



Enhancing Financial Performance in Consumer Goods Manufacturing Firms: A Comprehensive Analysis of Liquidity Management Strategies in Nigeria

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This study delves into the research topic of "Enhancing Financial Performance in Consumer Goods Manufacturing Firms: A Comprehensive Analysis of Liquidity Management Strategies in Nigeria." The primary objectives are to investigate the impact of liquidity management ratios on financial performance, specifically focusing on the current ratio, acid test ratio, and operating cash flow ratio in the context of consumer goods manufacturing firms. Employing a Two-Stage Least Squares (2SLS) regression approach, the research aims to assess how these liquidity metrics influence Return on Assets (ROA), considering their implications for strategic decision-making in a dynamic financial landscape. The study draws inspiration from the imperative for firms to strategically manage liquidity for improved overall financial performance. The empirical findings, based on a sample of five (5) consumer goods manufacturing firms, reveal nuanced outcomes. The 2SLS regression results indicate a statistically significant impact of the operating cash flow ratio on ROA, emphasizing the crucial role of cash flow management in influencing profitability. However, both the current ratio and acid test ratio do not exhibit significant effects on ROA. To contextualize these findings, the study aligns with existing research from various global settings, highlighting diverse outcomes in the relationship between liquidity management and profitability. The complexities unveiled underscore the necessity for industry-specific considerations in financial decision-making. In essence, this study contributes valuable insights to the ongoing discourse on liquidity management and financial performance in consumer goods manufacturing firms, offering a nuanced understanding of specific ratios that play a pivotal role in shaping financial outcomes. The adoption of the Two-Stage Least Squares methodology enhances the reliability of the empirical results, providing actionable implications for firms seeking to optimize their liquidity management strategies for enhanced profitability in the unique context of the Nigerian consumer goods manufacturing sector.

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ABSTRACT

Keywords: Consumer Goods Manufacturing Firms; Financial Performance; Liquidity Management Strategies; Liquidity Management Ratios

Background

In the dynamic landscape of financial management, liquidity plays a pivotal role, referring to the investment in current assets and liabilities that can be liquidated within a year or less (Kontuš & Mihanović, 2019). It signifies a firm's ability to meet short-term financial obligations by promptly converting assets into cash without significant loss. Liquidity management involves swiftly storing and raising funds from the market to satisfy stakeholders and maintain public confidence (Choudhry, 2012). High-quality liquid assets are those easily convertible into cash with minimal loss, and liquid markets enable asset holders to sell without incurring substantial losses. The measurement of liquidity is best achieved through cash flow statements or budgets.

Against this backdrop, the consumer goods manufacturing sector in Nigeria stands as a vital driver of economic activity, contributing substantially to employment generation, revenue accrual, and overall economic development (Adegbite & Adegbite, 2021). As a cornerstone of the nation's industrial landscape, this sector navigates a dynamic environment marked by market volatility, regulatory intricacies, and global economic shifts. Amidst these challenges, the efficacy of financial management strategies, particularly in the realm of liquidity, plays a pivotal role in determining the resilience and profitability of consumer goods manufacturing firms.

Nigeria, being one of the largest economies in Africa, is home to a diverse array of consumer goods manufacturing entities, encompassing food and beverages, personal care products, and household goods (Oxford Business Group, 2018). The sector's significance is underscored not only by its contribution to the country's Gross Domestic Product (GDP) but also by its role in meeting the essential needs of a burgeoning population. However, the sector contends with unique challenges, including infrastructural constraints, fluctuating consumer demand, and the need for sustained innovation to remain competitive in the global marketplace.

In the context of this intricate landscape, the prudent management of financial resources emerges as a critical success factor for consumer goods manufacturing firms. Liquidity management, involving the strategic allocation and utilization of short-term assets and liabilities, becomes paramount in ensuring operational fluidity, meeting financial obligations, and seizing growth opportunities. Despite the acknowledged importance of liquidity, there exists a notable gap in the existing literature concerning a comprehensive analysis of liquidity management strategies tailored to the Nigerian consumer goods manufacturing sector.

This study is motivated by the imperative to fill this void and provide a robust understanding of the interplay between liquidity management strategies and financial performance within the specific context of Nigerian consumer goods manufacturing. The complex and dynamic nature of the consumer goods industry demands a nuanced exploration, taking into account the unique challenges and opportunities that characterize the Nigerian business landscape.

As the consumer goods manufacturing sector continues to evolve, influenced by both domestic and global factors, a comprehensive analysis of liquidity management strategies becomes increasingly essential. By delving into the specific ratios of Current Ratio, Acid Test Ratio, and Operating Cash Flow Ratio, this study seeks to unravel the intricate dynamics influencing Return on Assets (ROA) in consumer goods manufacturing firms. The anticipated insights aim to not only contribute to academic scholarship but also offer actionable guidance for industry practitioners, policymakers, and stakeholders, fostering a more resilient and prosperous consumer goods manufacturing sector in Nigeria.

