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WORKING CAPITAL MANAGEMENT AND PROFITABILITY OF LISTED CONGLOMERATES IN NIGERIA

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Abstract

Every company's long-term viability is primarily based on its ability to manage its working capital in an effective manner. Listed Nigerian conglomerates' profitability was compared to their working capital management practices in this study. Secondary data from twenty-one conglomerates' financial reports (2011–2020) was used to meet this goal. Return on asset was used to assess the profitability and firm size was employed as the control variable, the working capital was proxied by accounts receivable period, cash conversion cycle, and inventory conversion period. Descriptive statistics, correlations, and regression analyses were used to examine the collected data. Account receivable days positively and significantly affect return on assets, whereas inventory days were found to have a negative and significant impact on return on assets, and accountable payable days were shown to have a significant negative impact on return on assets, as shown in the results. Control variables are also statistically significant in predicting asset return. The study therefore recommends that, Nigerian conglomerates should implement strategies to improve their financial performance by efficiently managing their working capital.

Keywords: Accounts Payable, Accounts Receivable, Conglomerates, Profitability, Working Capital Management

1. Introduction

A company's ability to generate working capital has been considered a long time asmain indicator of its success. "The manner in which working capital is managed by a company has a major impact on the profitability of the organisation," claims Deloof (2003). Prioritizing receivables over liabilities is a strategy employed by less profitable companies to avoid tying up excess capital. Businesses, according to the findings of Lazaridis and Tryfonidis (2006). Managers can change the profitability of a company by focusing on each of these factors. According to Charitou, Lois, and Santoso (2012) research, a company's profitability improves if its working capital is properly managed.

To achieve the best possible working capital balance, businesses need to keep an eye on the overall trends to identify zones that need more rigorous control. All the company's working capital can be tracked using a variety strategies and tactics tailored to this purpose and objective.
Resources that can be easily adapted to meet the needs of a rapidly changing business environment are essential in today's competitive marketplace. It is difficult to run a manufacturing business in Nigeria because of a difficult operating environment and ineffective leadership. Incumbent firms have been hampered by high interest rates on bank loans and other adverse economic conditions in Nigeria (Salawu & Alao, 2014). Adding insult to injury, there is a lack of management expertise. Managerial skills are essential for long-term success in today's tough and competitive business environment.

Polycarp and Nathan (2016) discovered that most business owners and managers place more importance on increasing inventory turnover than they do on speeding up the collection of accounts receivable and deferring the payment of accounts payable.The working capital management theory stresses the importance of balancing the various components for competitiveness, performance, and long-term survival. Several studies have looked at the connection between working capital management and overall financial success. Kasozi and Hassan and Hassan and Mberia (2017) have all published papers on the topic. Working capital management trade-offs can have short-term financial consequences, but the long-term impact is overlooked in this research. Working capital management is known to be influenced by financial

performance. The remainder of the study consists of sections two (literature review), three (methodology), four (results and discussions), and five (conclusion and recommendations).

2 Literature Review

Concept of Working Capital Management

Working Capital Management is a concept that has been around for a long time (WCM) Generally speaking, working capital refers to the portion of a company's capital that is required for financing short-term or current assets such as cash and marketable securities, debt obligations, and inventories (Ahmed, 2016).

Onaolapo and Kajola (2015) divided working capital into gross and net working capital, respectively. Profitable companies have a positive net working capital, whereas companies with negative net working capital are those that have invested their current assets rather than paid off their debt.

According to Kazi (2015), working capital management is the process by which an organisation decides how to use its current assets and liabilities in its day-to-day operations. By planning and controlling both current assets and liabilities, it may be possible to mitigate the risk of being unable to meet short-term obligations and to avoid overinvesting in current assets.

There are numerous types of working capital management, but according to this study, it is the deliberate action of corporate management to maintain a healthy balance between inventory and cash, accounts receivables and debt in a manner that benefits the business.

Concept of Financial Performance

Financial performance is defined by Abdul-Khadir et al. (2020) as the increase in an organization's earnings (profit), appreciation (value), and share price growth. A number of metrics can be used to gauge a company's performance in manufacturing, including net profit, annual revenue, return on equity, and others (ROE). Indicators of profit and investment performance are the two broad categories under which these metrics fall. To measure a company's profitability, subtract its revenues from its costs.

