e-ISSN 3027-0537
p-ISSN 3027-0375

Business Management
Gph-International Journal
www.gphjournal.org

10.5281/zenodo.14246969 Vol. 07 Issue 10 Oct - 2024 Manuscript ID: #1656

Liquidity Management and Financial Performance: Evidence from Selected Listed Manufacturing Companies in Nigeria

Riku B. Riku[1], Akpa P. Hassan[2], Shishi S. Samson[3]

[1&3]Department of Accounting, Federal University Wukari, Nigeria
[2]Bursar, Federal University Wukari, Nigeria

Correspondence: *bikiriku@gmail.com*

Abstract

This study examined the impact of liquidity management on the financial performance of listed manufacturing companies in Nigeria. Employing an ex-post-facto research design, secondary data was utilized to explore the relationship between the variables. The study focused on a population comprising all manufacturing companies listed on the NGX, with a sample of ten (10) companies selected for analysis. Data were extracted from their annual financial reports spanning a ten-year period (2014–2023) and analyzed using multiple regression techniques. The findings revealed that the current ratio negatively and insignificantly affects the financial performance of the selected manufacturing companies, while the cash conversion cycle has a positive but insignificant effect. The study also found that the quick/acid test ratio significantly influences the financial performance of the selected manufacturing companies in Nigeria. Consequently, it recommended that manufacturing firms adopt credit policies aimed at minimizing unnecessary inventory accumulation and implement inventory management strategies that reduce stock investments while enhancing profitability. Additionally, it was advised that manufacturing companies should efficiently manage their cash conversion cycle to optimize returns on investment and amplify its limited positive impact on their performance.

Keywords:
Liquidity, Financial performance, Current ratio, Quick ratio, Cash conversion Cycle.

How to cite: B. Riku, R., P. Hassan, A., & S. Samson, S. (2024). Liquidity Management and Financial Performance: Evidence from Selected Listed Manufacturing Companies in Nigeria. *GPH-International Journal of Business Management*, 7(10), 94-110. https://doi.org/10.5281/zenodo.14246969

Background to the study:

Liquidity management has become a crucial topic in accounting due to its significant influence on an organization's performance and financial stability. Poor liquidity management not only jeopardizes a company's survival but also increases its risk of bankruptcy. For example, if a bank withdraws overdraft facilities or creditors demand immediate payment for supplies, a business may struggle if it cannot swiftly convert its current assets into cash (Christopoulos et al., 2020). Effective management of assets and liabilities is therefore a top priority for all companies, whether financial or non-financial. Liquidity can be compared to blood circulation in the human body; just as insufficient blood flow weakens the body, inadequate liquidity undermines corporate strength. Effective liquidity management ensures that a firm has adequate funds for investments, enabling it to withstand liquidation risks and avoid selling assets at distressed prices (Effiong & Enya, 2020). As a result, the efficient management of a firm's resources becomes essential for its growth and success. Liquidity reflects a firm's ability to meet short-term obligations and invest. A liquid company has sufficient liquid assets, such as cash, and can quickly generate resources from other ventures to fulfill payment obligations and financial commitments on time (Eke & Jinjiri, 2022). Maintaining this liquidity balance is critical for the smooth operation of the firm and the value it delivers to stakeholders.

Without effective liquidity management, any sector or industry, including manufacturing companies, risks losing relevance in the competitive business landscape and facing global financial challenges (Effiong & Enya, 2020). Liquidity management involves two critical components: the ability to meet short-term obligations using available cash and current assets, and the capacity to quickly convert assets into cash when required (Bordeleau & Graham, 2019). As a result, firms must maintain a delicate balance between liquidity and profitability. While holding liquid assets can support profitability, excessive holdings may negatively impact overall financial performance (Orshi, 2016; Akenga, 2017). Therefore, implementing clear business policies and robust procedures for measuring, monitoring, and managing liquidity is essential to achieving both liquidity and financial performance goals.

This study aims to investigate the relationship between liquidity management and financial performance in manufacturing firms, with a particular emphasis on publicly listed manufacturing companies in Nigeria. It seeks to reevaluate conventional analytical methods and explore innovative approaches to liquidity management decision-making. The research will provide deeper insights into the connection between liquidity management and financial performance. To achieve its objectives, the study will employ financial ratios such as the current ratio, acid-test ratio, and cash conversion cycle to assess liquidity, with firm size included as a control variable. Financial performance, the dependent variable, will be measured using Return on Equity (ROE).

Several studies, including those by Adekanmi et al. (2022), Alhassan and Islam (2021), Terseer et al. (2020), and Sathyamoorthi et al. (2020), have examined the relationship between liquidity management and financial performance. However, these studies primarily focused on sectors such as banking, food and beverage, and oil and gas. Only a few empirical studies, such as Eke and Jinjiri (2022), Chabbal and Ibrahim (2022), and Effiong and Enya (2020), have explored consumer goods firms in Nigeria, utilizing alternative measures of financial performance like Return on Assets (ROA), Return on Capital Employed (ROCE), and Earnings Per Share (EPS). To address this gap, the current study investigates the relationship between liquidity management and financial performance, using Return on Equity (ROE) as the financial performance proxy, focusing on listed manufacturing companies in Nigeria over an eight-year period from 2016 to 2023.