Objectives of the Study

1. **Examine the Impact of Current Ratio on Return on Assets:** Evaluate how variations in the current ratio influence the return on assets in consumer goods manufacturing firms in Nigeria, with a focus on identifying the optimal current ratio range for enhancing financial performance.
2. **Evaluate the Influence of Acid Test Ratio on Return on Assets:** Investigate the relationship between the acid test ratio and return on assets in consumer goods manufacturing firms in Nigeria, aiming to understand how this liquidity metric contributes to overall financial performance and stability.

3. **Assess the Relationship between Operating Cash Flow Ratio and Return on Assets:** Determine the extent to which the operating cash flow ratio affects return on assets in consumer goods manufacturing firms in Nigeria, exploring the dynamics of cash flow management and its implications for financial performance.

Review of Literature

Theoretical Framework

Pecking Order Theory

This study draws its theoretical foundation from the Pecking Order Theory, a framework initially proposed by Myers in 1984. According to this theory, firms exhibit a preference for financing new investments, prioritizing internal funds such as retained earnings, followed by debt, and considering equity issuance as a last resort. The optimal capital structure becomes intricate, positioned at the apex and base of the "pecking order," as postulated by Myers. Moreover, Myers argues that issuing collateral-backed debt helps mitigate asymmetric information costs associated with financing. In the context of this study, we anticipate a positive relationship between financial leverage and tangibility.

The Trade-Off Theory, another conceptual underpinning, posits that firms secure financing through a mix of debt and equity, capitalizing on the advantages of debt, including tax benefits and addressing the costs of financing distress, including bankruptcy costs. In a scenario of perfect markets, characterized by free entry and exit of firms and negligible transaction costs, this theory comes into play. The Trade-Off Theory suggests that firms aim for an optimal level of liquidity, carefully balancing the benefits and costs of holding cash. The costs encompass a lower rate of return on assets due to liquidity premiums and potential tax disadvantages. On the flip side, holding cash provides advantages such as saving on transaction costs for fund-raising, avoiding the need to liquidate assets for payments, and offering flexibility for operational financing and investments when alternative financing methods are impractical or excessively costly. This theoretical framework guides our exploration of liquidity management strategies and their impact on the financial performance of consumer goods manufacturing firms in Nigeria.

Empirical Review

Various studies have been carried out to determine the relationship liquidity and financial performance in different sectors of economy, locally and also internationally.

Alshatti (2015) conducted research to find out the degree to which effective liquidity management affects profitability in Jordanian commercial banks and how commercial banks can enhance their liquidity management and profitability positions. Based on the research findings, liquidity management has effect on profitability as measured by ROE and ROA, where the effect of the investment ratio and quick ratios on the profitability is positive when measured by ROE, and the effect of capital ratio on profitability is positive as measured ROA.

Ehiedu (2014) conducted research on the impact of liquidity on profitability of some selected companies in Nigeria and concluded that 75% of them indicated that current ratio has a significant positive correlation with profitability. The researcher believes that that the reason for this positive relationship between current ratio and profitability is simply because idle funds, especially when borrowed, generates profit and less cost in the business. the two companies depicted a negative correlation between Acid test ratio and return on assets respectively. Thus, from the above results, 50% of the companies analyzed indicated a significant negative correlation between current ratio and profitability in this analysis.

Ben-Caleb, Olubukunola and Uwuigbe (2013) investigate the relationship between liquidity and profitability. The analysis is based on a sample of 30 manufacturing companies listed on the Nigeria Stock Exchange for the period of 2006-2010. The result suggests that current ratio and liquid ratio are positively associated with profitability while cash conversion period is negatively related with profitability of manufacturing companies. These results show a mixed finding.

Also, Bhunia and Brahma (2011) studied the importance of liquidity management on profitability and found a significant negative relationship between the profitability measured by ROCE and all the independent variables except for current ratio (CR) which indicated a positive influence on profitability.

Lamnerg and Valming, (2009) studied the impact of liquidity management on profitability during financial crises with a sample of companies listed on Stockholm stock Exchanges small and mid-capitalist with some restrictions. Adopting a quantitative methodology and regression analysis, they find out that the adoption of liquidity strategies do not have a significant impact on profitability measured by ROA. However, that increased use of liquidity forecasting and short-term financing during the financial crises had a positive impact on ROA. In other words, frequent monitoring and forecasting on liquidity levels and making more short-term investments can provide gain in profitability.

Furthermore, Nobanee and AlHajjar (2005) investigated the relationship between working capital management and profitability of a sample of 2123 Japanese non-financial firms listed in the Tokyo Stock Exchange for a period of 15 years (1990-2004). They found that managers can increase profitability of their firms by shortening the cash conversion cycle, the receivable collection period and the inventory conversion period as well as lengthening the payable deferral period.

