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The Head,
Department of Accounting and Finance,
Federal University Gusau, Zamfara State.
elfarouk105@gmail.com
+2348069393824

FOR MORE INFORMATION, CONTACT

The Editor-in-Chief on +2348067766435
The Associate Editor on +2348036057525
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Gusau Journal of Accounting and Finance, Vol. 4, Issue 1, April, 2023

EXAMINING THE IMPACT OF WORKING CAPITAL MANAGEMENT ON THE FINANCIAL PERFORMANCE OF LISTED INDUSTRIAL GOODS ENTITIES IN NIGERIA

Abdulrahman Bala SANI
Department of Accounting
Usmanu Danfodiyo University
sonyaxle9@gmail.com

Jamilu Jibril
Department of Accounting
Al-Qalam University Katsina
jamilujubril@auk.edu.ng

Taophic Olarewaju BAKARE
Department of Accounting
Usmanu Danfodiyo University
abubackrie@gmail.com, +234 806 770 2354

Abstract
The main objective of this study is to examine the influence of working capital management on the financial performance of listed industrial goods firms/entities in Nigeria. The study collected data from the yearly reports of selected companies between 2011 and 2021, using the purposive sampling method. The generalized method of moments (GMM) estimator technique was employed for data analysis. The findings indicate that inventory turnover and receivable collection positively impact financial performance. the finding revealed that inventory turnover, and receivable collection have statistical significant effect on return on equity with the coefficient (-0.6150, and 0.0067) and p-value (0.000and 0.009) at 5% level of significant respectively. The study concluded that inventory turnover was noted to have increased the likelihood of financial performance and thereby Governments should endeavor to provide adequate infrastructure such as constant and stable electricity supply, good road network and rail system to facilitate the cost of production at minimum cost and movement of goods.

Key words: Inventory turnover, Receivable collection, Working capital, Operating cycle, Return on equity
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1. Introduction

Working capital management is a critical aspect of financial management for businesses, influencing their operational efficiency, liquidity, and overall financial performance. In the context of listed industrial goods entities in Nigeria, effective working capital management becomes particularly vital due to the specific challenges and complexities faced by these firms. The ability to optimize the

utilization of current assets and liabilities directly impacts their financial stability, profitability, and long-term success (Johnson, & Brown 2022).

The Nigerian industrial goods sector plays a significant role in the country's economy, contributing to employment generation, infrastructure development, and overall economic growth. However, these entities encounter various challenges in managing their working capital effectively. These challenges include supply chain disruptions, inventory management issues, prolonged receivable collection periods, and difficulties in accessing short-term financing options. Inadequate working capital management can result in financial constraints, operational inefficiencies, and reduced profitability for these entities (Sanusi & Umar 2019).

The problem at hand is the limited understanding of the relationship between working capital management and the financial performance of listed industrial goods entities in Nigeria. While studies from other countries have explored this relationship, there is a lack of research specific to the Nigerian context. Therefore, it is crucial to investigate how working capital management practices impact the financial performance of these entities, taking into account the unique characteristics of the Nigerian business environment (Oladipupo & Oladipupo, 2016).

Similarly, due to the turbulence in international financial markets, the worldwide economic downturn has had a serious adverse effect on Nigerian industrial companies. Production, sales, and financial resources available to manufacturers have all dropped owing to the financial crisis. The negative impact of coronavirus on manufacturing companies to fulfill its financial obligation as well as being unable to retrieve its money from the customers (account receivable) have unfortunately left many organizations inoperable. Companies that were once able to pay their bills on time are being short on cash flow if they have not closed down. Low risk debtors are now higher risk of delinquent payments and the cash flow greatly disrupted (Tracey, 2020).

Businesses have been drowning as a result of the government's complete failure to successfully adopt economic measures that may very well counteract the effect of COVID-19 in Nigeria. Negative effects have been seen in receivables, work-in-progress, inventory turnover, and completed products. Due to this, it has become more challenging for firms to pay their creditors on time and to request more funding from them. Businesses' income and working capital are being put under pressure as a result of suppliers' failure to supply manufacturers with essential components, which results in production delays or halts. Work-in-progress

balances are being weakened as a result of this stress, and it is also making it difficult to timely collect receivables from customers who are struggling financially. Additionally, the decline in consumer demand is causing inventories to increase and become more difficult to sell (Muda, 2020). Additionally, there are issues with paying suppliers because of short-term cash flow constraints.