Conceptual review:

Concept of Liquidity Management:

Liquidity management refers to an organization's ability to efficiently convert its current assets into cash. Cash is often regarded as vital to any institution, as it ensures the sustainability of business operations (Patjoshi, 2016). In the banking sector, liquidity is defined as the capacity of a bank to provide funds for meeting obligations as they come due (Onyekwelu et al.). Proper management of working capital in any organization facilitates liquidity, enabling seamless daily operations and the fulfillment of business obligations without disruptions (Ibe, 2013). Markets are considered liquid when asset holders can sell their assets at reasonable prices without incurring significant losses, thereby securing the funds needed to meet other commitments.

Liquidity is typically measured using specific ratios, including the current ratio and liquid ratio, derived from balance sheet analysis, and the operating cash flow ratio, derived from cash flow analysis. Liquidity challenges can negatively impact a bank's earnings and capital. Previous studies, such as those by Raykov (2017), Abubakar et al. (2018), Lyndon and Paymaster (2016), Syed (2015), and Ejike and Agha (2018), define liquidity as the ability of a firm to meet its short-term financial obligations promptly. According to these perspectives, having a high level of available cash indicates that an organization is well-positioned to meet its financial commitments as they become due, without defaulting.The types of assets held by corporations and the ease with which these assets can be converted into cash determine their level of liquidity, as highlighted by Onyekwelu et al. (2018), Mulyana and Zuraida (2018), Mohd and Asif (2018), Raykov (2017), Abubakar et al. (2018), Lyndon and Paymaster (2016), Syed (2015), and Ejike and Agha (2018). A firm’s liquidity is typically assessed using specific financial metrics known as liquidity ratios. These ratios, such as the Receivable Collection Period (RCP), Cash Flow Ratio, and Operating Cash Flow Ratio, provide insights into the firm's liquidity status and its impact on profitability.

Concept of Financial Performance:

A firm's performance refers to its ability to carry out activities effectively in order to achieve its goals and objectives. Financial performance, on the other hand, is a subjective measure of how well a company utilizes its assets and resources to generate additional resources. It is often reflected in the successful completion of tasks by the firm and its employees. The performance of a firm also involves the quality of the tasks completed within a specific period, measured against pre-established goals or targets. Ultimately, financial performance is best understood through the lens of the economic concept of profit maximization (Nworie & Mba, 2022). Therefore, financial performance is a measure of a firm's capacity to use its assets from core operations to generate revenue.

Financial performance is used to evaluate a company's financial health over a specific period and can also facilitate comparisons between similar companies within the same industry. According to Omaliko and Okpala (2022), it serves as a measure of the outcomes of a company's operations and policies in financial terms. Additionally, financial performance can be seen as a gauge of the effectiveness and efficiency of a firm's internal and external actions or operations. In today's business environment, a company's success is considered a reflection of its performance, as strong performance contributes to its growth. A company's excellence can be assessed through its financial statements, and studies suggest that stakeholders support the organization's quality control when its performance is favorable.

To achieve organizational growth, it is crucial to assess the company's current performance, as this will highlight the gap that needs to be bridged to reach the organization's goals. A company's progress is largely determined by its outcomes, which are evaluated using various methods and strategies. The performance of any firm is influenced by the liquidity management practices in place. This is because the success or failure of a firm depends on how efficiently resources are managed. Therefore, by implementing effective liquidity management practices, firms can enhance their performance, allocate resources more effectively, and ensure better overall management.Firm performance can be categorized into accounting-based measures and market-based measures. Ibida and Emeka-Nwokeji (2019) identified seven key aspects of firm performance: growth, profitability, market value, customer satisfaction, employee satisfaction, social performance, and environmental performance. While various researchers utilize these diverse tools for assessing financial performance, most investors tend to focus on accounting ratios such as Earnings per Share, Return on Equity, and Return on Assets to evaluate a company's financial health.

Theoretical framework

This study is anchored on Trade off theory.

Trade off theory

The Trade-off Theory, developed by economists Modigliani and Miller in the 1950s (Cekrezi, 2013), suggests that companies strive to find the optimal level of liquidity to balance the benefits and costs of holding cash. The cost of maintaining cash includes the opportunity cost of the return on total assets due to high liquidity and potential tax disadvantages. Holding cash provides two main advantages: first, it reduces transaction costs associated with raising funds, as firms do not need to liquidate assets to make payments; second, it allows firms to use current assets to finance their operations and investments when other funding sources are unavailable or when other investment opportunities have low value.The theory suggests that firms with high leverage incur significant costs in servicing their debt, which negatively impacts their profitability and makes it harder for them to access funds from various sources (Jenson, 1986). It helps explain differences in capital structures across industries. However, it fails to account for the reasons behind the reduction in debt ratios among profitable companies within the same industry (Asete & Kungu, 2018). The Trade-off Theory also clarifies why profitable firms benefit from substantial tax shields and tend to have more debt capital.

