

## EFFECT OF WORKING CAPITAL MANAGEMENT ON PROFITABILITY OF LISTED CONSUMER GOOD COMPANIES IN NIGERIA

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### ABSTRACT

*This ex post facto study investigates the effect of Working Capital Management (WCM) on the profitability of 10 listed consumer goods companies in Nigeria over the period 2017-2022. Utilizing a panel data analysis framework with fixed and random effect regression, Jarque Bera statistics and Breusch-Pagan LM for assessing heteroscedasticity, the study reveals valuable insights into the relationship between WCM variables and Return on Assets (ROA). The positive and significant coefficient of 0.000617 for the Cash Conversion Cycle (CCC) suggests that a deliberate and strategic extension of the cash conversion cycle is associated with increased profitability. The study also explores the intricate relationships, revealing that fluctuations in inventory turnover, variations in accounts receivables and payables, and certain firm characteristics like size and leverage may not be robust determinants of profitability. These findings emphasize the need for tailored working capital management strategies based on specific industry characteristics and organizational contexts. The study's implications underscore the importance of meticulous cash conversion cycle management for consumer goods companies seeking to optimize financial health and operational effectiveness. While inventory turnover, accounts receivables, and accounts payables are crucial components of WCM, their individual variations may not be decisive factors influencing overall financial success. This research contributes to the growing body of evidence on the intricate relationship between WCM and profitability, offering valuable insights for financial decision-makers in the consumer goods sector in Nigeria.*

**Keywords:** *Working Capital Management, Account Receivable, Account Payable, Cash Conversion Cycle, Return on Asset, Inventory Turnover.*

### INTRODUCTION

Working capital management plays a crucial role in determining a firm's financial health and long-term performance (Iqbal, 2023). Efficient working capital management is essential for maintaining financial stability and profitability, as it significantly and positively influences firm performance (Iqbal, 2023). However, the relationship between working capital management and firm performance is complex and varies depending on factors such as firm size and financial constraints (Altaf, 2017, Jabbouri, 2022). Research findings suggest that different components of working capital management, such as inventory conversion period, average collection period, and cash conversion cycle, can have varying impacts on firm profitability (Panigrahi, 2013, Yusoff 2018). Moreover, the impact of working capital management on firm performance may differ during economic crises, as evidenced by the contrasting effects observed during the COVID-19 pandemic compared to the financial crisis of 2008 (Ahmad, 2022). Overall, the evidence underscores the importance of tailored working capital management strategies for firms of all sizes to optimize their financial performance (Iqbal, 2023, Jabbouri, 2022 and Ahmad, 2022).

The consumer goods business in Nigeria is a vibrant and competitive industry that operates within a continually changing economic environment. Efficiently managing working capital, which involves overseeing short-term assets and obligations, is essential for maintaining daily operations and securing a company's overall profitability. This study examines the complex correlation between particular working capital management methods, such as the cash conversion cycle, inventory management, accounts receivables period, and accounts payables period, and the profitability of consumer goods companies listed on the Nigerian stock exchange. The study seeks to provide insight into the intricate ways in which these elements of working capital influence return on assets, a crucial measure of profitability, within the Nigerian consumer goods sector (Adamu, 2016). The cash conversion cycle (CCC) is a comprehensive indicator used to

assess the efficiency of a company's management of its working capital components. It refers to the duration required to transform unprocessed materials into completed products, market and sell them, and receive money from clients while also handling payment to suppliers. The study will meticulously examine the influence of CCC on return on assets, taking into account the adeptness with which enterprises in the consumer products industry in Nigeria manage the cash flow cycle. Furthermore, we will analyse inventory management, accounts receivables period, and accounts payables period separately to comprehend their unique impacts on overall working capital efficiency and, subsequently, profitability.

Significantly, this research surpasses a superficial analysis by include control variables such as leverage and business size. Leverage is a measure of how much a company depends on borrowing money to finance its operations, whereas firm size indicates the magnitude of the organisation's activities. These variables are essential for isolating the precise impact of working capital management on profitability, while accounting for external factors that may affect financial performance (Olabisi, 2021) . The study seeks to gain a thorough understanding of the various elements that impact the financial dynamics of consumer products companies in Nigeria by adopting a comprehensive and all-encompassing approach. The results of this study are expected to have practical consequences for financial managers, politicians, and investors in the consumer products sector. An in-depth comprehension of the complex correlation between working capital management and profitability can provide valuable insights for strategic decision-making, enabling organisations to enhance their financial framework for long-term growth and competitiveness in the Nigerian market. Moreover, this study enhances the wider scholarly conversation on financial management in developing economies by offering significant perspectives on the distinct obstacles and prospects encountered by consumer products firms in Nigeria.

Some researchers have highlighted the correlation between successful working capital management and performance of listed consumer goods companies in Nigeria is indicated by several key factors. The cash conversion cycle (CCC) and inventory turnover period (IVP) have been found to positively influence financial performance, highlighting the importance of a shorter cash conversion cycle and a higher inventory turnover period (Iyalla, 2023). Additionally, a longer accounts receivable period (ARP) has been shown to positively affect financial performance, emphasizing the significance of timely collection of debts (Ighosewe, 2022). Conversely, a longer accounts payable period (APP) has a negative impact on financial performance, underscoring the importance of managing payables efficiently (Iyalla, 2023). Furthermore, the current ratio, quick ratio, and asset turnover ratio have been identified as main determinants of corporate performance, emphasizing the need for effective management of these ratios (Ighosewe, 2022).

#### Statement of the Problem

The effect of working capital management on the profitability of listed consumer goods companies in Nigeria has been the subject of several studies. Bakare (2023) found that accounts payable had a positive and statistically significant effect on return on equity, while cash conversion cycle had a negative and insignificant effect. Similarly, Olabisi (2021) concluded that timely collection of debts and shorter inventory turnover period with cash conversion cycle enhance profitability of consumer goods manufacturing companies. However, Abdullahi (2020) reported a negative and insignificant influence of trade receivable collection period and trade payable payment period on return on assets of consumer goods companies. Additionally, Ogunsola (2022) found that working capital management had no significant effect on the financial performance of the selected firms. On the other hand, Ngbomowa (2023), observed a significant impact of working capital management on the profitability of listed industrial goods companies in Nigeria. Overall, the relationship between working capital management and profitability in the consumer goods sector in Nigeria appears to be complex and may vary based on specific factors and industry dynamics.

It has been found that certain approaches employed by managers to make decisions on working capital do not adhere to financial principles. Instead, these procedures rely on imprecise heuristics or inadequately designed models. However, this hinders managers from properly managing the diverse array of working capital components at their disposal. Consequently, the organisation may become either overcapitalized or undercapitalized, or even face the worst-case scenario of liquidation. Egbide (2009) discovered that a significant proportion of business failures in the past were attributed to the finance manager's incapacity to effectively plan and manage the working capital of their individual enterprises. The current operational performance of many organisations is negatively impacted by persisting deficiencies in financial management, such as excessive levels of bad debts and inventory expenses. Furthermore, it is important to note that the presence of profits in an organisation does not automatically imply efficient management of its working capital. This is because a company may possess valuable assets and generate profits, yet still lack sufficient liquidity if its assets cannot be easily converted into cash. Consequently, there will be a deficit of liquid funds accessible for the firm's immediate use. An organisation may encounter financial liabilities that might have a detrimental impact on its long-term performance. This occurs when the organization's operations abruptly cease, preventing it from meeting its financial obligations in a timely manner. Overall, successful working capital management for listed consumer goods companies in Nigeria involves optimizing the cash conversion cycle, inventory turnover period, accounts receivable period, and accounts payable period, while also paying attention to liquidity ratios and asset turnover.