A thriving manufacturing sector, according to Korode (2017), lowers poverty by generating wealth and jobs. Although Nigeria's manufacturing industry has great promise, its efficiency has been declining over time and with the recent emergence of the COVID-19 epidemic, this decline in performance has not only accelerated astronomically but has also reached a breaking point. Since the early 1980s, there has been a clear declining tendency (Nigerian Manufacturing Association, 2014). A number of issues with economy of Nigeria, such as bad administration, corruption, a lack of policy execution, and ongoing rivalry, which slow down the rate at which manufacturing sectors can reap significant returns on the resources they use and invest in.

The necessity to link working capital management with financial success has emerged as a result of the fact that corporations are created with the intention of maximising profits. For listed industrial products firms to improve their financial performance, a competent and effective working capital management plan is essential. Several studies including Elias and Nwankwo (2018); Uguru, Chukwu, and Elon (2018); Oladejo, Akande, and Yinus (2017); Edem (2017); Korede (2017); Muhammad (2017); Ojeani (2014); Soyemi and Olawale (2014); Criscent (2016); Ikpefan, Owolabi, Edwin and Adetula (2014); Haruna (2016) to mention a few concentrates on account payable, account receivable, cash conversion circle and their implication for financial performance of either insurance companies, brewery companies, foods and beverages, conglomerates or pharmaceutical companies but this study concentrates on industrial goods firms with the used of generalized method of moments and expand the scope of the study to 2021 which was lack in the previous studies conducted in Nigeria

Research Questions

The following questions were addressed during the period of this study. These consist of:

i. How does inventory turnover affect the finance results of traded industrial goods companies in Nigeria?
ii. In what way does the receivable collection affect the finance results of traded industrial products companies in Nigeria?

The justification for this study emanates from the fact that there is a consistent change in the dynamics of the manufacturing sector in Nigeria as well as the constant introduction of policies by the government which may make or mar the manufacturing sector of the economy as a result of unstable policies. Financial managers have come to understand that their role goes beyond simply determining the ideal levels of working capital and its components. It also entails examining the effects of various internal and external factors, such as retained earnings and leverage financing, on the financial performance of Nigerian industrial products businesses. Due to a total economic shutdown, liquidity issues, and the regular business operations of Nigerian manufacturing businesses, the ongoing work in the manufacturing sector has also been badly impacted by the present global economic downturn. This has led to the need for this study. Different government measures intended to stop the coronavirus pandemic's growth contributed to the decline.

2. Literature Review

Working capital management is a crucial aspect of financial management that focuses on the effective management of a company's current assets and liabilities. It plays a vital role in determining the liquidity, profitability, and operational efficiency of an organization. This section provides an elaborate review of the concept of working capital management, its components, and its significance in financial decision-making.

Working capital refers to the capital required to finance a firm's day-to-day operations and meet its short-term obligations. It represents the difference between a company's current assets (such as cash, accounts receivable, and inventory) and its current liabilities (such as accounts payable and short-term debt). Working capital management involves optimizing the levels of these current assets and liabilities to ensure the smooth functioning of the business (Adeniyi, 2008; Olaoye, Akintola & Ogundipe, 2019).

Effective working capital management aims to strike a balance between maintaining adequate liquidity and maximizing profitability. It requires careful planning, monitoring, and control of the company's working capital components. By managing working capital efficiently, organizations can enhance their financial performance in several ways (Brigham &Houston 2001):

i. Liquidity Management: One of the primary objectives of working capital management is to ensure that a company has sufficient liquidity to meet its short-term obligations. By maintaining optimal levels of cash and working capital components, firms can minimize the risk of facing liquidity

shortages or being unable to meet their payment obligations. Adequate liquidity also enables organizations to take advantage of potential investment opportunities or withstand unexpected financial emergencies.

ii. Cash Flow Management: Working capital management plays a crucial role in managing cash flows effectively. By carefully monitoring and controlling accounts receivable, accounts payable, and inventory, companies can optimize cash flow by reducing the cash conversion cycle. This cycle measures the time it takes for a company to convert its investment in inventory into cash inflows through sales. Minimizing the cash conversion cycle can free up cash that can be utilized for investment, debt reduction, or other strategic purposes.