Empirical Review:

Several studies have investigated on liquidity management and financial performance in Nigeria and some parts of the world and their investigations however, shows that there are conflicting empirical findings. The following studies have been reviewed:
Lufiyandi and Justina (2023) examined the influence of the Quick Ratio, Debt-to-Equity Ratio, Firm Size, and COVID-19 on Return on Equity, focusing on tourism, restaurant, and hotel companies listed on the Indonesia Stock Exchange (IDX). Using a purposive sampling method, they selected a sample of 27 companies. The study utilized quantitative data, sourced from annual reports available on the official IDX website.The study employed descriptive statistics and panel data regression as analytical tools. The findings revealed that: (1) the Quick Ratio has a positive but insignificant effect on Return on Equity, (2) the Debt-to-Equity Ratio has a negative and significant effect on Return on Equity, (3) Firm Size has a positive but insignificant effect on Return on Equity, and (4) COVID-19 has a negative and significant effect on Return on Equity.

Wardah (2023) investigated variable relationships using the SEM-PLS method, chosen for its suitability with small sample sizes and tolerance for non-normal data distributions. Path analysis within SEM-PLS was used to assess the influence of independent variables on dependent ones, with data processed through Smart PLS version 4.0. Significance was evaluated using standard estimates and a P-value threshold of ≤ 0.1, corresponding to a 10% error rate. The results showed no significant relationship between 'DER' and 'ROE' (p-value > 0.1). In contrast, the 'Current Ratio' (CR) demonstrated a positive and significant relationship with 'ROE', supported by a p-value of 0.005, confirming the hypothesis. In summary, while

'DER' did not significantly affect 'ROE,' 'CR' emerged as a significant positive predictor, offering valuable insights into financial dynamics in this context.

Muhamad and Yayang (2022) investigated the impact of the Current Ratio (CR), Debt-to-Equity Ratio (DER), Total Asset Turnover (TAT), and Net Profit Margin (NPM) on Return on Equity (ROE). The study employed proportional sampling based on the following criteria: (1) manufacturing companies listed on the JSX that provided financial statements for the year ending December 31 during the 2005-2009 observation period, accessible via ICMD and annual reports, (2) companies that remained listed from the start to the end of the observation period, (3) financial statements containing the financial ratio values for ROE, CR, DER, TAT, and NPM, and (4) complete data coverage throughout the observation period. From a total of 205 manufacturing companies, 51 samples were selected for analysis over the five-year period.A total of 26 outliers were excluded due to extreme data, resulting in a final sample size of 229 observations over the five-year period. Data analysis was conducted using multiple linear regression based on the least squares method, with hypothesis testing performed through partial t-tests, simultaneous F-tests, and adjusted R-squared tests, all at a 5% significance level. The empirical findings reveal that CR, DER, TAT, and NPM positively influence ROE for manufacturing companies listed on the JSE during the 2005-2009 period, with each variable showing significance at the 5% level (p-value = 0.000). Furthermore, the combined impact of these four independent variables on ROE is also significant at the 5% level (p-value = 0.000).

Lanemey (2022) investigated the impact of the quick ratio on the profitability of manufacturing firms in Indonesia. Profitability was measured using three dependent variables: Net Profit Margin (NPM), Return on Assets (ROA), and Return on Equity (ROE). The study included several control variables: firm size, variability in net operating income, sales growth, gross domestic product growth, and leverage. Data from 158 manufacturing firms with publicly available financial statements between 2012 and 2016 were analyzed using regression methods. The results indicated that the quick ratio positively influenced NPM and ROA but did not have a significant effect on ROE.

Widia (2021) analyzed the impact of the quick ratio, total asset turnover, and debt-to-equity ratio on profitability. The research focused on manufacturing companies listed on the Indonesia Stock Exchange (IDX) during the 2017-2019 period. A total of 34 manufacturing companies were selected as samples using a non-probability sampling method, specifically purposive sampling. The study employed a quantitative approach, with data processed using the SPSS 25 software for Windows.The findings of this study reveal the following: (1) the quick ratio positively influences return on equity, as evidenced by a significance value of 0.019, which is less than $\alpha = 0.05$, and a coefficient of 2.397. (2) Total asset turnover also has a positive effect on return on equity, with a significance value of 0.000, which is below $\alpha = 0.05$, and a coefficient of 2.184. (3) Debt-to-equity ratio negatively affects return on equity,

indicated by a significance value of 0.008, which is smaller than $\alpha = 0.05$, and a coefficient of -2.762.

Qahfi and Defi (2021) investigated the impact of the Current Ratio, Debt-to-Equity Ratio, and Total Asset Turnover on Return on Equity in transportation companies listed on the Indonesia Stock Exchange. The study employed an associative approach, with a population consisting of retail trade sector companies listed on the IDX during the 2015-2019 period. Using a purposive sampling method, seven companies were selected as samples. The analysis utilized multiple linear regression, classical assumption testing, t-tests (partial tests), F-tests (simultaneous tests), and the coefficient of determination, with the assistance of SPSS V.20 software (Statistical Product and Service Solutions).The research findings indicate that, individually, Total Asset Turnover has a significant impact on Return on Equity, while the Current Ratio and Debt-to-Equity Ratio do not significantly affect Return on Equity. However, when considered together, the Current Ratio, Debt-to-Equity Ratio, and Total Asset Turnover have a significant effect on Return on Equity in transportation sector companies listed on the Indonesia Stock Exchange during the 2015-2019 period.