Michael (2012) conducted research on the efficiency of managing working capital and the corresponding corporate profitability. The research was carried out by using 22 quoted firms at the Nigerian Stock Exchange. The research result revealed that there was an improvement in the gross working capital positions.

Bagchi and Khamrui (2012) conducted research on the relationship that exists between working capital management and the profitability of firms and also identified the variables that most influence profitability. In this study, they made use of a sample size of 10 fast moving consumer goods (FMCG) companies from CMIE database in India within the period of 2000-2001 to 2009-2010 which gives a total of 10 years was selected. Profitability was measured using Cash Conversion cycle (CCC), ROA (return on assets), debt-equity ratio, age of creditors, age of debtors, interest coverage ratio and age on inventory was used in terms of the explanatory variables. The study made use of pooled ordinary least squares regression analysis and Pearson's correlation. The result of the investigation showed a strong negative correlation between the working capital management variables and profitability.

Again, Uyar (2009) found a significant negative correlation between Cash Conversion Cycle (CCC) and firm size as well as with profitability among Turkey firms using ANOVA and Pearson moment correlation.

Maina (2011) researched on the relationship between liquidity and profitability of oil companies in Kenya covering the period 2007 to 2010. The study found that liquidity management is not a significant contributor alone to the firm's profitability and that there exist other variables that will influence ROA.

Omesa (2015) conducted research on the effect of liquidity on financial performance of financial institutions listed at the NSE. The study depended on secondary data which was retrieved from the NSES relevant financial statements. The study was conducted for the period 2011 to 2015. The researcher found out that the relationship between ROA and liquidity is negative implying that a decrease in liquidity will lead to a decrease in financial performance of financial companies listed at the NSE.

In Nigeria, Ben-Caleb (2009) studied the relationship between the components of working capital and profitability measured by Return on assets using a sample of 25 non-financial firms for 2005 and 2006 period and found out that only debtor's collection period has a significant negative association with profitability.

Similarly, Ashokkumar and Manohar (2010) did a case study of cement industry in Tamilnadu and found significant negative relation between the firm's profitability and its liquidity level.

Ali, et, Alireza and Jalal (2013) studies the association between various earnings and cash flows measure of firm performance and stock returns. They use the simple and multiple regressions to analysis the data for a period of nine consecutive years from 2003-2011. The study revealed that company's performance and cash flow have a significant negative relationship; furthermore, earning based measures are more related to stock returns and depict the company performance better than cashflow measures in some companies with higher accruals.

Chikashi (2013) carried out an investigation of comprehensive income and firm performance. The case of the electric appliances industry of the Tokyo stock exchange was studied. The researcher uses the data for the fiscal year of 2009 to 2011 and employs the pooled regressions 9panel data regression analysis). The study revealed that cash flows and firm performance have a significant negative relationship.

Adelegen carried out an empirical analysis of the relationship between cash flow and profitability of firms in Nigeria. The researcher used the ordinary least square (OLS) method to analyze the data on a sample of 63 quoted firms in Nigeria over a wider testing period from 1984 to 1997. The empirical results reveal that the relationship between cash flow and firm performance is positively significant.

Brush, Bromily and Hendrickx (2000) examines the free cash flow hypothesis for sales growth and firm performance. They used the white and Durbin- Waston test on the data that covers the years 1988 to 1995. The results reveal that the firm performance and cash flow have a significant positive relationship. But different government conditions affect sales growth and performance in different ways.

Method

Ex post facto design was adopted since the study relied solely on secondary sources of data collection in determining the role of liquidity and transparency in alternative investment. The research is conducted in Nigeria and within the consumer goods manufacturing firms listed on the Nigeria Stock Exchange. The data were obtained from the annual report and accounts from these five consumer goods manufacturing firms listed on the Nigerian Stock Exchange. The sample size used comprises 5 selected consumer goods manufacturing firms out of a total population of all the consumer goods manufacturing firms in Nigeria. Five companies were randomly selected, they are Unilever Nig. Plc, Dangote Nig. Plc, Nigeria Brewery plc, Cadbury Nig. Plc and Nestle Nig. Plc.

Method of Analysis

The current ratio, quick ratio, operating cash flow ratio and return on assets were calculated for the period 2015 to 2019 with the Statistical Package for the Social Science (SPSS) 27. The data will be analyzed using the multiple regression model.

Among the tests conducted are the coefficient of determination (R-Square), f-statistics and Durbin-Watson. They are used in the interpretation of the results. The decision rule for test of hypotheses is to reject the null hypotheses for calculated significance value below 5% level of significance. Adjusted coefficient of determination (Adj. R-SQUARE) test measures the explanatory power of the independent variables on the variables in the dependent variable. The R-Square normally makes an overestimation of the value of the population.

Therefore, we use Adj R-Square and student T-Test to measure the individual significance of the estimated independent variables, and F-Test to measure the overall significance. The coefficient is used to measure the individual contribution of the variables to variation in the dependent variable. Durbin Waston (DW) Statistics tests for auto correlation in the regression. The decision rule is to reject the null hypothesis, when P-value is less than 0.05 percent level of significance, otherwise do not reject.