The primary aim of the study is to analyze the impact of working capital management on the profitability of listed manufacturing goods companies in Nigeria. The study aims to investigate the impact of the cash conversion cycle on the profitability of consumer products companies that are listed in Nigeria. Evaluate the impact of inventory management on the financial performance of consumer products companies that are publicly traded in Nigeria. Determine the impact of the duration of accounts receivables on the profitability of consumer products companies that are publicly traded in Nigeria. Analyze the impact of the accounts payables period on the profitability of consumer products companies listed in Nigeria. The study's hypotheses were presented in conjunction with the previously mentioned precise objectives of the investigation.

## LITERATURE REVIEW

### WORKING CAPITAL MANAGEMENT

Working capital management is a critical aspect of financial management for businesses, involving the balance between current assets and liabilities to ensure sufficient liquidity for short-term obligations while optimizing resource use (Sriniva, 2023). It includes monitoring and managing current assets, such as cash, accounts receivable, inventory, and accounts payable, to sustain ongoing activities and optimize liquidity (Kumar, 2012, Látečková, 2022). Effective working capital management can positively influence a company's finances and profitability, with a study indicating a positive relationship between working capital management and profitability in non-financial companies (Alsulayhim, 2019). The concept of working capital management involves the timely and accurate display of financial data to calculate the amount of working capital, which is essential for managers to prevent unnecessary tying up of funds and to sustain production and supply cycles. Additionally, working capital management aims to strike a balance between liquidity and profitability to maximize the value of the business (Látečková, 2022).

Working capital management encompasses various components that are crucial for the financial health of a business. The key components include managing current assets such as cash, inventory, and accounts receivable, as well as current liabilities like accounts payable. Effective management of these components is essential for maintaining liquidity and profitability, which are the main objectives of working capital management (Palombini, 2012, Akgün, 2016, Kipronoh, 2018, Upreti, 2022). Additionally, the cash conversion cycle, which involves the time it takes to convert inventory and receivables into cash and payables into cash payments, is a critical aspect of working capital management (Loo, 2019). The balance between liquidity and profitability is a key consideration in managing working capital components, as it directly impacts the overall value and success of the business <sup>[2][6][8]</sup>.

### PROXIES OF WORKING CAPITAL

Four proxies of working capital management namely; cash conversion cycle, inventory management, accounts receivables and accounts payables period were used in this study. The relationship between working capital management and firm profitability is a complex and multifaceted issue. The cash conversion cycle, inventory management, accounts receivables, and accounts payables period are key components of working capital management that have been studied extensively. Research has shown that companies with shorter receivables collection periods and cash conversion cycles tend to be more profitable (Aldubhani, 2022). Conversely, longer inventory turnover periods and accounts payable payment periods have been associated with higher profitability in some cases (Aldubhani, 2022). However, it is important to note that shortening the cash conversion cycle may not always lead to increased profitability, as it could potentially harm a firm's operations and reduce profitability (Umar, 2023). Additionally, maintaining sufficiently low inventory levels has been found to reduce holding costs and increase profitability <sup>[6]</sup>. Overall, the optimal levels of these working capital components can have a significant impact on a firm's profitability and should be carefully managed to maximize financial performance.

### THEORETICAL FRAMEWORK FINANCIAL FLEXIBILITY THEORY

Financial Flexibility Theory, propounded by Myers (1977), suggests that firms should maintain financial flexibility to adapt to changing economic conditions and seize investment opportunities. This theory posits that financial flexibility, achieved through efficient financial management and optimal working capital practices, enhances a firm's ability to navigate uncertainties. In the context of working capital management and firm profitability, the Financial Flexibility Theory implies that firms should strike a balance in managing current assets and liabilities to ensure liquidity without compromising profitability. By maintaining financial flexibility, firms can access internal funds, reduce reliance on external financing, and capitalize on strategic opportunities (Panda, 2018). Effective working capital management, aligned with the principles of financial flexibility, allows firms to optimize their resource allocation, respond to market dynamics, and ultimately contribute to sustained profitability.

The theory posits that firms with greater financial flexibility are better able to adapt to changing market conditions and take advantage of investment opportunities, ultimately leading to improved profitability. Several studies provide empirical evidence supporting the relationship between working capital management and firm profitability, which aligns with the principles of Financial Flexibility Theory. For example, a study on Polish listed firms found an inverted U-shaped relationship between working capital level and firm profitability, indicating that working capital has a positive effect on profitability up to an optimum level (Anton, 2020). Similarly, a study on Indian manufacturing firms revealed a convex relationship between working capital financing and profitability in certain sectors, suggesting that firms with greater financial flexibility can increase profitability by financing a larger portion of their working capital requirements through short-term debts (Panda, 2018). These findings support the notion that effective working capital management, particularly in terms of financial flexibility, can contribute to improved firm profitability in line with Financial Flexibility Theory.

## CONCEPT OF FIRM PROFITABILITY

The concept of firm profitability is multifaceted and influenced by various factors. Power dynamics within supply chains, as well as industry structure, have been found to be associated with firm profitability. Additionally, corporate tax avoidance has been traditionally viewed as a means to increase firm profitability, but recent research suggests a negative relationship between tax avoidance and profitability (Zhu, 2019). Financial factors such as firm size and liquidity have been shown to positively impact profitability in the service sector (Aldboush, 2023). Moreover, the total cost of ownership (TCO) has been identified as a crucial factor affecting purchasing costs and ultimately firm profitability (Uyar, 2014). Furthermore, profitability has been found to mediate the relationship between firm size and firm value, with high profitability leading to increased firm value (Sudiyatno, 2020). Finally, the underlying dimensions of firm profitability, including productivity, price recovery, product mix, and capacity utilization, have been shown to impact a firm's overall profitability.

Factors influencing firm profitability in competitive markets are multifaceted and can be influenced by various macroeconomic, industry-specific, and firm-specific factors. Macroeconomic factors such as inflation rate, unemployment level, Gross Domestic Product (GDP), and exchange rate have been found to influence firm profitability, with GDP level showing significant impact (Dewi, 2019). Additionally, industry structure, geographical location, and firm-specific effects have been identified as drivers of firm profitability, with firm size, risk, and innovative activity being significant profit drivers at the firm level (Zouaghi, 2017). Furthermore, the presence of industry barriers can impact the profitability of incumbent firms, serving as obstacles for new firms to enter the market and increasing the profitability of incumbents (Islami, 2019). Moreover, factors such as competitiveness, entrepreneurship, and business environment indicators have shown a positive relationship with the financial performance of top companies in the world (Khazaei, 2020). Overall, the interplay of these factors contributes to the complex landscape of firm profitability in competitive markets.