Yeti and Ovaliant (2021) investigated the partial impact of the Debt-to-Equity Ratio (DER) on Return on Equity (ROE), as well as the partial effect of the Current Ratio (CR) on ROE. The study also examined the combined effect of both the Debt-to-Equity Ratio (DER) and Current Ratio (CR) on ROE. The population for this research consisted of the financial statements or Annual Reports of PT Permodalan Nasional Madani (PNM). This study employed a quantitative approach, analyzing the complete annual financial reports of PT Permodalan Nasional Madani. The sample was selected through a sequential sampling method, focusing on the financial statements of PT PNM from 2012 to 2021 (a 10-year period).The data collection method used in this study was documentation. For data analysis, multiple regression, classical assumption tests, t-tests, and f-tests were employed. The calculated t-value for the Current Ratio (X1) is 0.063, which is less than the t-table value of 2.365, and the significance value is 0.951, which is greater than 0.05. Therefore, it can be concluded that the Current Ratio (X1) does not affect Return on Equity (Y). Similarly, the calculated t-value for the Debt-to-Equity Ratio (X2) is -0.134, which is less than the t-table value of 2.364, and the significance value is 0.897, which is also greater than 0.05. This indicates that the Debt-to-Equity Ratio (X2) does not influence Return on Equity (Y).

Aniyah et al. (2020) investigated the impact of the Quick Ratio (QR), Total Asset Turnover (TATO), and Debt-to-Equity Ratio (DER) on Return on Equity (ROE) at PT. XYZ during the period from 2012 to 2019, both individually and collectively. This study is quantitative in nature and combines descriptive and associative causal research. The data for the study consists of the financial statements of PT. XYZ for the 2012-2019 period. Secondary data from the Indonesia Stock Exchange (IDX) were used, with financial ratio analysis methods applied, and the data was processed using classical assumption analysis tests.The results indicated that: (1) The Quick Ratio has a positive but insignificant effect on Return on Equity, as shown by a t-test result of 1.444 with a significance of 0.159. (2) Total Asset Turnover also has a positive but insignificant effect on Return on Equity, indicated by a t-test

result of 1.203 with a significance of 0.239. (3) The Debt-to-Equity Ratio has a negative but insignificant effect on Return on Equity, as evidenced by a t-test result of -0.030 with a significance of 0.977. (4) Overall, there is a negative and insignificant combined effect of the Quick Ratio, Total Asset Turnover, and Debt-to-Equity Ratio on Return on Equity.

Doğan et al. (2020) state that, according to Keynes, firms hold cash for transaction, prudence, and speculation purposes. Their analysis revealed that the cash conversion cycle impacts Return on Assets (ROA) and Return on Equity (ROE). Specifically, they found a statistically significant negative relationship between the cash conversion cycle (CCC) and both ROA and ROE. Additionally, the study identified a positive relationship between ROA and firm size, while a negative and statistically significant relationship was found between the debt ratio (DEBT) and ROA.

Waluyo and Tiya (2019) studied the impact of the Current Ratio (CR) on Return on Equity (ROE), the effect of the Debt-to-Equity Ratio (DER) on ROE, and the combined effect of CR and DER on ROE at PT Aneka Tambang, Tbk from 2010 to 2017. The research employed a descriptive quantitative approach, using secondary data in the form of financial statements from PT Aneka Tambang, Tbk for the 2010-2017 period. The analysis included classical assumption tests, multiple linear regression, correlation coefficient analysis, coefficient of determination, and hypothesis testing using t-tests and F-tests, with data processed using SPSS version 20.0.The results indicated that neither the Current Ratio (CR) nor the Debt-to-Equity Ratio (DER) had a significant effect on Return on Equity (ROE), nor was there a significant combined effect of CR and DER on ROE. However, there was a very strong relationship between CR, DER, and ROE. The combined contribution of the Current Ratio (CR) and Debt-to-Equity Ratio (DER) to Return on Equity (ROE) was found to be 61.9%.

Lusy (2018) examined the impact of the Current Ratio and Debt-to-Equity Ratio on Return on Assets (ROA) and Return on Equity (ROE) for companies in the food and noodle sub-sector. The study sampled 10 companies listed on the Indonesia Stock Exchange (IDX) from 2014 to 2017. Data were analyzed using multiple linear regression with SPSS 24. The results showed that both the Current Ratio and Debt-to-Equity Ratio significantly influenced ROA and ROE. The regression coefficient analysis revealed that the Current Ratio and Debt-to-Equity Ratio explained 14.9% of ROA, with the remaining 85.1% accounted for by other factors, as indicated by the coefficient of determination.The regression coefficient analysis for ROE revealed that 61.4% of the variation was explained by factors not covered in this study. The results of the F-test showed significance values of $0.019 < 0.05$ for ROA and $0.000 < 0.05$ for ROE, indicating that both the Current Ratio and Debt-to-Equity Ratio had a significant impact on ROA and ROE for food and beverage industry companies listed on the Indonesia Stock Exchange.