iii. Profitability Enhancement: Efficient working capital management can contribute to improved profitability. By minimizing the amount of capital tied up in current assets (e.g., inventory and accounts receivable), companies can reduce financing costs and improve overall profitability. Additionally, effective management of accounts payable can provide opportunities for cost savings through negotiated discounts and favorable payment terms.

iv. Operational Efficiency: Optimal working capital management ensures the smooth operation of a company's day-to-day activities. By maintaining appropriate inventory levels, organizations can avoid stockouts or excessive carrying costs. Similarly, managing accounts receivable and accounts payable efficiently can enhance operational efficiency by reducing the risk of late payments, improving cash flow, and strengthening relationships with customers and suppliers.

According to Olugbenga (2010, the benefits of working capital management are significant, it is important to note that different industries and businesses may require varying approaches based on their specific characteristics. Factors such as seasonality, industry cycles, and customer payment patterns should be considered when formulating working capital strategies.

Overall, effective working capital management is crucial for the financial health and long-term sustainability of businesses. It enables organizations to optimize their liquidity, enhance profitability, and improve operational efficiency. By implementing sound working capital management practices, companies can strengthen their financial position, adapt to changing market conditions, and create value for shareholders.

Financial performance

Financial performance typically evaluated through a range of financial ratios, metrics, and key performance indicators (KPIs). These metrics provide a quantitative assessment of the company's profitability, liquidity, solvency, efficiency, and value creation. Some common indicators of financial performance include Profitability Measures: Profitability measures assess a company's ability to generate profits from its operations. Key indicators include Gross Profit Margin (GPM): It measures the percentage of revenue that remains after deducting the cost of goods sold. Net Profit Margin (NPM): It represents the percentage of revenue that remains after deducting all expenses, including taxes and interest. Return on Assets (ROA): It calculates the company's profitability relative to its total assets. Return on Equity (ROE): It measures the company's profitability relative to its shareholders' equity. Liquidity Measures: Liquidity measures assess a company's ability to meet its short-term financial obligations. Key indicators include Current Ratio: It compares a company's current assets to its current liabilities and assesses its ability to cover short-term obligations. Quick Ratio (or Acid-Test Ratio): It measures a company's ability to cover immediate liabilities without relying on inventory (Oladipupo & Olumuyiwa, 2014).

Solvency Measures: Solvency measures evaluate a company's long-term financial stability and its ability to meet long-term obligations. Key indicators include Debt-to-Equity Ratio: It measures the proportion of a company's financing that comes from debt relative to equity. Interest Coverage Ratio: It assesses a company's ability to meet interest payments on its debt obligations.

Efficiency Measures: Efficiency measures evaluate how effectively a company utilizes its resources and manages its assets. Key indicators include: Asset Turnover Ratio: It measures how efficiently a company utilizes its assets to generate sales. Inventory Turnover Ratio: It evaluates how quickly a company sells its inventory within a specific period. Accounts Receivable Turnover Ratio: It assesses how efficiently a company collects payments from its customers (Sanusi & Umar, 2019).

Market Measures: Market measures assess the market value of a company and its attractiveness to investors. Key indicators include Earnings per Share (EPS): It represents the portion of a company's profit allocated to each outstanding share of common stock. Price-to-Earnings (P/E) Ratio: It compares the market price per share to the company's earnings per share.

Financial performance analysis provides valuable insights into a company's strengths, weaknesses, and overall financial health. It enables stakeholders,

including investors, creditors, and management, to make informed decisions regarding investment, lending, and strategic planning. By monitoring and evaluating financial performance over time, companies can identify areas for improvement, make informed financial decisions, and drive sustainable growth (Uwuigbe & Uadiale, 2013.

Interaction of Working Capital Management with Financial Performance

According to, Elias and Nwankwo (2018), the interaction between working capital management and financial performance is a crucial relationship that significantly influences the overall financial health of a company. Effective working capital management can have a direct impact on various aspects of financial performance. Fahmida and Ye (2019) opined that some key ways in which working capital management can interact with financial performance are:

Profitability: Efficient management of working capital can enhance profitability. By optimizing the levels of current assets (such as inventory and accounts receivable) and current liabilities (such as accounts payable), companies can improve their profitability metrics, such as gross profit margin (GPM) and net profit margin (NPM). That is to say Proper inventory management can reduce carrying costs and the risk of obsolete or expired inventory, improving gross profit margin. Similarly, effective management of accounts receivable can minimize the time it takes to convert sales into cash, reducing the risk of bad debts and enhancing net profit margin Amer (2020).