2.1 Empirical Review

Ofunya (2015) conducted a study to assess the connection between working capitalmanagement and profitability of five cement firms in Kenya. The respondents for the study were the heads of finance, which was a deliberate sample selection. According to the study's findings, effective working capital management boosts profitability. As a result, there is a negative relationship between the measure of working capital management (cash debt-to-credit ratio and credit-to-debt ratio) and each cement company's profitability variable's function.

Mwangi (2013) looked at the five-year relationship between working capital management and financial performance of manufacturing companies listed on the NSE between 2007 and 2011 in his study. According to the research, inventory turnover in days has an inverse correlation with Return on Equity (ROE). It also found a significant negative correlation between return on equity and the time it takes to convert cash to net payment and net payment. This study examined the average collection period. Demands, inventory turnover period, the average payment period, cash conversion period, current ratio, and debt ratio. In addition, it didn't examine whether there was an independent increase or decrease in the company's assets, current liabilities, and current liabilities-to-total assets ratio, as well as whether the liabilities/total liabilities ratio has any effect on the company's profits.

Abbasali and Milad (2012) examined the impact of working capital management on company profitability and market valuation on the Tehran Stock Exchange. They looked at firms listed on the Tehran Stock Exchange from 2006 to 2010. A company's market value was determined by the Tobin Q ratio, which used return on assets and return on invested capital ratios to determine profitability. Aside from that, they used working capital management metrics like the cash conversion cycle and the current ratio. The study found a link between working capital management and profitability. They also found no significant link with the criterion of company market value. They also discovered that reducing the cash conversion cycle and total debt to total asset ratio can increase profitability. Their empirical analysis looked at the relationship between current assets

and liabilities and total assets and liabilities. However, they failed to segment the data by industry. As previously stated, each industry is distinct, so what benefits one industry may not benefit another.

Napompech (2012) reached a similar conclusion after researching Thai stock market companies. Decreased CCC can increase profitability. In contrast, Charitou et al. (2012) found a positive relationship between working capital management and company profitability in Asia (Charitou et al. 2012). (ROA). It is rare to find research on the impact of working capital management on firm performance in Vietnam.

Ani et al. (2012) investigated how working capital management affects profitability, they used the world's top five beer brewers as a group of people. Because working capital management is important, they looked at the cash conversion cycle (CCC). They looked at how each part of the CCC affects the profitability of world-class beer-brewing businesses as a measure of working capital management. Multiple regression models were used to look at a cross-sectional time series of data. Managing working capital, which is shown by cash conversion cycles, sales growth, and shorter debtors' collection periods, affects the profitability of beer brewing businesses, according to the findings of the study. His research primarily looked at the turnover ratios of inventory, payables, and receivables, but not how many of these things there were or how big they were compared to the total assets and liabilities of the company. Results may not be the same for all manufacturing companies because the study only looked at the top five global bear companies. If you read this, you should know that this study doesn't show how African manufacturing companies do.

Tewodros (2010) investigated the effect of inventory turnover management on the profitability of 11 sampled private manufacturing firms in Ethiopia from 2005 to 2009. The findings, based on descriptive statistics, show that firms took an average of 314 days to sell inventory. According to the findings, a longer inventory turnover period is also associated with lower profitability. In Makori and Jagongo (2013), similar results were discovered, as did Iqbal and Zhuquan in Pakistan (2014).

Working Capital Management and Financial Performance

To grow and profit, any company needs to manage working capital. Working capital requirements can complicate an organization's operations. Insufficient working capital hinders any organization's success. Working capital management is vital for businesses because it impacts their ability to pay bills and make money (Raji, Adebayo Folarin, 2017).

Kombo and Wekesa (2017) state that effective working capital management requires two decisions: determining an appropriate level of current asset investment and selecting appropriate financing methods. They also remind investors that current assets and working capital represent a trade-off between profitability and risk. When things go wrong, taking on too much risk can hurt your bottom line, as can taking on too little risk.