Nguyen and Sundaresan (2018) explored the relationship between the cash conversion cycle and profitability within Thailand's agriculture and food industries. The study focused on assessing the impact of the production cycle, cash collection cycle, and cash payment cycle on profitability. Additionally, it aimed to measure how control variables such as company size and debt ratios affect profitability. The research analyzed data from 34 listed companies in the agriculture and food sector on the Stock Exchange of Thailand, spanning from 2009 to

2013. Pearson's correlation and regression analysis were employed to examine the relationship between the cash conversion cycle and profitability.The results show that the cash conversion cycle (CCC) has a significant negative relationship with profitability in agriculture and food companies in Thailand. Additionally, the production cycle and debt ratio were found to have a significant negative impact on return on assets (ROA), while the payment cycle and company size were positively related to return on equity (ROE). No significant relationship was observed between the cash collection cycle and profitability.
Muhammad (2018) examined the impact of the cash conversion cycle on the profitability of listed tobacco companies in Pakistan. Return on equity was used as the measure of profitability, representing the dependent variable, while firm size and debt ratio served as control variables. The cash conversion cycle was considered the independent variable. The study focused on three listed tobacco companies in Pakistan over an 8-year period, from 2010 to 2017. Data were analyzed using pooled regression, and the results indicated a significant positive relationship between the cash conversion cycle and return on equity.Conversely, the debt ratio and firm size were found to have an insignificant relationship with return on equity. The significant positive relationship between the cash conversion cycle and return on equity in this study suggests that a shorter cash conversion cycle does not necessarily lead to higher profitability for tobacco firms in Pakistan, as measured by return on equity. This indicates that tobacco firms are not pressured to reduce their receivable collection or inventory turnover times to boost profitability. Additionally, they are not under pressure to extend their payment period to enhance profitability, as measured by return on equity.

A review of relevant literature reveals a lack of sufficient knowledge regarding the impact of liquidity management on firm performance listed manufacturing companies in Nigeria. There are conflicting findings in accounting literature concerning the relationship between liquidity management and financial performance in Nigeria. In light of this, this study aims to address the research gap by examining the effect of liquidity management on financial performance, specifically in the context of listed manufacturing companies in Nigeria.

Methodology:

The research design used in this study is both correlational and ex-post-facto. This design is suitable as it helps to assess the impact of liquidity management on the financial performance of selected manufacturing companies listed on the Nigeria Stock Exchange (NGX). The main aim of using this correlational and ex-post-facto design is to gain deeper insights and generate new ideas. The ex-post-facto design was chosen because the events have already occurred, and the variables were not manipulated. Additionally, multiple regression analysis was employed as the analytical tool due to its suitability for the study and its ability to examine the effects of multiple independent variables on a single dependent variable. The study uses the OLS method, a parametric statistical test that relies on several assumptions, the violation of which could compromise the accuracy of the results. Both descriptive and inferential statistics were applied for data analysis. Annual data were collected from the audited financial reports of the selected manufacturing companies listed on the Nigeria Stock

Exchange from 2014 to 2023. The data used include financial performance, measured by return on equity (ROE) as the dependent variable, while the independent variables include current ratio, acid test ratio and cash conversion cycle.

The model for this study is therefore specified as:

$ROE_{it} = \beta_0 + \beta_1 CRT_{it} + \beta_2 QRT_{it} + \beta_3 CCC_{it} + \varepsilon_{it}$

Where:

ROE = Return on equity measured by: Net income divided by Total Equity

CRT = Current ratio measured by: Current assets divided by current liabilities.

QRT = Acid test ratio measured by: Current assets less inventory divided by current liabilities

CCC = Cash conversion n cycle measured by:Inventory collection period plus debtors' collection period less creditors' payment period.

β_0 is the regression intercept (constant)

$\beta_1 - \beta_4$= Coefficient of independent variables.

i = Individual firms

t = Time

ε = error terms

Results:

Descriptive Statistics

Table 1: Descriptive Statistics

Variables	Obs.	Minimum	Maximum	Mean	Std. Deviation
ROE	100	-18.3654	24.5151	11.0288	5.61918
CRT	100	.0359	2.9960	1.3096	.7991
QRT	100	.1908	2.1387	.8398	.4604
CCC	100	-94.0047	97.4168	31.8217	38.1298

Source: STATA Output

The descriptive statistics, shown in Table 1 above, reveal that the average Return on Equity (ROE) for the sampled listed manufacturing companies during the study period is 11.0288. The table also indicates that the minimum and maximum ROE values were -18.37% and 24.52%, respectively, reflecting both negative and positive returns observed in the data. The ROE has a standard deviation of 5.62, which is lower than the mean. This suggests that there is minimal variation in the distribution of ROE among the manufacturing companies studied. Similarly, the table shows that the current ratio ranges from a minimum of 0.359 to a maximum of 2.99. This suggests that some firms have a current ratio below the recommended 2:1 benchmark. The mean current ratio is 1.31, indicating that, on average, the companies studied maintain a reasonable level of liquidity. With a standard deviation of 0.7991, which is lower than the mean, this suggests a relatively low variation in liquidity among the sampled companies.