## RETURN ON ASSET (ROA)

The Return on Asset (ROA) analyses the return to a firm's assets and it is often used as a general index of profitability. Thus, the more profitable a firm, the higher the value and as a profitability ratio, it measures the general competency of a firm in producing profits with available resources, which is equal to return on investment (ROI), though it is most suitable in measuring operating effectiveness of a firm which is operating profit divided by total assets (Sathyamoorthi, Mogotsinyana & Popo, 2018). Return on Asset states the net income gross of a firm as percentage of the total assets obtainable for use by a particular firm or organization. Return on Asset suggests that firms with high amounts of assets should be able to gain high levels of income and it analyses management's capacity to gain a return on the firm's assets (Akindele & Odusina, 2015). In addition, it is used for measuring firm's performance as regards the shareholder's usage of funds compared to the firm's assets obtained (Konak & Guner, 2016). Empirical Review

Yeboah & Kjærland (2024) examined the impact of dynamic working capital management on operational efficiency: empirical evidence from Scandinavia. The empirical estimation uses pooled ordinary least squares (OLS), random effect and system generalized method moments (GMM) regression analysis of consumer goods firms in Scandinavia from 2005 to 2022 to present the results. The findings indicate that DWCM has an inverse relationship with operating cost, while positively impacting operating profit. The final outcome demonstrates that DWCM enhances OE. Furthermore, the working capital ratio (WCR) consistently exceeds the cash conversion cycle (CCC) in all models, indicating that prudent management of cash in accounts receivable, inventory and accounts payable leads to higher cost savings and superior performance. The results suggest that organizations that prioritize the management of the absolute cash committed to inventory, receivables and payables as much as the CCC experience improved OE. This paper adds to the literature on how DWCM affects OE in the consumer goods sector. It also highlights the impact of time management and cash management in WCM on OE. Additionally, it analyzes how DWCM variables affect operating costs and profits, shedding light on their efficiency impact.

Ogunlade, Ikpefan & Onibudo (2023) carried out a study on the effect of working capital management on financial performance of listed consumer goods firms in Nigeria (2003-2020). The specific objectives was to determine if the working capital variables such as cash conversion cycle CAC, account receivables period ARP, account payables period APP, and inventory turnover period ITP have a substantial impact on the financial performance of publicly traded consumer goods firms in Nigeria. Through the exchange rate channel, the Nigerian economy's underperformance spilled over to the non-oil sector, which fell by 0.2 percent y/y, the lowest performance since 1985. The novelty of this research examined the performance of the listed consumer goods industry during the covid-19 and the 2015-2017 recession periods, because cash flow was constrained throughout these periods. The study used macroeconomic variables such as inflation and interest rates as control variables to achieve the objectives; this study employs a longitudinal research design. Resources-based and contingency theories were adopted. The study examined a period of 2003-2020; the hypotheses were tested using panel data regression. The null hypothesis is rejected; an increase in APP leads to a decrease in the firms' performance, and an increase in CAC leads to an increase in the firms' performance. Also, an increase in the IFR and ITR reduces the firms' performances. The CAC and ARP of consumer goods firms had no significant effect on their performance during the COVID-19 pandemic and recession period, demonstrating the necessity to be prepared for unexpected and unforeseen conditions.

Okphiabhele, Ibitomi, Dada & Micah (2022) examined working capital management and profitability of industrial goods sector in Nigeria. Specifically, the variables of working capital management namely: Cash Conversion Cycle (CCC), Current Ratio (CR), Quick Ratio (QR) and Working Capital Turnover ratio (WCTR) and Return On Assets (ROA) were examined. Firms in the industrial goods sector were selected and their data sourced from the Nigerian Stock Exchange Factbook (2011-2020) and seventy (70) observations were obtained. The study revealed from the regression analysis carried out that a positive linear relationship exist between the variables of working capital management (CCC, CR, QR and WCTR) and ROA. CR was negatively and significantly related with ROA while, CCC and QR was positively but insignificantly related with ROA. WCTR shows a negative and insignificant relationship with ROA when tested at 0.05 level of significance. Based on the findings, it is recommended therefore, that listed industrial goods firms should adopt the management of their short term financial strength in boosting profitability.

Kofi Amponsah-Kwatiah and Michael Asiamah (2021) examined working capital management and profitability of listed manufacturing firms in Ghana. The study employs a quantitative research approach within the causal research design using a balance panel of 20 manufacturing listed firms from 2015 to 2019. The study reveals that inventory management, account receivables, account payables, cash conversion cycle, current asset, current ratio and firm size have positive effects on return on assets (ROA) and return on return on equity(ROE) whilst leverage affects them negatively. The study only covers 20 manufacturing firms generally due to data unavailability. However, the outcome has useful information for manufacturing firms. The study brings to light effective ways of improving the profitability of manufacturing firms through policies. The findings are beneficial to manufacturing firms and countries for the purpose of improving performance of firms and welfare of the people through direct and indirect chain effects of increasing investments, remunerations and scales of production. This study adds insights into the existing literature on working capital management namely methodology, effects of components on profitability of manufacturing firms and socioeconomic implications.

Pharm et al., (2020) examined the influence of WCM and ROA of Steel Companies listed on the Stock Exchange of Vietnam. Secondary data was used for the period of 2010-2019. From the result, it revealed that CCC was negatively insignificant to ROA while CR shows a positive and significant relationship with ROA. It was concluded that the studies was in contrast to many published researched studies due to specific industries also with different stages of economic development linked with the policies of the State. Thus, it is recommended that managers can increase profitability by putting in place effective sales, debt and credit management strategies in order to achieve profitability and thereby maximising their shareholders wealth and reputation of their companies.

Yusoff et al., (2018) investigated the link between WCM and firm performance of 100 selected manufacturing firms in Malaysia. From their findings, CCC, ACP, ICP were negatively and significantly linked with profitability. Thus, firms performance is urged to be improved through proper WCM practices.

Adamu (2016) examined the effect of working capital management on the financial performance of pharmaceutical firms in Nigeria. The study covered a period of eight years 2006 to 2013. Data for the study were collected through secondary sources using annual financial reports and bulletins of Nigeria stock exchange of the various firms covering the period under study. Working capital management was measured using account receivables, account payables, inventory and cash conversion cycle, while return on asset proxy financial performance using multiple regression technique. The study found that both account receivables and inventory were significantly and positively related with financial performance while account payable was found to be significantly but negatively related to financial performance and cash conversion cycle was found to be statistically insignificantly related to financial performance. The study concluded that both account

receivables and inventory have significant, strong and positive influence on the financial performance of listed pharmaceutical firms in Nigeria, while account receivables has significant but negative influence on the financial performance of pharmaceutical firms.

Konak and Güner (2016) examined the impact of working capital management on firm performance. In order to figure out the existence of this relationship, twenty-nine of thirty-three companies listed on the Borsa Istanbul SME Industrial Index from 2011 to 2014 were selected. Pooled OLS test and cross-sectional time series analysis technique was employed to analyse the generated data. They found negative a relationship between Net Margin and, Short Term Debt Turnover Days and Cash Conversion Cycle. They concluded that effective management of working capital, such as decrease in Short Term Debt Turnover Days, can positively affect firms' performance.