Model Specification

Multiple regression Model was used to establish the effect of each variable on financial performance. This regression is concerned with describing and evaluating the relationship between a given variable and one or more other variables.

The model expresses Return on assets (ROA) as a function of current ratio (CRO), Acid test ratio (ATR) and Operating Cash Flow Ratio (OCFR). Thus, the growth model is specified as below:

$$ROA = f(CRO, ATR, OCFR) \dots\dots\dots 1$$

This is specified in econometric form as:

$$ROA = \beta_0 + \beta_1 CRO + \beta_2 ATR + \beta_3 OCFR + \mu \dots\dots (2)$$

Where:

ROA= Return on asset which is used as a proxy for profitability

CRO= Current ratio

ATR= Acid test ratio

OCFR= Operating Cash Flow Ratio

B0= Constant intercept

B1, β_2 , β_3 , β_4 , β_5 , β_6 , β_7 = Coefficients of explanatory variables

UI= Random error term

The following are the expected signs of the regression parameters:

$B_i < 0$; $b_2 < 0$; $b_3 < 0$.

Description of Variable in the Model

Return on Asset (ROA): This shows the percentage of profit a company earns in relation to its overall resources. It is commonly defined as net income divided by total assets. Net income is derived from the income statement of the company and is the profit after taxes.

Current Ratio (CRO): This measures whether or not a firm has enough resources to meet its short-term obligations. It compares a firm's current assets to its current liabilities, and is expressed as current assets less current liability divided by current liability.

Acid Test Ratio (ATR): Measures the ability of a company to use its near cash or quick assets to extinguish or retire its current liabilities immediately. Quick assets include those current assets that presumably can be quickly converted to cash at close to their book values. It is the ratio between quick or liquid assets and current liabilities.

Operating Cash Flow Ratio (OCFR): Measures the funds generated and used by the core operations of a business. It is used to evaluate the ability of a business to pay for its short-term liabilities.

Data Presentation

Table 1: Data for the Study

COMPANIES	YEARS	ROA	RO	ART	OCFR
UNILEVER	2015	0.1534	-0.3426	0.3354	0.088
	2016	0.1099	-0.3465	0.4053	0.0501
	2017	0.0527	-0.408	0.3174	0.0423
	2018	0.0238	-0.3945	0.4275	0.0501
	2019	0.0424	-0.2237	0.5917	0.0402
CADBURY	2015	0.0834	0.5477	1.4268	0.0109
	2016	0.1395	0.8233	1.6926	0.2684
	2017	0.0525	-0.1215	0.7081	0.0596
	2018	0.0271	0.1477	0.9734	0.0276
	2019	-0.0007	0.0988	0.6992	0.0227
NIG.BREW	2015	0.1500	-0.3451	0.371	0.2026
	2016	0.1704	-0.5485	0.2457	0.2164
	2017	0.1218	-0.5007	0.2495	0.2596
	2018	0.1068	-0.5897	0.2075	0.3015
	2019	0.0774	-0.4831	0.3003	0.0706
DANGOTE	2015	0.2221	-0.0892	0.672	0.0601
	2016	0.2206	-0.0939	0.7382	0.6433
	2017	0.1636	-0.4114	0.4053	0.6514
	2018	0.109	0.0757	0.6803	0.2028
	2019	0.0807	0.1175	0.647	0.0647
NESTLE	2015	0.2375	-0.1095	0.5937	0.1921
	2016	0.0911	0.2565	0.764	0.1002
	2017	0.2097	-0.1624	0.5919	0.2551
	2018	0.1991	-0.1844	0.6345	0.2669
	2019	0.0467	0.1925	0.637	0.0366

Source: Authors Computation from Annual Reports and Accounts, 2016 – 2019

Descriptive Statistics

Table 2: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Variance	Skewness	Kurtosis		
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
ROA	25	-.0007	.2375	.115620	.0688837	.005	.217	.464	-.992	.902
CRO	25	-4114.00	.8233	-164.67	822.777	676963.16	-5.000	.464	25.000	.902
ART	25	.2075	1.6926	.612612	.3474349	.121	1.700	.464	3.606	.902
OCFR	25	.0109	.6514	.167352	.1727015	.030	1.785	.464	3.203	.902
Valid N (listwise)	25									

Sources: Authors Computation

The descriptive statistics reveal key insights into the financial performance metrics of the analyzed companies. The Return on Assets (ROA) exhibits a mean of 0.116, indicating a positive average performance, with slight positive skewness and negative kurtosis suggesting a distribution slightly skewed to the right and less peaked than normal. In contrast, the Current Ratio (CRO) displays a mean of -164.667, showcasing a pronounced negative skewness and

high positive kurtosis, indicative of a left-skewed distribution with heavy tails. The Acid Test Ratio (ART) and Operating Cash Flow Ratio (OCFR) demonstrate means of 0.613 and 0.167, respectively, with ART showing a highly positively skewed distribution and both ratios sharing positive kurtosis, suggesting distributions slightly more peaked than normal. These statistical measures offer a comprehensive overview of the central tendency, variability, and shape of the distributions, providing a foundation for further analysis and interpretation within the context of liquidity and financial performance in the consumer goods manufacturing sector.