Cash Flow: Working capital management has a direct impact on cash flow, which is essential for the day-to-day operations and financial stability of a company. By efficiently managing components such as accounts receivable, accounts payable, and inventory, companies can optimize their cash flow and ensure sufficient liquidity. Through the reducing the average collection period for accounts receivable can accelerate cash inflows, improving liquidity. Negotiating favorable payment terms with suppliers and managing accounts payable effectively can optimize cash outflows and improve cash flow Amer (2020).

Operational Efficiency: Effective working capital management contributes to operational efficiency. By maintaining appropriate levels of inventory and managing the conversion cycle (the time it takes to convert inventory into cash), companies can streamline their operations. This leads to improved efficiency, reduced costs, and increased productivity. This is to say keeping inventory levels in line with demand can minimize stock outs and excess inventory, reducing holding costs and improving operational efficiency. Managing the cash conversion

cycle by reducing the time between paying suppliers and receiving cash from customers can enhance overall operational efficiency.

Risk Management: Working capital management plays a crucial role in mitigating financial risks. By maintaining sufficient liquidity and managing short-term obligations, companies can reduce the risk of liquidity shortages, financial distress, and potential disruptions in operations. Effective working capital management ensures that the company has the resources to meet its financial obligations when they arise (Johnson & Brown, 2022).

From the above we can conveniently say that a well-executed working capital management strategy can positively influence financial performance by enhancing profitability, optimizing cash flow, improving operational efficiency, and managing financial risks effectively. Companies that prioritize working capital management as part of their overall financial strategy are more likely to achieve sustainable growth and long-term success

Empirical Review

During the period of 2003 to 2012, Ali and Ayyuce (2020) conducted a study on the relationship between working capital management and the financial performance of European Union (EU) traded entities. Their research indicated that countries with codified laws experienced a negative impact on financial performance due to working capital management. The study found that liquidity measures estimated through the current ratio had a statistically significant adverse effect on return on assets (ROA) for EU member states.

In a similar vein, Amer (2020) investigated the influence of working capital management on earnings in selected countries and explored the connection between accounting and finance for the years 2019 to 2020. The study involved interviews conducted through Skype, utilizing Arabic and English languages, with sixteen finance managers from Austria, Bangladesh, Hungary, Jordan, Qatar, and Turkey. The study revealed that accounting and finance are closely intertwined, with finance providing essential knowledge and skills to bookkeepers.

Fahmida and Ye (2019) examined the impact of working capital management on the business success of listed Chinese companies between 2005 and 2015. They utilized the GMM estimator to manage unobserved company heterogeneity. The findings indicated that due to debt rationing and high-cost leverage financing, cash-strapped enterprises should maintain a considerably lower level of working capital. Active working capital management was found to be advantageous and significantly associated with higher corporate values.

Akbar, Jiang, and Akbar (2020) investigated the effects of working capital management on funding and investment strategies of non-financial firms traded in Pakistan from 2005 to 2014. The research demonstrated that excessive working capital had a negative impact on investment inventories. The study also revealed a correlation between working capital levels and leverage ratios, indicating that companies with poor working capital management rely heavily on long-term debt to meet their short-term financing needs.

Olaoye, Akintola, and Ogundipe (2019) conducted a study to determine the relationship between working capital management and profitability of industrial businesses listed on the Nigerian stock exchange from 2006 to 2015. Their research examined variables such as working capital, average collection time, inventory conversion time, and net operating profit to assess revenue. The findings revealed a strong positive correlation between working capital management and profitability.

Similarly, Elias and Nwankwo (2018) evaluated the impact of the average payments period on the revenue of listed insurance firms in Nigeria. The study utilized return on assets (ROA) as the dependent variable and average payments period as the explanatory variable. The findings indicated that the average payments period had a significant negative effect on profitability.

In their 2017 study, Oladejo, Akande, and Yinus investigate how management of cash affects the productivity of SMEs producing food and beverages in the state of Oyo. The research found that businesses keep cash on hand for a variety of reasons, including transactional safety and speculation, paying daily invoices as they become due, and keeping money on hand for unexpected expenses.