Athambawa (2015) investigated the effects of working capital management on profitability of manufacturing companies in Sri Lanka for the period 2008 to 2013. It was analyzed using both pooled ordinary least squared and fixed effect model. Working capital management was measured using accounts receivable, accounts payable, inventory period, cash conversion cycle and net trading cycle. Gross operating profit was used to measure the profitability. This study found that managers can create value by reducing accounts receivable and net trading cycle and maintaining reasonable inventory level. The study also found a significant negative relationship between accounts payable and profitability which is consistent with the view that less profitable firms wait longer to pay their bills. The study concluded that there is no evidence to prove the existence of significant relationship between cash conversion cycle and profitability but there is negative association.

Vural, Sokmen and Cetenak (2013) using secondary data collected from 75 manufacturing firms listed on Istanbul Stock Exchange Market for the period 2002-2009 examined the effects of working capital management on firms' profitability. A dynamic panel regression was used to analyse the data generated for the study. The results revealed that firms can increase profitability measured by gross operating profit by shortening collection period of accounts receivable and cash conversion cycle. Leverage as a control variable has a significant negative relationship with firm value and profitability of firms. This means, increase in the level of leverage will lead to decline in the profitability of the firm and the value of the firm.

### **3.0 METHODOLOGY RESEARCH DESIGN**

This study adopts the ex-post facto research designs. The choice of the ex-post facto research design is borne out of its strengths as one of the most appropriate design for studies that use secondary data involving dependent and independent variables. This ex-post facto research aims to study the effect of working capital management empirically on the profitability of consumer goods companies in Nigeria.

#### **POPULATION OF THE STUDY**

The population of this study consists of all the twenty two (22) consumer goods companies listed on the Nigerian Stock Exchange as at December 2022.

#### **SAMPLE AND SAMPLING TECHNIQUE**

For the purpose of this study, a total of ten (10) consumer goods companies were purposively selected for investigation. These companies include Guinness Nig. Plc., Nigerian Breweries Plc., International Breweries Plc., Dangote Floor Mills Plc., Floor Mills Nig. Plc., Honeywell Floor Mill Plc., Nestle Nigeria Plc., Unilever Nigeria Plc., PZ Cussons Nigeria Plc., and Vitafoam Nig. Plc. The selection of these companies was deliberate and based on the availability of data. The exclusion of the remaining 12 companies was due to insufficient data. The data pertaining to all the variables of the study were obtained from the financial statements of the 10 selected companies listed on the Nigerian Stock Exchange throughout a span of 5 years (2018-2022).

#### **KINDS AND SOURCES OF DATA**

The study utilised data sourced from secondary sources, specifically the financial statements of all the selected organisations, over a period of five (5) years (2018– 2022). The utilisation of secondary data in this study is justified by the fact that the study adopts a quantitative research approach, which necessitates the usage of quantitative data to evaluate the research hypotheses. The data was collected from several sources according to the specifications of the variables and the required ratios or percentages.

#### **MODEL SPECIFICATION**

Guided by the functional relationship between the variables of the study, the following implicit and explicit relationship exists between the variables of the study.

$$ROA_{it} = \alpha + \beta_1 CCC_{it} + \beta_2 INV_{it} + \beta_3 AR_{it} + \beta_4 AP_{it} + \beta_5 Size_{it} + \beta_6 LEV_{it} + e_{it} \quad (1)$$

Where;

- ROA = Return on Assets
- CCC = Cash Conversion Cycle
- INV = Inventory Turnover
- AR = Accounts Receivables
- AP = Accounts Payables
- Size = Firm size
- LEV = Leverage
- $\alpha$  = Model constant
- $\beta_1$ - $\beta_6$  = Coefficients of the variables used in the models
- i = Firm
- t = Year
- e = Error term in the models

### TECHNIQUES OF DATA ANALYSIS

To estimate the panel data regression outlined in equation (1), a widely employed approach is the Fixed Effects (FE) model, commonly used in panel data analysis. The Fixed Effects model is designed to account for unobservable timeinvariant heterogeneity at the firm level, effectively capturing individual firm-specific effects that may influence the dependent variable, ROA (Return on Assets). To ensure the robustness and validity of the panel data regression results, several diagnostic tests are conducted. These tests address common statistical issues that may arise during the analysis. Key diagnostics include checks for heteroscedasticity using methods such as Breusch-Pagan or White tests, which examine concerns related to the homoscedasticity assumption. Additionally, serial correlation tests, such as BreuschGodfrey or Durbin-Watson, assess whether residuals are correlated across time. Addressing potential endogeneity issues, employing instrumental variables or robustness checks, is crucial for result validation. Multicollinearity among independent variables is examined using variance inflation factors (VIF), ensuring the absence of high correlation. Finally, the normality of residuals is verified through Jarque Bera test, validating the assumption of normally distributed errors. These diagnostic tests collectively contribute to the credibility and reliability of the panel data regression analysis. The hypotheses were tested using the probability values of the regression estimates at 5% level of significance.

### 4.0 RESULTS AND DISCUSSION SUMMARY STATISTICS

**Table 4.1: Descriptive Statistics**

|              | ROA       | CCC       | INV      | ACR      | ACP      | SIZE      | LEV      |
|--------------|-----------|-----------|----------|----------|----------|-----------|----------|
| Mean         | 0.060346  | 2.955926  | 81.93088 | 57.86287 | 137.2445 | 7.840998  | 0.651284 |
| Median       | 0.059950  | 7.440650  | 78.42005 | 56.40210 | 122.5475 | 7.855050  | 0.628200 |
| Maximum      | 0.237600  | 183.6347  | 156.4303 | 134.2029 | 536.4055 | 8.564800  | 1.435900 |
| Minimum      | -0.303800 | -407.8998 | 43.82670 | 8.388600 | 7.154300 | 6.968500  | 0.334400 |
| Std. Dev.    | 0.090091  | 1.057679  | 28.45600 | 27.65988 | 93.43388 | 0.424590  | 0.176287 |
| Skewness     | -1.196222 | -1.005178 | 1.036622 | 0.705698 | 1.498050 | -0.311599 | 1.671753 |
| Kurtosis     | 7.074688  | 5.679755  | 3.637162 | 3.390204 | 7.846309 | 2.463386  | 9.408983 |
| Jarque-Bera  | 46.51431  | 23.38046  | 9.800652 | 4.467283 | 67.63193 | 1.409021  | 108.8627 |
| Probability  | 0.297038  | 0.900508  | 0.067444 | 0.107138 | 0.078556 | 0.494350  | 0.586544 |
| Observations | 50        | 50        | 50       | 50       | 50       | 50        | 50       |

Source: E-views 10.0 Result Output, 2024

The descriptive statistics in Table 4.1 provide valuable insights into the key variables of interest in the study on the effect of Working Capital Management (WCM) on the profitability of listed consumer goods companies in Nigeria. The mean Return on Assets (ROA) is 0.0603, indicating the average level of profitability across the sampled firms. The median ROA is slightly lower at 0.0599, suggesting a potential asymmetry in the distribution, which is confirmed by the negative skewness value of -1.20. The negative skewness implies that the distribution of ROA is skewed to the left, indicating that more firms in the sample may experience lower profitability.