Correlation Analysis

Correlation analysis tests for the tests effect between dependent variable and independent variable. Pearson Product Moment correlation efficient technique was used to establish the strength of effect between the independent and dependent variables of the 5 selected firms.

Table 3: Correlations between Variables

			CRO	ART	OCFR
Equation 1	Correlations	CRO	1.000	-.089	.580
		ART	-.089	1.000	.021
		OCFR	.580	.021	1.000

Source: Authors Computation

The SPSS correlation results indicate the relationships between three variables: CRO, ART, and OCFR. The correlation matrix reveals that CRO and ART exhibit a weak negative correlation of -0.089, suggesting that as one variable increases, the other tends to decrease, although the relationship is not strong. On the other hand, CRO and OCFR demonstrate a moderate positive correlation of 0.580, indicating that as one variable increases, the other tends to increase as well, and the relationship is moderately strong. Meanwhile, the correlation between ART and OCFR is very weak, with a coefficient of 0.021, implying an almost negligible positive correlation between these two variables. It's important to note that correlation does not imply causation, and these coefficients provide insights into the linear relationships but not the causative factors between the variables.

Regression Data

Table 4: Model Summary

Equation 1	Multiple R	.652
	R Square	.425
	Adjusted R Square	.343
	Std. Error of the Estimate	.056

The results from the regression analysis provide valuable insights into the model's performance. The moderate positive correlation coefficient (Multiple R = 0.652) indicates a reasonable strength in the linear relationship between the independent and dependent variables. The R Square value of 0.425 signifies that the model explains approximately 42.5% of the variability in the dependent variable, demonstrating a notable level of explanatory power. The Adjusted R Square, accounting for the number of predictors, is 0.343, suggesting that even after considering the complexity of the model, it still contributes significantly to explaining the variance in the dependent variable. Additionally, the relatively low Standard Error of the Estimate (0.056) implies that the model's predictions closely align with the actual data points. Overall, these findings suggest that the regression model exhibits a moderate level of predictive accuracy and provides valuable insights into the relationships among the variables under consideration.

Table 5: ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Equation 1	Regression	.048	3	.016	5.183	.008
	Residual	.065	21	.003		
	Total	.114	24			

The ANOVA results for the regression model reveal significant insights into its overall performance. The Sum of Squares Regression, amounting to 0.048, signifies the portion of variability in the dependent variable explained by the model, while the associated F-statistic of 5.183 suggests that the model is statistically significant. The low p-value (Sig. = 0.008) further supports this, indicating that the model as a whole is effective in explaining the variance. On the other hand, the Residual Sum of Squares (0.065) represents the unexplained variability or the residuals, and the model's Mean Square Error (0.003) is relatively low. Collectively, these results highlight that the regression model contributes significantly to understanding and predicting the dependent variable, as it explains a considerable portion of the total variability while maintaining statistical significance.

Table 6: Coefficients

		Unstandardized Coefficients				
		B	Std. Error	Beta	t	Sig.
Equation 1	(Constant)	.072	.027		2.695	.014
	CRO	2.638E-5	.000	.315	1.540	.138
	ART	-.006	.033	-.031	-.187	.854
	OCFR	.312	.081	.782	3.835	.001

The "Coefficients" table provides insights into the regression model's parameters. The constant term, representing the intercept, is statistically significant at 0.072 ($t = 2.695$, $p = 0.014$), indicating the estimated value of the dependent variable when all independent variables are zero. Regarding the individual predictors, the coefficient for CRO is 2.638E-5, but it is not statistically significant ($t = 1.540$, $p = 0.138$), suggesting that CRO may not have a significant impact on the dependent variable in this model. Similarly, the coefficient for ART is -0.006, with a non-significant t-value of -0.187 ($p = 0.854$), indicating that ART may not be a significant predictor. On the other hand, the coefficient for OCFR is 0.312, and it is statistically significant ($t = 3.835$, $p = 0.001$), suggesting that OCFR has a significant impact on the dependent variable. These findings provide a nuanced understanding of the contributions of each variable to the regression model, helping to identify significant predictors and their respective impacts on the dependent variable.

Decision Rule

Reject the Null Hypothesis (H_0) if P-value (Sig.) $\leq .05$, otherwise do not reject.

Testing of Hypotheses

Certainly, to test the hypotheses based on the regression results, we need to focus on the coefficients of the predictor variables and their associated p-values. Let's use the regression coefficients and their standard errors to perform hypothesis tests for each variable. The null hypothesis for each variable is that its coefficient is equal to zero, indicating no impact or influence on the dependent variable (Return on Assets, ROA). The alternative hypothesis is that the coefficient is not equal to zero, indicating a significant impact or influence.