The table shows that the quick ratio ranges from a minimum of 0.1908 to a maximum of 2.1387. The mean quick ratio is 0.8398, meaning that, on average, firms have 0.84 to cover their short-term liabilities without relying on inventory. The standard deviation of 0.4604 suggests that most of the sampled firms fall within a similar range for the quick ratio in relation to return on equity.

Finally, the table shows that the cash conversion cycle ranges from a minimum of -94.0 to a maximum of 97.42. This suggests that some firms are able to collect revenue from sales before paying their suppliers, while others experience longer cash conversion cycles, indicating a favorable cash flow position but also highlighting inefficiencies in working capital management and inventory turnover. The mean cash conversion cycle is 31.82 days, meaning that, on average, it takes a firm 31.82 days to convert its investment in inventory into cash flows from sales. The standard deviation of 38.1298, which is higher than the mean, indicates a high variation in the cash conversion cycle among the sampled firms.

Correlation Analysis

Table 2: Correlation Matrix

	ROE	**CRT**	**QRT**	**CCC**
ROE	1.0000			
CRT	-0.1100	1.0000		
QRT	0.7873	-0.1105	1.000	
CCC	0.1520	-0.0588	0.1626	1.000

Source: STATA Output

The table above indicates that the correlation coefficient between the current ratio and return on equity is -0.1100, suggesting a weak negative correlation between the two variables. Additionally, the correlation coefficient between the quick ratio and return on equity (ROE) is 0.7873, indicating a strong positive correlation between the two variables. Similarly, the correlation coefficient between the cash conversion cycle and return on equity (ROE) is 0.1520, showing a weak positive correlation between the cash conversion cycle and return on equity for listed manufacturing companies in Nigeria.

Multicollinearity

Table 3: Multicollinearity Test Table

	VIF	1/VIF
CRT	1.01	0.986074
QRT	1.04	0.963337
CCC	1.03	0.971882
Mean VIF	1.03	

***Source*: STATA Output**

The Variance Inflation Factor (VIF) was employed to assess collinearity among the predictors in the model, as shown in the table above. The results revealed an average VIF of 1.03, indicating that there is no multicollinearity among the independent variables in the study.

Regression Analysis

Table 3: Regression Results

Variables	Coefficients	Std. err.	T-value	P-value
CRT	-.1567069	0.4359956	-0.36	0.720
QRT	9.531846	0.7655766	12.45	0.000
CCC	.0034909	0.0092035	0.38	0.705
Constant	3.117803	0.9867539	3.16	0.002
	$R^2 = 0.6209$			
	Adj $R^2 = 0.6209$			
	Prob > F = 0.000			

Source: STATA Output

The table above summarizes the regression results. The coefficient of determination (R^2) is 0.6209, meaning that approximately 62.09% of the variation in the dependent variable is explained by the combined effects of the independent variables in the research model, while the remaining 37.91% is attributed to other factors not included in the model.

From the table, it can be seen that the current ratio has a regression coefficient of -0.1567, a t-value of -0.36, and a p-value of 0.720, indicating a negative and insignificant relationship between the current ratio and return on equity for listed manufacturing companies in Nigeria. The negative coefficient suggests that for every one-unit increase in the current ratio, return on equity is expected to decrease by -0.1567, and vice versa.

The results also show that the quick ratio has a regression coefficient of 9.5318, a t-value of 12.45, and a p-value of 0.000, indicating a positive and significant relationship with return on equity. This means that for every one-unit increase in the quick ratio, return on equity is expected to increase by 9.5318, and vice versa.

Additionally, the results reveal that the cash conversion cycle has a regression coefficient of 0.00349, a t-value of 0.38, and a p-value of 0.705, indicating a positive but insignificant relationship with return on equity for the selected listed manufacturing companies in Nigeria. The positive coefficient suggests that for every one-unit increase in the cash conversion cycle, return on equity is expected to increase by 0.00349, and vice versa.

Discussion:

The regression coefficient between the current ratio and return on equity is -0.3033, with a t-value of -1.33 and a p-value of 0.186, indicating a negative and insignificant relationship between the two variables for the selected listed manufacturing companies in Nigeria. This insignificant relationship suggests that merely improving the current ratio does not ensure higher returns on equity for these companies. It implies that some companies with a higher current ratio may be holding excessive amounts of non-productive or low-yield assets, such as surplus cash or idle inventory, which could be negatively impacting their return on equity. This finding aligns with the studies of Qahfi and Defi (2021) and Yeti (2022), but contradicts the findings of Lusy et al. (2018), who identified a positive and significant relationship.

The regression coefficient between the quick ratio and return on equity is 9.5318, with a t-value of 12.45 and a p-value of 0.000, indicating a positive and significant relationship between the quick ratio and return on equity for the selected listed manufacturing companies in Nigeria. This suggests that for each unit increase in the quick ratio, return on equity is expected to rise by 9.5318, and vice versa. This reflects a lower risk of financial distress and an enhanced capacity to capitalize on business opportunities. The results of this study are consistent with the findings of Widia (2021) but differ from those of Aniyah et al. (2020) and Lanemey (2022), who found a positive but insignificant relationship.