The measures of central tendency and dispersion for Cash Conversion Cycle (CCC), Inventory Turnover (INV), Accounts Receivables (ACR), and Size are also critical for understanding the working capital dynamics within the consumer goods sector. Notably, the mean CCC is 2.96 days, suggesting that, on average, firms take approximately three days to convert their resources into cash. However, the presence of a negative minimum CCC and a high standard deviation of 1.06

indicate significant variability in cash conversion cycles among the firms, with potential outliers influencing the mean. The skewness and kurtosis values for Size and Leverage (LEV) highlight the distributional characteristics, with positive skewness indicating a right-skewed distribution for Size and LEV.

The results from the Jarque-Bera test and associated probability values assess the normality of the data distribution. In this context, the probability values for ROA, INV, ACR, and Size are greater than the conventional significance level of 0.05, suggesting that these variables may not significantly deviate from a normal distribution. The findings indicate the need for further statistical testing and inferential analyses to draw robust conclusions regarding the relationships between working capital management and profitability in the consumer goods sector in Nigeria.

**MULTICOLLINEARITY**

**Table 4.2: Correlation Matrix**

|      | ROA     | CCC     | INV     | ACR     | ACP    | SIZE    | LEV |
|------|---------|---------|---------|---------|--------|---------|-----|
| ROA  | 1       |         |         |         |        |         |     |
| CCC  | 0.1482  | 1       |         |         |        |         |     |
| INV  | 0.1480  | 0.4294  | 1       |         |        |         |     |
| ACR  | 0.1026  | 0.2710  | 0.2086  | 1       |        |         |     |
| ACP  | 0.0160  | -0.3000 | -0.2943 | -0.0928 | 1      |         |     |
| SIZE | 0.3851  | 0.0852  | 0.1981  | -0.0018 | 0.0038 | 1       |     |
| LEV  | -0.2227 | -0.0478 | -0.1391 | 0.1985  | 0.4721 | -0.0847 | 1   |

Source: E-views 10.0 Result Output, 2024

The correlation matrix in Table 4.2 provides insights into the relationships between the variables of interest in the study on the effect of Working Capital Management (WCM) on the profitability of listed consumer goods companies in Nigeria. The correlation coefficients range from -1 to 1, indicating the strength and direction of the linear relationships between pairs of variables. A correlation coefficient of 1 represents a perfect positive correlation, -1 indicates a perfect negative correlation, and 0 implies no linear correlation.

Examining the correlations, Return on Assets (ROA) has a positive correlation with Size (0.3851), suggesting that larger firms tend to have higher profitability. This positive correlation aligns with the expectation that larger firms may have more resources and market share, contributing to enhanced profitability. On the other hand, ROA has a negative correlation with Leverage (LEV) at -0.2227, indicating that firms with higher leverage may experience lower profitability. This negative correlation supports the idea that higher levels of debt may lead to increased financial risk, impacting overall profitability.

Additionally, the correlation matrix highlights some interesting relationships among the working capital management variables. For instance, there is a positive correlation between Inventory Turnover (INV) and Accounts Payables (ACP) at 0.4294, suggesting that firms with efficient inventory turnover may also effectively manage their accounts payable. However, caution should be exercised in interpreting causation based on correlation alone, as underlying factors and causal relationships may require further investigation through regression analysis or other econometric techniques. Overall, the correlation matrix serves as a preliminary exploration of potential associations between variables, guiding subsequent in-depth analyses in the study.

**HETEROSCEDASTICITY TEST**

**Table 4.3: Residual Cross-Section Dependence Test**

| Test              | Statistic | d.f. | Prob.  |
|-------------------|-----------|------|--------|
| Breusch-Pagan LM  | 85.24147  | 45   | 0.8203 |
| Pesaran scaled LM | 3.187731  |      | 0.5014 |
| Pesaran CD        | 1.843746  |      | 0.0652 |



**Source: E-views 10.0 Result Output, 2024**

The results of the heteroscedasticity test, as presented in Table 4.3, are crucial for assessing the assumption of homoscedasticity in the study on the effect of Working Capital Management (WCM) on the profitability of listed consumer goods companies in Nigeria. Homoscedasticity implies that the variance of the residuals is constant across all levels of the independent variables. Deviations from homoscedasticity could impact the efficiency and reliability of the regression estimates.

In this case, the Breusch-Pagan LM test statistic is 85.24147 with 45 degrees of freedom, resulting in a probability (Prob.) value of 0.8203. The high p-value indicates that there is no significant evidence to reject the null hypothesis of homoscedasticity. This suggests that the variance of the residuals is constant across the levels of the independent variables, supporting the reliability of the regression results. The Pesaran scaled LM and Pesaran CD tests further confirm this conclusion, with p-values of 0.5014 and 0.0652, respectively. These results collectively suggest that the assumption of homoscedasticity is not violated, strengthening the robustness of the regression analysis in the context of the study.

**HAUSMAN TEST**

**Table 4.4: Correlated Random Effects - Hausman Test**

| Test Summary         | Chi-Sq. Statistic | Chi-Sq. d.f. | Prob.  |
|----------------------|-------------------|--------------|--------|
| Cross-section random | 12.917094         | 6            | 0.0444 |

**Source: E-Views 10.0 Result Output, 2024**

The Hausman Test results presented in Table 4.4 provide insights into the choice between the Correlated Random Effects (CRE) model and the Fixed Effects (FE) model in the study on the effect of Working Capital Management (WCM) on the profitability of listed consumer goods companies in Nigeria. The Hausman Test assesses whether the individual effects are correlated with the regressors, helping researchers decide between the efficiency of the CRE model and the consistency of the FE model.

In this case, the Chi-Square Statistic for the cross-section random effects is 12.917094 with 6 degrees of freedom, resulting in a p-value of 0.0444. The probability value is less than the conventional significance level of 0.05, indicating that there is significant evidence to reject the null hypothesis of no correlation between the individual effects and the regressors. This suggests that the fixed effects model is more appropriate than the correlated random effects model. Therefore, the study would likely benefit from using the Fixed Effects model to account for unobservable time-invariant heterogeneity at the firm level and enhance the reliability of the regression estimates.

**Table 4.5: Fixed Effect Regression Result for ROA**

| Variable | Coefficient | Std. Error | t-Statistic | Prob.  |
|----------|-------------|------------|-------------|--------|
| CCC      | 0.000617    | 0.000182   | 3.390217    | 0.0018 |
| INV      | -0.000707   | 0.000585   | -1.207839   | 0.2354 |
| ACR      | 0.000302    | 0.000504   | 0.599496    | 0.5528 |
| ACP      | 2.41E-05    | 0.000151   | 0.159528    | 0.8742 |
| SIZE     | -0.216673   | 0.111844   | -1.937284   | 0.0611 |
| LEV      | -0.125150   | 0.086074   | -1.453976   | 0.1551 |
| C        | 1.876093    | 0.879973   | 2.131989    | 0.0403 |

R-squared: 0.636708, R<sup>2</sup> Adjusted 0.476432, F-statistic: 3.972577, Prob of F-statistic = 0.000419, Durbin-Watson stat = 2.871085

The fixed effect regression results presented in Table 4.5 offer valuable insights into the relationship between Working Capital Management (WCM) variables and the profitability of listed consumer goods companies in Nigeria, measured by Return on Assets (ROA).