Resource-Based Theory: Resource-Based Theory (RBT) is a strategic management framework that focuses on the role of internal resources and capabilities in creating and sustaining competitive advantage for a firm. It suggests that a firm's unique bundle of resources and capabilities determines its ability to achieve superior performance in the marketplace.

According to RBT, resources can be tangible or intangible assets that a firm owns, controls, or has access to. Tangible resources include physical assets like buildings, machinery, and inventory, while intangible resources include intellectual property, brands, reputation, and knowledge. Capabilities, on the other hand, refer to a firm's ability to deploy and utilize its resources effectively to perform certain activities and achieve desired outcomes. The key assumptions of Resource-Based Theory are as follows: Resource Heterogeneity: Firms possess unique combinations of

resources and capabilities, leading to heterogeneity in their strategic positions and performance outcomes. Resource Immobility: Resources are not perfectly mobile across firms, making it difficult for competitors to replicate or imitate valuable and rare resources. Resource Durability: Resources and capabilities can provide a sustained competitive advantage if they are difficult to imitate and can be maintained over time. Resource Complementarity: The value and effectiveness of resources are enhanced when they are combined and integrated with each other to create synergies. Causal Ambiguity: The link between a firm's resources, capabilities, and performance may not be easily observed or understood by competitors, this tend to create a situation of causal ambiguity (Porter, 1985).

The central idea of RBT is that firms should identify and develop unique resources and capabilities that are valuable, rare, difficult to imitate, and non-substitutable. By leveraging these strategic assets, firms can create competitive advantages that lead to superior financial performance and sustained success in the long term (Cornner, 1991). RBT has been widely applied in various areas of strategic management, including understanding the sources of competitive advantage, analyzing firm performance, assessing mergers and acquisitions, and formulating strategies for innovation and growth. It provides a valuable lens for analyzing the internal dynamics of firms and highlights the importance of building and leveraging strategic resources to achieve a sustainable competitive position in the marketplace (Barney, 1991). This makes resource-based theory applicable to the research. As a result of the resource-based theory's emphasis on resource utilisation that increases revenue and enhances organisational effectiveness.

3. Methodology

The study employed an ex-post facto research design to investigate potential cause and effect relationships by first examining current consequences and then retrospectively analyzing causative factors. A random selection of twelve (12) companies listed on the Nigerian stock exchange between 2011 and 2021 was chosen for the study. The sample size was determined using purposive selection methods. To account for the delayed dependent variable and improve the accuracy of estimates, the research utilized the Generalized Method of Moments (GMM) estimator as a panel data predictor. This choice was made because conventional econometric methods like Ordinary Least Squares (OLS) may not provide unbiased estimates in the presence of delayed dependent variables. The research employed version 14.5 of STATA software for data analysis. The specification model of the study followed a specific format, as outlined by Masoud (2014) and Wintoki, Linck, and Netter (2012).

$ROE_{it} = \alpha + \beta_1 INT_{it} + \beta_2 REC_{it} + \mu_i$

Where:

ROE = Return on Equity; INT = Inventory Turnover; REC = Receivable Collection. α = Intercept; β_1–β_2=Parameters of Estimate; $\mu_{it}=\varepsilon_{it}+\lambda_i$; ε_{it}=stochastic error term; λ_i=cross-sectionals individual difference (Composite Error). *A priori* expectation is that $\beta_1 - \beta_2 > 0$

Measurement of Variables

Return on equity: Net Income divided by Shareholder Equity is used to determine return on equity. (Banos-Caballero et al. 2010; Yazdanfa & Ohman 2014).

Receivable Collection: it is the accounts receivable divided by sales divided by 365 (Afrifa & Padachi, 2016; Enqvist et al. 2014; Gill & Biger, 2013).

Inventory turnover: the value of the inventory divided by the cost of goods sold (Afrifa & Padachi, 2016; Enqvist et al. 2014; Gill & Biger 2013).

4. Data Analysis and Discussion of Results

Correlation Analysis: When using the GMM estimation approach, it is implicitly assumed that correlation analysis, a statistical technique, is used to determine whether and how strongly a connection exists among the variables. Pairwise correlation is used in Table 1 to show the connection between the factors.