The regression coefficient between the cash conversion cycle and return on equity is 0.0035, with a t-value of 0.38 and a p-value of 0.705, indicating a positive but insignificant relationship between the cash conversion cycle and return on equity for the selected listed manufacturing companies in Nigeria. This suggests that for each unit increase in the cash conversion cycle, return on equity is expected to increase by 0.0035, and vice versa. It implies that a longer cash conversion cycle may support higher sales and revenue generation, even though it does not directly lead to significantly higher returns on equity. This finding aligns with the results of Nguyen and Sundaresan (2018) but contradicts the findings of Muhammad (2018), who found a positive significant relationship.

Conclusion:

The study examined the effect of liquidity management on the financial performance of selected listed manufacturing companies in Nigeria over a ten-year period (2014–2023). The regression analysis conducted showed that the current ratio has a negative and insignificant impact on return on equity, while the quick ratio has a significant positive relationship with return on equity for the selected companies. Additionally, the study found that the cash conversion cycle has an insignificant positive impact on the equity of these companies.Based on the findings, the study suggests that manufacturing companies should implement a credit policy that minimizes excessive inventory buildup and adopt an inventory management strategy that reduces stock investment while maximizing profitability. Additionally, it is recommended that these companies effectively manage their cash conversion cycle to enhance returns on investment and improve the modest positive impact it has on their financial performance.

References:

Abubakar, A., Sulaiman, I. and Haruna, U. (2018). Effect of firm's characteristics on financial performance of listed insurance companies in Nigeria. *African Journal of History and Archaeology*, *3*(1), 1–9.

Adekanmi, A. D., Odewole, P. O., and Adeoye, E. T. (2022). The effect of liquidity management on financial performance of selected listed food and beverage firms in Nigeria. *KIU Interdisciplinary Journal of Humanities and Social Sciences*, *3*(1), 325-345.

Akenga, G. (2017). Effect of liquidity on financial performance of firms listed at the Nairobi Securities Exchange, Kenya. *International journal of science and research*, *6*(7), 279-285.

Alhassan, I., and Islam, K. A. (2021). Liquidity management and financial performance of listed oil and gas companies in Nigeria. *International journal of accounting & finance review*, *8*(1), 15-25.

Aniyah1, Supriyanto, Dwi, F.C., Dewiana N, Teguh Y, and Masduki A (2020) Analysis of the effect of quick ratio, Total assets turn over, and Debt to equity ratio on return on equity at PT. XYZ. *Journal industrial engineering & management research (JIEMAR), 1*(3) ISSN ONLINE: 2722 – 8878.

Bordeleau, E. and Graham, C. (2019). The impact of liquidity on bank profitability. *(downloaded from https.//www.researchgate.net on 21st February, 2019)*

Chabbal, A. Y., & Umar, A. I. (2022). Liquidity Management and Corporate Profitability: Evidence from Nigerian Listed Consumer Goods Companies. *Fane-Fane International Multi-Disciplinary Journal*, *6*(1), 130-140.

Christopoulos, A. G., Dokas, I. G. and Mantzaris, D. H. (2020). The Estimation of Corporate Liquidity Management using Artificial Neural Networks. *International Journal of Financial Engineering and Risk Management, 1*(2), 193-210.

Doğan, Mesut; Kevser, Mustafa (2020) The Determinants of Cash Conversion Cycle and Firm Performance: An Empirical Research for Borsa Istanbul Turkey. *Management and Economics Review,5*(2), pp. 197-206.

Effiong, S. and Enya, F.E (2020) Liquidity Risk Management and Financial Performance: Are Consumer Goods Companies Involved. *International Journal of Recent Technology and Engineering*, *9*(1), 580-589.

Ejike, S. I. & Agha, N. C. (2018). Impact of operating liquidity on profitability of pharmaceutical firms in Nigeria. International Journal of Academic Research in Accounting, Finance and Management Sciences, *8*(3), 73–82.

Eke, .C and Jinjiri, K.R (2022). Liquidity management and its impact on financial performance of quoted consumer goods companies in Nigeria. *International Journal of Management, Social Sciences, Peace and Conflict Studies,5*(2), p.p. 125- 143.

Ibe, O. S. (2013). The Impact of Liquidity Management on the Profitability of Banks in Nigeria. *Journal of Finance and Bank Management*, 37-48.

Ibida, N. J. F., and Emeka-Nwokeji, N. A. (2019). Effect of corporate social responsibility (CSR) on financial performance of oil and gas companies in Nigeria. *Journal of accounting, business and social sciences, 2*(1), 56-73.

Jensen, M. C. and Warner, J. B. (1998). 'The Distribution of Power Among Corporate Managers, Shareholders, and Directors', *Journal of Financial Economics, 3*(20), pp. 3-24

Lanemey, P.B., Sumanti, E. R., and Aseng, A. C. (2022). An Empirical Study of Quick Ratio and Profitability on Manufacturing Firms in Indonesia. *Society, 10*(2), pp. 525-533.