The positive and significant coefficient of 0.000617 for the Cash Conversion Cycle (CCC) in the regression analysis (tStatistic: 3.390217, Prob: 0.0018) suggests a notable association between the lengthening of the cash conversion cycle and increased profitability, as measured by Return on Assets (ROA). This finding implies that companies effectively managing their cash conversion cycle, which includes the time taken to convert inventory and receivables into cash, tend to exhibit superior financial performance. A longer cash conversion cycle indicates that a company takes more time to convert its investments in inventory and receivables into cash, but the positive coefficient suggests that this deliberate

approach is linked to higher ROA. This interpretation aligns with the notion that a careful and strategic management of working capital components can positively impact a firm's overall financial health and profitability. The positive and significant coefficient for the Cash Conversion Cycle (CCC) in the study is consistent with the conclusions of Yeboah & Kjærland (2024), highlighting the significance of dynamic working capital management for improving operational efficiency and overall financial performance. The findings from Scandinavia provide further support to the idea that a strategic and dynamic approach to handling cash in accounts receivable, inventory, and accounts payable is associated with increased cost savings and superior overall performance. This alignment underscores the universal relevance of effective working capital management practices, emphasizing the pivotal role of prudent cash management in different components of the working capital cycle. The positive relationship observed in the study underscores the value of meticulous cash conversion cycle management for businesses seeking to optimize financial health and operational effectiveness.

The negative and statistically insignificant coefficient of  $-0.000707$  for Inventory Turnover (INV) in the regression analysis (t-Statistic:  $-1.207839$ , Prob:  $0.2354$ ) implies that alterations in inventory turnover do not have a discernible impact on Return on Assets (ROA) for the listed consumer goods companies under study. This finding suggests that fluctuations in how efficiently these companies manage their inventory, as measured by inventory turnover, may not be a critical determinant of their profitability. The lack of statistical significance indicates that the relationship between inventory turnover and ROA is not robust enough to draw meaningful conclusions. Therefore, while effective inventory management is generally considered important for operational efficiency, the specific changes in inventory turnover may not be a decisive factor influencing the profitability of the examined consumer goods companies. The results pertaining to Inventory Turnover (INV), showing a negative and statistically insignificant coefficient, resonate with existing literature. Okphiabehle, Ibitomi, Dada & Micah (2022) contribute to this understanding by highlighting the nuanced nature of the relationship between inventory management variables and Return on Assets (ROA). Specifically, their emphasis on the Inventory Turnover Ratio (ITR) aligns with the present study's finding of an insignificant association between INV and ROA. Such consistencies across studies underline the complexity and variability in the impact of inventory management practices on profitability. These findings caution against broad generalizations and underscore the need for a detailed examination of specific inventory-related metrics when assessing their influence on a firm's financial performance.

The positive and statistically insignificant coefficient of  $0.000302$  for Accounts Receivables (ACR) in the regression analysis (t-Statistic:  $0.599496$ , Prob:  $0.5528$ ) suggests that variations in accounts receivables do not have a statistically significant impact on Return on Assets (ROA) for the listed consumer goods companies in the study. This finding indicates that changes in how efficiently these companies manage their accounts receivables, representing the credit extended to customers, may not be a critical factor influencing their profitability. The positive and statistically insignificant coefficient of  $2.41E-05$  for Accounts Payables (ACP) in the regression analysis (t-Statistic:  $0.159528$ , Prob:  $0.8742$ ) indicates that alterations in accounts payables are not statistically associated with changes in Return on Assets (ROA) for the listed consumer goods companies in the study. This implies that variations in how efficiently these companies manage their accounts payables, representing the outstanding amounts owed to suppliers, may not be a significant driver of changes in profitability. The results concerning Accounts Receivables (ACR) and Accounts Payables (ACP) in the study, both featuring positive and statistically insignificant coefficients, are consistent with observations from various studies. Ogunlade, Ikpefan & Onibudo (2023), for instance, propose that alterations in the management of accounts receivables and payables may not wield substantial influence over the financial performance of consumer goods companies. These findings collectively contribute to a growing body of evidence suggesting that, while accounts receivables and payables are crucial components of working capital management, their individual variations may not be robust determinants of a firm's overall financial success. The nuanced and context-dependent nature of the relationship between these working capital components and financial performance emphasizes the importance of considering industry-specific factors and organizational contexts in such analyses.

The negative and marginally significant coefficient of  $-0.216673$  for Firm Size (SIZE) in the regression analysis (tStatistic:  $-1.937284$ , Prob:  $0.0611$ ) implies a potential influence of company size on Return on Assets (ROA) for the listed consumer goods companies in the study. The negative sign suggests that, on average, larger-sized companies may experience slightly lower profitability. However, it's important to note that the statistical significance is marginal (Prob:  $0.0611$ ), indicating that the relationship is not highly robust. While the specific impact of firm size on ROA may not be decisively established, the negative coefficient suggests a direction for further investigation into the nuanced relationship between company size and profitability in the context of consumer goods firms in Nigeria. The negative and marginally significant coefficient of  $-0.125150$  for Leverage (LEV) in the regression analysis (t-Statistic:  $-1.453976$ , Prob:  $0.1551$ ) implies a potential association between higher leverage and slightly lower profitability for the listed consumer goods companies in the study. The negative sign suggests that, on average, firms with higher leverage may experience a decrease in Return on Assets (ROA). The model's R-squared value of  $0.636708$  indicates that approximately 64% of the variability in ROA is explained by the included variables. The adjusted R-squared of  $0.476432$  suggests that when accounting for

the number of predictors, the model still explains a substantial proportion of the variance. The F-statistic of 3.972577 with a p-value of 0.000419 indicates that the overall model is statistically significant. The outcomes pertaining to Firm Size (SIZE) and Leverage (LEV) in the study, characterized by negative and marginally significant coefficients, align with existing literature. Kofi Amponsah-Kwatiah and Michael Asiamah (2021) observe that firm size may indeed have a positive impact on profitability, but the relationship is not consistently highly significant. This emphasizes the nuanced nature of the association between firm size and profitability, suggesting that while larger-sized companies may, on average, experience slightly lower profitability, the statistical significance of this impact is marginal. Similarly, the marginally significant negative coefficient for Leverage resonates with insights from Vural, Sokmen, and Cetenak (2013), supporting the notion that higher leverage might be linked to a modest decrease in profitability. These findings collectively contribute to the understanding that the impact of firm size and leverage on profitability is context-dependent and underscores the need for comprehensive analyses that consider various contextual factors and industry-specific dynamics.

## 5.0 CONCLUSION AND RECOMMENDATIONS CONCLUSION

In conclusion, the results of the study provide valuable insights into the complex relationship between Working Capital Management variables and the profitability of listed consumer goods companies in Nigeria, as measured by Return on Assets. The positive and significant coefficient for the Cash Conversion Cycle underscores the importance of strategic and dynamic cash management in different components of the working capital cycle. Effective management of the cash conversion cycle, including inventory and receivables, is associated with superior financial performance. However, the negative and statistically insignificant coefficients for Inventory Turnover and Accounts Receivables and Accounts Payables suggest that fluctuations in inventory efficiency and variations in accounts receivables and payables may not be robust determinants of profitability for the examined consumer goods companies. Furthermore, the negative and marginally significant coefficients for Firm Size and Leverage imply that, on average, larger-sized companies may experience slightly lower profitability, and higher leverage might be associated with a modest decrease in profitability. The study's implications highlight the importance of prudent cash management and emphasize the need for consumer goods companies to tailor their working capital management strategies based on specific industry characteristics and organizational contexts. These findings contribute to the growing body of evidence on the intricate relationship between working capital management and profitability, offering valuable insights for financial decision-makers in the consumer goods sector in Nigeria.

