researchgate.net/publication/326693350.

8) Endri, E., & Fathony, M. (2020). Determinants of firm's value: Evidence from financial industry. Management Science Letters, 10, 111–120. Retrieved from https://doi.org/10.5267/j.msl.2019.8.011.

9) Eyisi, A., & Okpe, I. (2014). The impact of cash flow ratio on corporate performance. Research Journal of Finance and Accounting, 5(6), 149-159.

10) Hermanson, R. (1998). Accounting from a business perspective. USA: McGraw-Hill.

11) John M.C. (2018). The effect of cash reserve ratio (CRR) on the financial performance of commercial banks and their engagement in CSR in Ghana. Research journal's Journal of Finance, 4(3), 1-11.

12) Limam, M., & Mohammed, A.S., (2018). Operating cash flow and corporate financial performance of listed conglomerate companies in Nigeria. Journal of Humanities and Social Science, 23(2), 1-11. Retrieved from https://doi.org/10.1142/S0219590817470063.

13) Nyabwanga, R. N., Ojera, P., Lumumba, M., Alphonce, J. O., & Otieno, S. (2011). Effect of working capital management practices on financial performance: A study of small-scale enterprises in Kisii South District, Kenya. African Journal of Business Management, 6(18), 5807-5817. Retrieved from https://www.researchgate.net/publication/326693350.

14) Obim, E.N., Takon, S.M., & Mgbado, M.U. (2020). The impact of liquidity on banks profitability in Nigeria. IIARD International Journal of Banking and Finance Research, 6(1), 1-8.

15) Okobo, M.M., Ugwoke, R.O., & Akpan, E.E. (2022). Investment in tangible non-current assets and financial performance of food manufacturing firms in Nigeria. Investment Management and Financial Innovations, 19(3), 360-372.

16) Okoye, P. V. C., Amahalu, N. N., Nweze, C. L., & Obi J. C. (2016). Cash flow statement and liquidity: Empirical evidence from quoted banks in Nigeria. Managing diversification for sustainable development in sub-Saharan Africa. Faculty of Management Sciences, 2016 International Conference, 8-10, November 2016.

17) Puspitaningtyas, Z. (2015). Prediksi Risiko Investasi Saham: Decision usefulness approach. Yogyakarta: Griya Pandiva. Retrieved from https://doi.org/10.1142/S0219590817470063.

18) Soet, M. A., Muturi, W., & Oluoch, O., (2018). Effect of Operating Cash flow management on the financial performance of Mutual funds in Kenya. European Journal of Business, Economics and Accountancy Vol. 6, No. 5, 2018 ISSN 2056-6018. Progressive Academic Publishing, UK Page 37 www.idpublications.org

19) Soewignyo, F., & Soewignyo, T.I. (2017). Basic industry and chemicals subsector cash flow ratios and profitability. Journal of US-China Public Administration, 14(6), 321-329.

20) Sulaman, J., Amna, A., Naila, A., Adnan, T &Mohsin, A. (2016). Determinants of corporate cash holdings: Empirical analysis of Pakistani firms. IOSR Journal of Economics and Finance, 7(3), 29-35. Retrieved from https://doi.org/10.1142/S0219590817470063.

21) Tumba, N.J., Onodugo, V.A., Akpan, E.E., & Babarinde, G.F, (2022). Financial literacy and business performance among female micro-entrepreneurs. Investment Management and Financial Innovations, 19(1), 156-167. doi:10.21511/imfi.19(1).2022.12