Here are the regression coefficients and associated information:

Current Ratio (CRO):

Coefficient (B) = 2.638E-5; Standard Error = 0.000; t-value = 1.540; p-value (Sig.) = 0.138

Test Hypothesis:

Null Hypothesis (H0): The current ratio has no significant impact on Return on Assets (B = 0).

Alternative Hypothesis (H1): The current ratio has a significant impact on Return on Assets (B ≠ 0).

Result:

Since the p-value (0.138) is greater than the significance level (0.05), we fail to reject the null hypothesis. There is insufficient evidence to conclude that the current ratio has a significant impact on Return on Assets.

Acid Test Ratio (ART):

Coefficient (B) = -0.006; Standard Error = 0.033; t-value = -0.187; p-value (Sig.) = 0.854

Test Hypothesis:

Null Hypothesis (H0): The acid test ratio has no significant influence on Return on Assets (B = 0).

Alternative Hypothesis (H1): The acid test ratio has a significant influence on Return on Assets (B ≠ 0).

Result:

Since the p-value (0.854) is greater than the significance level (0.05), we fail to reject the null hypothesis. There is insufficient evidence to conclude that the acid test ratio has a significant influence on Return on Assets.

Operating Cash Flow Ratio (OCFR):

Coefficient (B) = 0.312; Standard Error = 0.081; t-value = 3.835; p-value (Sig.) = 0.001

Test Hypothesis:

Null Hypothesis (H0): There is no significant relationship between the Operating Cash Flow Ratio and Return on Assets (B = 0).

Alternative Hypothesis (H1): There is a significant relationship between the Operating Cash Flow Ratio and Return on Assets (B ≠ 0).

Result:

Since the p-value (0.001) is less than the significance level (0.05), we reject the null hypothesis. There is sufficient evidence to conclude that the operating cash flow ratio has a significant relationship with Return on Assets.

In summary, based on the regression results, only the Operating Cash Flow Ratio (OCFR) has a statistically significant impact on Return on Assets, while the Current Ratio (CRO) and Acid Test Ratio (ART) do not exhibit significant impacts or influences.

Discussion of Findings

The findings from the empirical review provide valuable context for interpreting the results of the current study on the impact of liquidity management ratios on profitability in commercial banks. Alshatti's (2015) research in Jordanian commercial banks aligns with our study's focus, suggesting a positive impact of investment ratio and quick ratios on profitability, measured by ROE. Similarly, Ehiedu's (2014) study on Nigerian companies indicates a positive correlation between the current ratio and profitability, contrasting with a negative correlation between the acid test ratio and return on assets for some companies.

Ben-Caleb, Olubukunola, and Uwuigbe's (2013) investigation in Nigeria, based on manufacturing companies, provides mixed findings, with current ratio and liquid ratio positively associated with profitability, while the cash conversion period exhibits a negative relationship. Bhunia and Brahma's (2011) study on ROCE in India reveals a significant negative relationship with independent variables, except for the current ratio.

Lamnerg and Valming's (2009) analysis of liquidity management during financial crises in Stockholm Stock Exchange-listed companies suggests that liquidity strategies might not significantly impact profitability, but increased use of liquidity forecasting and short-term financing during crises positively affects ROA. Nobanee and AlHajjar's (2005) study in Japanese non-financial firms emphasizes the importance of working capital management, specifically shortening the cash conversion cycle, to enhance profitability.

In contrast, Omesa's (2015) research on financial institutions listed on the NSE suggests a negative relationship between ROA and liquidity, where decreased liquidity leads to decreased financial performance. Maina's (2011) study on oil companies in Kenya finds that liquidity management alone may not significantly contribute to profitability, indicating the influence of other variables. Brush, Bromily, and Hendrickx's (2000) examination of the free cash flow hypothesis reveals a positive relationship between firm performance and cash flow.

The results of the current study, which indicate that only the Operating Cash Flow Ratio has a significant impact on Return on Assets, resonate with the varied findings in the literature. It emphasizes the importance of specific liquidity management ratios in influencing profitability and underscores the need to consider diverse factors that may vary across industries and contexts. The mixed findings in the literature highlight the complexity of the relationship between liquidity management and profitability, emphasizing the need for industry-specific considerations in financial decision-making.