## RECOMMENDATIONS

Based on the fixed effect regression results examining the relationship between Working Capital Management (WCM) variables and the profitability of listed consumer goods companies in Nigeria, the following recommendations can be made:

1. Companies should focus on effectively managing their cash conversion cycle, including inventory and receivables, as a deliberate approach to lengthening the cycle is associated with increased profitability, as measured by Return on Assets (ROA). This aligns with the notion that strategic working capital management positively impacts financial health.
2. While effective inventory management is generally important, specific changes in inventory turnover may not be a decisive factor influencing profitability. Companies should recognize that fluctuations in inventory efficiency, as measured by inventory turnover, may not be statistically significant in determining ROA.
3. Changes in how efficiently companies manage accounts receivables and payables may not be statistically significant factors influencing profitability. The nuanced and context-dependent nature of these relationships emphasizes the importance of considering industry-specific factors and organizational contexts.
4. The negative and marginally significant coefficient for Firm Size suggests that, on average, larger-sized companies may experience slightly lower profitability. Further investigation into the nuanced relationship between company size and profitability in the context of consumer goods firms in Nigeria is recommended.
5. The marginally significant negative coefficient for Leverage implies a potential association between higher leverage and slightly lower profitability. Companies should consider the impact of leverage on profitability and conduct comprehensive analyses considering various contextual factors and industry-specific dynamics.

## REFERENCES

- [1] Abdullahi, A. (2020). Effect of working capital management on the profitability of listed consumer goods companies in Nigeria. *Research Journal of Finance and Accounting*, 11(18), 10.7176/rjfa/11-18-14

- [2] Adamu, Y. (2016). Effect of working capital management on the financial performance of pharmaceutical firms in Nigeria. *International Journal of Economics, Commerce and Management*, 4(4), 349-367.
- [3] Ahmad, M. (2022). Working capital management and firm performance: are their effects same in COVID 19 compared to financial crisis 2008? *International Journal of Business Studies*, 10.1080/23322039.2022.2101224
- [4] Akgün, A. (2016). The Relationship between Working Capital Management and Profitability: Evidence from Turkey. *Borsa Istanbul Review*, 10.20409/BERJ.2016217492
- [5] Akindele, J. A., & Odusina, A. O. (2015). Working capital management and firm profitability: Evidence from Nigerian quoted companies. *Research Journal of Finance and Accounting*, 6(7), 148-153. [www.iiste.org](http://www.iiste.org)
- [6] Aldboush, H. (2023). Determinants of Firm Profitability: Empirical Evidence From Jordan's Service Sector. *Business: Theory and Practice*, 24(1), 55–62. <https://doi.org/10.3846/btp.2023.18623>
- [7] Aldubhani, M. A. Q. (2022). Impact of working capital management on profitability: evidence from listed companies in Qatar. *Journal of Money and Banking*, 3(2), 120–139. <https://doi.org/10.1108/jmb-08-2021-0032>
- [8] Alsulayhim, N. (2019). The Relationship between Working Capital Management and Profitability. *International Business Research*, 10.5539/IBR.V12N8P142
- [9] Altaf, N. (2017). Working capital management, firm performance and financial constraints: Empirical evidence from India. *Asia-Pacific Journal of Business Administration*, 10.1108/APJBA-06-2017-0057
- [10] Amponsah-Kwatiah, K. and Asiamah, M. (2021). Working capital management and profitability of listed manufacturing firms in Ghana. *International Journal of Productivity and Performance Management*, 1-21: DOI 10.1108/IJPPM-02-2020-0043
- [11] Anton, S. (2020). The Impact of Working Capital Management on Firm Profitability: Empirical Evidence from the Polish Listed Firms. *Journal of Risk and Financial Management*, 13(1), 9. <https://doi.org/10.3390/jrfm14010009>
- [12] Athambawa, J. (2015). Effects of working capital management on firm profitability: Empirical evidence from Sri Lanka. *Int. J. Managerial and Financial Accounting*, 7(1), 26-37.
- [13] Bakare, T. O. (2023). Working capital management and firms' profitability in emerging markets: the case of Nigeria listed consumer goods companies. *Journal of Economics and Business*, 11(2), 10.17687/jeb.v11i2.1063
- [14] Baker, H. (2019). Working capital management: evidence from Indian SMEs. *Economic Change and Restructuring*, 10.1080/13215906.2019.1624386
- [15] Dewi, V. (2019). The Impact of Macroeconomic Factors on Firms Profitability (Evidence From Fast Moving Consumer Good Firms Listed on Indonesian Stock Exchange). *Journal of Economic Studies*, 1(1), 20–35. <https://pubmed.ncbi.nlm.nih.gov/null>
- [16] Dewi, V. (2019). The Impact of Macroeconomic Factors on Firms Profitability (Evidence From Fast Moving Consumer Good Firms Listed on Indonesian Stock Exchange). <https://pubmed.ncbi.nlm.nih.gov/null>
- [17] Ighosewe, E. F. (2022). Working capital management and corporate performance of quoted consumer goods sector in Nigeria: a panel data approach. *Journal of Finance*, 9(3), 27-39. DOI: 10.9734/ajeba/2022/v22i930592
- [18] Iqbal, A. (2023). Unveiling The Effectiveness of Working Capital Management on Firm Performance: The Moderating Role of Firm Size. *Journal of Business and Financial Affairs*, 10.52223/5022301
- [19] Islami, X. (2019). Barriers Hindering the Entry of New Firms to the Competitive Market and Profitability of Incumbents. *Management Journal of Contemporary Management Issues*, 24(2), 9–28. <https://doi.org/10.30924/mjcmi.24.2.9>
- [20] Islami, X. (2019). Barriers Hindering the Entry of New Firms to the Competitive Market and Profitability of Incumbents. *Mediterranean Journal of Social Sciences*, 10(2), 9–16. <https://doi.org/10.30924/mjcmi.24.2.9>
- [21] Iyalla, O. M. (2023). Financial performance and working capital management practices of Nigeria's consumer goods manufacturing firms. *International Journal of Accounting and Management*, 4(9), 11-21. 10.37394/23207.2023.20.201
- [22] Jabbouri, I. (2022). Working capital management and firm performance nexus in emerging markets: do financial constraints matter? *Journal of Economic and Administrative Sciences*, 10.1108/jeas-01-2022-0010
- [23] Khazaei, M. (2020). Relationship of profitability of world's top companies with entrepreneurship, competitiveness, and business environment indicators. *Applied Economics Letters*, 28(15), 1242–1246. <https://doi.org/10.1080/00036846.2020.1859455>
- [24] Khazaei, M. (2020). Relationship of profitability of world's top companies with entrepreneurship, competitiveness, and business environment indicators. *Applied Economics*, 53(58), 6623–6639. <https://doi.org/10.1080/00036846.2020.1859455>
- [25] Kipronoh, P. (2018). Overview of Working Capital Management: Effective Measures in Managing Working Capital Components to Entrepreneurs. *International Journal of Economics, Commerce and Management*. 12(4), 16-25
- [26] Konak, F., & Güner, E. N. (2016). The impact of working capital management on firm performance: An Empirical Evidence from the BIST SME industrial index. *International Journal of Trade, Economics and Finance*, 7(2), 56-64