Table 1: Correlation Analysis Results

Variable	ROE	INT	REC
ROE	1		
INT	-0.0535	1	
	(0.000)		
REC	-0.1334	0.3514	1
	(0.006)	(0.000)	

Source: Author's Computations, 2022.

Note: ROE return on equity; INT is inventory turnover; REC is receivable collection.

The analysis reveals that Return on Equity (ROE) demonstrates statistically significant positive correlation coefficients with inventory turnover (0.535 with a p-value of 0.000) and receivable collection (0.1334 with a p-value of 0.006). This suggests that the return on equity of listed manufacturing firms has a significant positive relationship with inventory turnover but a significant negative correlation with receivable collection. Higher levels of return on equity are associated with

greater levels of receivable recovery for listed manufacturing companies, indicating that these two metrics move in the same direction.

The inferential analysis aimed to address the research objectives, research questions, and validate hypotheses. The primary focus was on conducting regression analysis and presenting the results. Additionally, some pre-estimation tests such as unit root tests, llano-bond test of autocorrelation, Sargan test, and variance inflation factor (VIF) test were conducted prior to the main results. These tests aimed to examine the time series properties of the panel data variables used in the study and determine the appropriate estimation method.

The panel unit root test was performed to assess the stationarity of the variables under consideration. Both Fisher-type augmented Dickey-Fuller (Fisher-ADF) and Fisher-type Phillips-Perron (Fisher-PP) unit root tests were conducted and the outcomes are presented in Table 2. The results include the t-statistic and p-values for each test. Initially, the variables were tested at their level series to check for stationarity. If the variables were not stationary at their level series, the test was then conducted on their first-differenced series. This was done to ensure robustness in the analysis.

Table 2: Unit Root Test Results

	Fisher-ADF		**Fisher-PP**	
Variable	**Statistic**	**p-value**	**Statistic**	**p-value**
ROE	9.549	0.000	12.902	0.000
INVT	4.995	0.000	23.86	0.000
REC	4.10	0.000	9.541	0.000

Source: Author's Computations, 2022.
Note: ROE return on equity; INT is inventory turnover; REC is receivable collection.

The Fisher-type ADF and Fisher-type PP tests for the return on equity, inventory turnover, and receivable collection of the industrial goods companies listed in the study show statistical significance with p-values below the 0.1 level of significance, according to the statistical analysis in Table 2. This shows that there is no unit root in these variables, which means they are stable. Therefore, all the variables of this study can be adjudged stationary. This outcome consequently makes estimation methods such as the generalized method of moments (GMM) regression can be safely employed without the problem of having spurious regression result.

Table 3: Two-Step System GMM Regression Result for the Impact of Working Capital on Return on Equity

Variable	Coefficient	Windmeijer-Corrected Standard Errors	Z	p-value
ROE(lag)	0.000556	0.000457	1.22	0.223
INT	-0.61497	0.057244	-10.74	0.000
REC	0.006769	0.031371	0.22	0.009
Constant	0.146047	0.036029	4.05	0.000
Wald Chi-squared	53100.0			0.000
AR test (1)	-1.473			0.140
AR test (2)	-1.046			0.295
Sargan test	24.68			0.101
Mean VIF	1.15			

Source: Author's Computations, 2022.

Regarding the fitness of the regression model shown in Table 3, the outcomes show that the regression model is statistically significant judging from the Wald Chi-squared statistic value of 53100.0 for the model and the p-value of 0.000 being lower than 0.05 (5% level of significance). This suggests that the model has a strong fit and is statistically significant.

Table 3 includes a summary of the results of the Arellano-Bond test for autocorrelation (AR), which evaluates the model used in this study in terms of autocorrelation (also known as serial correlation). The test of null hypothesis is that autocorrelation does not exist. The basic idea behind the test is that, although first-order autocorrelation in the GMM result can be acceptable, second-order autocorrelation seriously calls into doubt the validity of the outcome. The results are shown in Table 3, where the first-order autocorrelation statistic value is quite high (i.e., -1.473), and the p-value is much greater than 0.05. The research demonstrates that the first-order autocorrelation test null hypothesis is correct since it cannot be rejected, indicating that there are no first-order correlations. On the other hand, the result shows a very high value for the second-order autocorrelation statistic (-1.046), and the p-value is higher than 0.05. This result demonstrates that the second-order test's null hypothesis is also true, satisfying the test's requirement. As a result, the model has no autocorrelation problems, which is true for both the first and second test orders.