Implications of Findings

1. **Operational Emphasis on Cash Flow Management:** The study's revelation of the significant impact of the operating cash flow ratio on profitability suggests that commercial banks should prioritize and enhance their operational strategies related to cash flow management. Emphasizing efficient cash flow practices, such as frequent monitoring and forecasting, can contribute positively to financial performance.
2. **Reassessment of Current and Acid Test Ratios:** Given that the current ratio and acid test ratio did not exhibit significant impacts on Return on Assets (ROA) in the study, banks may consider reassessing the weight given to these ratios in their liquidity management frameworks. Alternative or complementary liquidity metrics may be explored to achieve a more comprehensive understanding of liquidity's influence on profitability.
3. **Tailored Liquidity Strategies:** The varied findings in the literature and the study underscore the importance of tailoring liquidity management strategies to the specific context of each commercial bank. Generic approaches may not capture the nuanced relationships between liquidity and profitability, and banks should consider industry-specific dynamics in crafting their strategies.
4. **Strategic Forecasting During Financial Crises:** Building on the insights from Lamnerg and Valming's (2009) study, the study suggests that strategic forecasting and short-term financing during financial crises can positively impact profitability. Commercial banks should incorporate these insights into their risk management and liquidity planning during economic downturns to capitalize on potential gains in profitability.

Recommendations

1. **Enhance Cash Flow Monitoring Systems:** Commercial banks should invest in robust cash flow monitoring systems to ensure accurate forecasting and timely decision-making. Frequent assessments of liquidity levels and proactive short-term investments can contribute to improved financial performance.
2. **Diversify Liquidity Metrics:** In addition to the traditional current and acid test ratios, banks should consider diversifying their set of liquidity metrics. Exploring alternative ratios and liquidity indicators may provide a more comprehensive view of liquidity dynamics and their impact on profitability.
3. **Periodic Review of Liquidity Management Policies:** Given the varying results in the literature, banks should periodically review and update their liquidity management policies. This includes a reassessment of the weights assigned to different liquidity ratios and a continuous adaptation of strategies based on evolving market conditions.
4. **Integration of Risk Management and Liquidity Strategies:** Integrating liquidity strategies with robust risk management practices is crucial, especially during financial crises. Banks should consider adopting a holistic approach that aligns liquidity forecasting with risk mitigation efforts to enhance overall financial resilience.
5. **Industry-Specific Considerations:** Recognizing the industry-specific nature of liquidity management, banks are encouraged to conduct thorough industry analyses. Understanding unique industry dynamics can guide the development of tailored liquidity management strategies that align with the specific requirements and challenges of the commercial banking sector.

Conclusion

In conclusion, this study, utilizing Two-Stage Least Squares regression, found that among the liquidity ratios investigated in commercial banks, only the operating cash flow ratio significantly influenced Return on Assets (ROA). The traditional metrics of current ratio and acid test ratio did not exhibit significant effects on ROA. The study highlights the crucial role of efficient cash flow management in enhancing profitability. Commercial banks are advised to reassess the emphasis on traditional liquidity metrics, consider a nuanced approach to liquidity management, and tailor strategies to industry-specific dynamics. Overall, the study contributes to the ongoing discourse on optimizing liquidity strategies for improved profitability and underscores the need for adaptability in financial decision-making.

References

- Adegbite, O., & Adegbite, O. (2021). Manufacturing Sector in the Nigerian Economy. In *Perspectives on Industrial Development in Nigeria: Issues, Challenges and Hard Choices* (pp. 21–49). Springer International Publishing. https://doi.org/10.1007/9783030843755_2
- Adelegan, O. J. (2003). An empirical analysis of the relationship between cash flow and dividend charges in Nigeria. *Journal of Research in Development and Management*, 15, 35-49.
- Afeef, M. (2011). Analyzing the impact of working capital management on the profitability of SMEs in Pakistan. *International Journal of Business and Social Science*, 2(22), 173-183.
- Aliet, Alireza, & Jalal (2013). Brand Sound – the Business Year. <https://www.thbusinessyear.com>.
- Alshatti, A. S. (2015). Effect of liquidity management on profitability of Jordanian Commercial banks. *International Journal of Business and Management*, 10(1), 62-71.
- Bagchi and Khamrui (2012). Relationship between Working Capital Management and Profitability, Economic and Business Journal.
- Bardia, S. C. (2004). Liquidity management: a case study of steel authority of India Ltd. *The Management Accountant*, 463-467.
- Beb-Caleb, E., Olubukunola, U., & Uwuigbe, U. (2013). Liquidity management and profitability of manufacturing companies in Nigeria. *IOSR Journal of Business and Management*, 9(1), 13-21.
- Ben-Caleb, E. (2009). Working Capital Management and Profitability of Listed Companies in Nigeria. *Research Journal of Accountancy*, 1(1), 44-57.
- Bhunja, A., and Khan, I. U. (2011). Liquidity Management Efficiency of Indian Steel Companies: A case study. *Far East Journal of Psychology and Business*, 3(3), 3-13.
- Brush, T. H. P., Bromily, and M. Hendrickx (2000). The free cash flow hypothesis for sale growth and firm performance. *Journal of Strategic Management Journal*, 2, 455-472.
- Chikashi (2013). An Investigation of comprehensive income and Firm Performance. Sciectu Press. [www.sciedu.ca/afr>article>download](http://www.sciedu.ca/afr/article/download).
- Choudhry, M. (2012). Principles of Bank Liquidity Management. In *The Principles of Banking* (p. 589652). WILEY. <https://doi.org/10.1002/9781118826799.ch12>
- Ehiedu, V. C. (2014). The impact of liquidity on profitability of some selected companies. The Financial Statement Analysis (FSA) Approach. *Research Journal of Finance and Accounting*, 5(5), 72-80.
- Eljelly, A. M. A. (2004). Liquidity-Profitability tradeoff. An empirical investigation in an emerging market, *International Journal of Commerce and Management*, 14(20), 48.
- Ghosh and Maji (2003). Efficiency of Working Capital Management of the Indian cement companies during 1992-93 to 2001-2002 for measuring the Efficiency of Working Capital Management.
- Iswatia, S., and Anshoria, M. (2007). The influence of intellectual capital to Financial Performance in insurance Companies in Jakarta Stock Exchange (JSE). Proceedings of the 13th Asia Pacific Management Conference, Melbourne.
- Kontuš, E., & Mihanović, D. (2019). Management of liquidity and liquid assets in small and medium-sized enterprises. *Economic Research-Ekonomska Istraživanja*, 32(1), 3247–3265. Tandfonline. <https://doi.org/10.1080/1331677x.2019.1660198>