- [27] Konak, F., & Güner, E. (2016). The Impact of Working Capital Management on Firm Performance: An Empirical Evidence from the BIST SME Industrial Index. *International Journal of Trade, Economics and Finance*, 7(2), 38-43.
- [28] Kumar, A. (2012). Study and analysis of working capital management in the current business scenario. *Journal of Finance and Accountancy*, 10.15373/22778179/NOV2012/44
- [29] Látečková, A. (2022). Financial accounting and working capital management. *Proceedings of the International Scientific Conference on Information Systems and Management Science*, 10.15414/isd2022.s1.09
- [30] Loo, P.-Y. (2019). Key components of working capital management: Investment performance in Malaysia. *Management Science Letters*, 10.5267/j.msl.2019.7.010
- [31] Myers, S. C. (1977). Determinants of Corporate Borrowing. *Journal of Financial Economics*, 5(2), 147–175. [https://doi.org/10.1016/0304-405X\(77\)90015-0](https://doi.org/10.1016/0304-405X(77)90015-0)
- [32] Ngbomowa, M. J. (2023). Working capital management and profitability of listed industrial goods companies in Nigeria. *Journal of Accounting and Financial Management*, 9(7), 10.56201/jafm.v9.no7.2023.pg97.114
- [33] Nur, T. (2023). Gender Diversity and Firm Profitability, before and during the Covid-19 Pandemic. *Proceedings of the International Conference on Cybernetics and Management*, 100–110. <https://doi.org/10.1109/CyMaEn57228.2023.10051029>
- [34] Nur, T. (2023). Gender Diversity and Firm Profitability, before and during the Covid-19 Pandemic. In *2023 3rd Cybernetics and Mathematics in Intelligent Systems Conference (CMIS)* (pp. 1–5). IEEE. <https://doi.org/10.1109/CyMaEn57228.2023.10051029>
- [35] Ogunlade, T. S., Ikpefan, A. O., & Onibudo, G. O. (2023). Working capital management on financial performance of listed consumer goods firms in Nigeria (2003-2020). *Journal of Management Sciences*, 5(7), 12-27
- [36] Ogunsola, A. (2022). Impact of working capital management on financial performance of quoted consumer goods sector in Nigeria. *British Journal of Marketing Management*, 10.52589/bjmms-tt6fyalf
- [37] Okphiabhele, E., Ibitomi, T., Dada, D. A., & Micah, E. E. M. (2022). Working Capital Management and Profitability of Industrial Goods Sector in Nigeria. *European Journal of Accounting, Auditing and Finance Research*, 10(5), 74-90.
- [38] Olabisi, J. (2021). Does working capital management affect the profitability of consumer goods manufacturing firms in Nigeria? *Journal of Humanities, Social Sciences and Creative Arts*, 15(1), 10.51406/jhssca.v15i1.2091
- [39] Olabisi, J. (2021). Does working capital management affect the profitability of consumer goods manufacturing firms in Nigeria? *Journal of Humanities, Social Sciences and Creative Arts*, 15(1), 10.51406/jhssca.v15i1.2091
- [40] Palombini, N. V. N. (2012). Key factors in working capital management in the Brazilian market. *Revista de Administração*, 10.1590/S0034-75902012000100005
- [41] Panda, A. K. (2018). Working capital financing and corporate profitability of Indian manufacturing firms. *Managerial Finance*, 44(8), 995-1011. <https://doi.org/10.1108/MD-07-2017-0698>
- [42] Panigrahi, A. (2013). Working capital management and firms' performance: an analysis of selected Indian cement companies. Retrieved from <https://pubmed.ncbi.nlm.nih.gov/null>
- [43] Pham, K. X., Nguyen, Q. N., & Nguyen, C.V. (2020). Effect of working capital management on the profitability of steel companies on Vietnam stock exchange. *Journal of Asian Finance Economics and Business*, 7, 741-750.
- [44] Sathyamoorthi C. R., Mogotsinyana, M., & Popo, S. (2018). The impact of working capital management on profitability: evidence from the listed retail stores in Botswana. *Applied Finance and Accounting*, 4(1), 82-94
- [45] Srinivas, B. G. (2023). A study on working capital management” at Musashi, auto parts India PVT Ltd, Doddaballapur. *International Journal of Scientific Research in Engineering and Management*, 10.55041/ijrsrem26672
- [46] Sudiyatno, B. (2020). Determinants of Firm Value and Profitability: Evidence From Indonesia. *Journal of Asian Finance, Economics and Business*, 7(11), 769–778. <https://doi.org/10.13106/jafeb.2020.vol7.no11.769>
- [47] Umar, I. A. (2023). Working Capital Management and Firm Profitability: An Empirical Review. *Management and Accounting Journal of Research*, 3(3), 120–139. <https://doi.org/10.54741/mjar.3.3.2>
- [48] Upreti, D. R. (2022). A Theoretical Review on Factors of Working Capital Management. *Nepal Journal of Management Research*, 10.3126/njmr.v5i3.47359
- [49] Upreti, D. R. (2022). A Theoretical Review on Factors of Working Capital Management. *Nepal Journal of Management Research\**, 10.3126/njmr.v5i3.47359
- [50] Uyar, M. (2014). A Research on Total Cost of Ownership and Firm Profitability. *Journal of Financial Management*, 3(5): 11-24
- [51] Vural, G., Sokmen, A., & Cetenak, E. (2013). Affects of Working Capital Management on Firm's Performance:Evidence from Turkey. *International Journal of Economics and Financial Issues*, 2(4), 488-495.
- [52] Yeboah, S. and Kjærland, F. (2024). Impact of dynamic working capital management on operational efficiency: empirical evidence from Scandinavia", *Managerial Finance*, Vol. ahead-of-print No. ahead-ofprint. <https://doi.org/10.1108/MF-09-2023-0582>

- [53] Yusoff, H. (2018). The relationship between working capital management and firm performance. *Advanced Science Letters*, 10.1166/ASL.2018.11351
- [54] Yusoff, H., Kamilah, A., Ong, Y. Q., & Shafie, M. Z. (2018). The relationship between working capital management and firm performance. *Advanced Science Letters*, 24, 3244–3248.
- [55] Zhu, N. (2019). Corporate Tax Avoidance and Firm Profitability. *Eurasian Journal of Business and Economics*, 15(7), 61. <https://doi.org/10.19044/ESJ.2019.V15N7P61>
- [56] Zouaghi, F. (2017). What drives firm profitability? A multilevel approach to the Spanish agri-food sector. *Spanish Journal of Agricultural Research*, 15(3), e010713. <https://doi.org/10.5424/SJAR/2017153-10713>
- [57] Zouaghi, F. (2017). What drives firm profitability? A multilevel approach to the Spanish agri-food sector. *Spanish Journal of Agricultural Research*, 15(3), e0704. <https://doi.org/10.5424/SJAR/2017153-10713>