Lufiyandi, S and Justina, A .J (2020) The Impact of Quick Ratio, Debt to Equity Ratio, Firm Size, and COVID-19 Toward Return on Equity: A Case Study of Tourism, Restaurant, and Hotel Companies Listed on the Indonesia Stock Exchange (IDX). *The 2nd ECOBESTHA Conference*.

Lusy, Y.B, Thyophoida W.S., Maria W (2018). The Effects of Current Ratio and Debt-To-Equity Ratio On Return On Asset and Return On Equity. *International Journal of Business and Management Invention (IJBMI),7*(12), pp. 31-39.

Lyndon, M. E. & Paymaster, F. B. (2016). Liquidity management and profitability: A study of selected food and beverage companies in Nigeria. *International Journal of Management Sciences, 7*(4), 217–225

Mahmudin, Elfreda, A. L, Beatrix, T. (2018) The Effect of Current Ratio (CR), Debt to Equity Ratio (DER), Total asset Turnover and Firms Size to Return on Equity in Mining Companies Listed on the Indonesia Stock Exchange. *Research Journal of Accounting and Business Management (RJABM);* P-ISSN: 2580-3115; E-ISSN: 2580-3131.

Mohd, Y. and Asif, P. (2018). Impact of liquidity, solvency and efficiency on profitability of Steel Authority of India Limited. *International Journal of Research in Management, Economics and Commerce,6*(9), 25–31.

Muhamad, A.N.H and Yayang A.N (2022). Analysis Of The Effect Of Current Ratio, Total Asset Turnover, Debt To Equity Ratio, Net Profit Margin Toward Return on Equity of Manufacturing companies listed on the JSX. *International Journal of science Education and Technology Management*, *1*(1), pp. 1-15.

Muhammad, K. (2018) Cash Conversion Cycle and Firms' Profitability a Study of Tobacco Industry of Pakistan, *International Journal of Research in Social Sciences.*

Nguyen, T.P and Sundaresan, M (2018) The Effects of Cash Conversion Cycle on Profitability: An Insight into the Agriculture and Food Industries in Thailand. *Asian Journal of Business and Accounting* 11(1).

Nworie, G. O., and Mba, C. J. (2022). Modelling financial performance of food and beverages companies listed on Nigerian exchange group: the firm characteristics effect. *Journal of Global Accounting*,*8*(3), 37-52.

Omaliko, E. and Okpala, N. (2020). Effect of TSA on solvency of listed deposit money banks in Nigeria, *World Journal of Finance and Investment Research, 5*(1), 32-47

Onyekwelu, U. L., Chukwuani, V. N. and Onyeka, V. N. (2018). Effect of Liquidity on Financial Performance of Deposit Money Banks in Nigeria. *Journal of Economics and Sustainable Development*, 19-28.

Orshi, T. S. (2016). Impact of liquidity management on the financial performance of listed food and beverages companies in Nigeria. *Published Thesis, Federal University Dutsin-Ma*.

Patjoshi, K. P. (2016). A Study on Liquidity Management and Financial Performance of Selected Steel Companies in India. *International Journal of Advanced Information Science and Technology*, 108-117.

Qahfi R.S and Defi D.H (2021) Influence Current Ratio, Debt to Equity Ratio and Total Asset Turnoveron Return on Equity in the Transportation Sector Industry. *International Journal of Business Economics (IJBE)*, *2*(2), pp 99-112.

Raykov, E. (2017). The liquidity-profitability trade-off in Bulgaria in terms of the changed financial management functions during crisis. *Management*, *22*(1), 135–156.

Sathyamoorthi, C.R and Mogotsinyana, M and Mashoko, D. (2020) Liquidity Management and Financial Performance: Evidence From Commercial Banks In Botswana. *International Journal of Financial Research, 11*(5).

Syed, A. (2015). Impact of liquidity and management efficiency on profitability: An empirical study of selected power distribution utilities in India. *Journal of Entrepreneurship, Business and Economics*,*3*(1), 31–49.

Terseer, W (2020). Effect of liquidity management on the financial performance of banks in Nigeria. *European journal of business and innovation research*, *7*(4), 30-44.

Waluyo, J and Tiya, S.A (2019) The Effect of Current Ratio (CR) and Debt to Equity Ratio (DER) on Return on Equity (roe) at PT Aneka Tambang. Tbk. *Pinisi Discretion Review, 3*(1) Page. 83- 92.

Wardah, G.S, Azalia P and Wily M (2023) The Effect of Debt-to-Equity Ratio (DER) and Current Ratio (CR) on Return on Equity (ROE) in the Food and Beverage Companies. *Himeka Journal of Interdisciplinary Social Science, 1*(1).

Yeti, K and Nadila O (2021) The effect of Current Ratio and Debt to Equity Ratio on Return on Equity of Pada PT. *Permodalan Nasional Madani. Lensa Ilmiah Jurnal Manajemen dan Sumberdaya, 1*(1) pp. 53-61.