- Kores and Manikas (2014). Cash Flow Management and manufacturing from Financial Performance: A Longitudinal Perspective. *International Journal of Production Economics*, 148(C), 37-50.
- Lamberg, S., and Valming, S. (2009). Impact of liquidity Management of profitability: A study of the Adaptation of liquidity strategies in a Financial Crisis. *Umea School of Business*.
- Liagrovas, P., and Skandalis, K. (2008). Factors affecting firms' financial performance: the Case of Greece. Athens: University of Peloponnese Press.
- Maina, H. (2011). Relationship between the liquidity and profitability of oil companies in Kenya. Unpublished MBA project, University of Nairobi. *Management Dynamics*, 2(2), 10-25.
- Michael, N. B. (2012). Working Capital Management Efficiency and corporate profitability. *Journal of Applied Finance and Banking*, 2(2), 215-237.
- Muhammad, M., Jan, W. U., and Ullah, K. (2012). Working capital management and profitability: An analysis of firms of textile industry of Pakistan. *Journal of Managerial Sciences*, 6(2), 155-165.
- Mun, S. G., and Jang, S. (2015). Working capital, cash holding, and profitability of restaurant firms. *International Journal of Hospitality Management*, 48, 1-11. <http://dx.doi.org/10.1016/j.ijhm.2015.04.003>
- Narware, P. C. (2004). Working capital and profitability - An empirical analysis. *The Management Accountant*, 39(6), 279-300.
- Ngwu, R. C. (2006). *Bank Management*. Owerri: Bob Publishers.
- Nobanee, H., and AlHajjar, M. (2005). A Note on Working Capital Management and Corporate Profitability of Japanese Firms. Retrieved from <http://ssrn.com/abstract=1433243> online.
- Omesa, J. (2015). Effect of liquidity on the financial Performance of financial institutions listed at the NSE. Unpublished MBA project, University of Nairobi.
- Owolabi, S. A. (2012). Effective Working Capital Management and profitability, *Economics and Finance Review*, 2(6), 55-67.
- Owolabi, S. A., and Obida, S. S (2012). Liquidity Management and corporate Profitability: Case Study of Selected Manufacturing Companies listed on the Nigerian Stock Exchange.
- Oxford Business Group. (2018, December 5). *Nigerian domestic market supports producers of fast-moving consumer goods - Africa 2019 - Oxford Business Group*. Oxford Business Group. <https://oxfordbusinessgroup.com/reports/nigeria/2019-report/economy/domestic-moves-major-manufacturers-of-fast-moving-consumer-goods-have-been-supported-by-an-expanding-domestic-market>
- Pandey, I. M. (2005). *Financial Management*. (8th Ed.). New Delhi: UBS Publishers Distributors PVT limited.
- Saldanli, A. (2012). The relationship between liquidity and profitability- An empirical Study on the ISE100 Manufacturing sector, *Journal of Siileyman Demirel University Institute of Social Sciences*, 2(16), 167-176.
- Singh and Pandey (2008). Impact of working Capital Management in the Profitability of Hindalco Industries.
- Sur, D., and Chakraborty, K. (2011). Evaluating relationship of working capital and profitability: A study of selected multinational companies in the Indian pharmaceutical sector, *Journal of Management Research*, 10(2), 7-22.
- Suretal (2001). The Association Between the Liquidity and Profitability of Indian Private sector Enterprises as a case study of Aluminum.
- Uyar, A. (2009). The relationship of Cash Conversion Cycle with firm size and Profitability: An Empirical Investigation in Turkey. *International Research Journal of Finance and Economics*, 24(3), 184-193.