To assess the accuracy of the methods used to generate this model, the Sargan test of over-identifying restriction was utilised. This was done to ensure that the constraints set on the instruments used to avoid over-identification were genuine. The null premise of this test is that over-identifying restrictions is reasonable. Knowing that this test's statistic value is 24.68 and its p-value is more than 0.05, the data show that the null hypothesis of the test could not be disproved for the model. As a result, it follows that the model can tolerate over-identifying restrictions. The model's calculated variance inflation factor (VIF) showed a mean value of 1.15, which is less than the threshold value (10) used to determine whether the variables would result in the multicollinearity issue. (Asteriou & Hall, 2016). Inferred from this is that the model does not exhibit significant multicollinearity.

Examining the weights assigned to each model's underlying variables, the results show that inventory turnover and receivable collection have statistically significant, with the coefficient of inventory turnover (-0.61497) being negative and p-value of 0.000 and receivable collection (0.006769) being positive and p-value of 0.009. None of them had p-values over 0.05 (or the 5% level of significance), which lends credibility to these hypotheses.

The strong negative correlation between inventory turnover and return on equity indicates that for every percentage point rise in inventory turnover, the return on equity will decrease by 0.61497 percentage points. Additionally, according to the statistically significant positive coefficient of receivable collection, a 1% point increase in receivable collection will result in a 0.006769% point increase in return on equity for the listed industrial businesses in Nigeria.

Discussion of Findings: Based on the results obtained in all the regression estimates presented in Table 4, there is doubt that the performance of Nigerian industrial goods firms is significantly influenced by working capital management. The following GMM-based regression models revealed how the working capital of the listed industrial goods companies can influence firms' financial performance activities. The first regression finding demonstrates a favourable and substantial relationship between inventory turnover and receivable collection and the financial success of listed industrial goods companies in Nigeria as assessed by return on equity. This evidence shows the significance of emphasizing greater inventory turnover and providing discounts on early payments when a firm's working capital is not at its optimum level. In these situations, concentrating on these areas may be essential to the prosperity of the company.

The study's results are consistent. with study by Alarussi and Alhaderi (2018); Le (2019); Akgun and Karatas (2021); Aychelet, (2018); Shema, (2017); Sin, Chen, Tze & Boon, (2017); Talat and Miam, (2014) which found positive and significant influence of inventory turnover on firm's financial performance, and contrary to the study by Ali and Ayyuce (2020); Fahmida and Ye, (2019); Ndonwabile and Patricia (2019); which found negative significant influence of inventory turnover on financial performance of the study firms.

More so, according to the regression analysis, returns on equity and receivables recovery have a strong and positive association. This conclusion is obvious because companies are more likely to see an increase in returns on equity when there is less capital tied up in due debt. Following that, the excess can be used to buy fixed assets, which will help the business continue to expand and improve. (Kayani, et al., 2020; Hameer, Ramakrishari, & Gillani, 2021).

5. Conclusion and Recommendations

The study has yielded important findings concerning the effects of management of working capital on the financial performance of industrial products companies listed on the stock market. According to the study's conclusive findings, working capital management significantly affects these businesses' financial performance in Nigeria. Specifically, when individual working capital management variables are considered, inventory turnover was noted to have increased the likelihood of financial performance. The study found evidence in the result of the study to support the notion that inventory turnover with minimum holding period will increase financial performance of sampled firms.

The findings of this study and the conclusion therefrom present the opportunity to make recommendations for relevant stakeholders. Therefore, the following suggestions were made in light of these results and their associated conclusion:

i. To prevent excessive inventory costs, excess cash reserves, and account receivables, management of listed industrial firms should cut back on expenditures in current assets. To prevent incurring unnecessary extra costs, they should keep their account receivables information updated. The negative effect of inventory turnover is as a result of higher inventory holding period which is associated with higher storage and carrying cost that prone to stock spoilage. In view of this, management of manufacturing firms should ensure the inventory turnover system that minimizes the inventory holding period.

ii. Governments should endeavor to provide adequate infrastructure such as constant and stable electricity supply, good road network and rail system to facilitate the cost of production at minimum cost and movement of goods. Because presently, it has been difficult to ensure steady production since price of diesel have been risen where 70% of manufacturing firms operate on diesel and since electricity supply has been disrupted.

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