Working capital management affects a company's profitability. The ultimate goal of any company is to maximise shareholder wealth, but maintaining liquidity is also critical. Increasing earnings at the expense of liquidity can jeopardise a company's financial health (Raji, Adebayo & Folarin, 2017). To remain a going concern, a company must strike a balance between liquidity and profitability. Profits over liquidity can lead to insolvency and eventually bankruptcy, forcing a company to close. Without revenue, the company's goal of increasing its value is impossible. This is why working capital management is important, as it will eventually impact a company's profitability.

The proportion of current assets in the overall asset pool is found to be detrimental to financial performance, while the proportion of existing debt to total debt is beneficial. Working capital management is crucial to a company's overall success. The efficient use of working capital components is crucial to an organization's overall corporate strategy aimed at increasing shareholder wealth. Matthews (2010) claims that optimising working capital has a significant impact on overall business performance. Cash, accounts receivable, accounts payable and inventory management can help firms increase profits and revenues, according to Ajayi, Abogun and Odediran (2017)

Specifically, the following subsections explore the link between working capital management and financial performance.

Accounts Receivable Management and Financial Performance

According to Erik (2017) Customers who owe money due to credit sales are called accounts receivable. As a result, when a company sells items on credit, it accumulates accounts receivable. Clearly, credit sales result in receivables management. Credit sales are intended to increase market share and, if possible, improve production capacity utilisation efficiency. The business will perform better if the benefits of credit sales outweigh the costs of credit sales (Abbas & Isiaka,2021).

A company's credit policy influences how it manages its accounts receivable. Investing in accounts receivable (debtors) requires a return greater than the required return. Uncollectible debts and debtor delinquencies are the most significant risks associated with giving credit, reducing the returns on investment in accounts receivable and negatively impacting the organization's financial performance if not properly managed (Daniya, Abdulrahma, Baba, &Kolo, 2018).

The debtors' collection period has been used as a proxy in literature for receivables management. It is the time it takes for customers who bought goods or services on credit to pay their debts. 365 days is the average number of days in a year, which is commonly used to calculate the debtors' collection period (Yahaya, 2016). Average days to collect consumer payments (Erik, 2017). Scholars have concluded that the firm's financial performance improves as debtor collection time decreases.

Desperate to improve their liquidity and profitability, many businesses have devised strategies to reduce debtor collection times (Eya, 2016). So far, research on the relationship between debtor collection period and firm financial performance has yielded conflicting conclusions.

Working capital management has a substantialbearing on the profitability of publicly traded companies in Thai, according to Kulkanya (2012) research. A total of 255 Thai stock market companies were studied between 2007 and 2009. They found a adverse relationship between inventory conversion time, gross operating profits, and receivables collection time. Increased payables deferral period does not increase business profitability.

Accounts Payable Management and Financial Performance

Daniya et al (2018) define accounts payable as short-term obligations. To maximise cash flow, companies strive to maintain good credit ratings with suppliers and creditors. All these things should be considered before using supplier credit: alternative sources of financing; discounts; credit limits; public image in terms of credit rating; transaction costs; administrative expenses; information costs; and control costs; the value of the relationship with creditors; purchasers' buying power; credit terms; stability; and general supplier practises. This is a list of things to think about before using supplier credit:

Optimal working capital is required to stretch accounts payable (Ismail et.al. 2020). Creditors will tolerate this if the company follows their rules (Payne, 2015). For ethical, legal, and economic reasons. If management decides to stretch accounts payable, it must calculate the costs to determine the maximum stretching time. If delaying payments is impractical due to concerns about the firm's future reputation and credit standing, then cash outflows must be carefully controlled (Daniya, Abdulrahma, Baba & Kolo, 2018). When company fails to mature, it may face increased litigation and decreased productivity. Inevitably, this will affect finances. Sulaiman, Abdu, and Khalid (2019), and Yahaya (2016) found a negative relationship between creditors' payment period and profitability.

Inventory Management and Financial Performance

For efficient operations and sales, inventory management affects the raw materials, work in progress(WIP), and finished goods levels and structures (Kwadwo, 2015). If you're going to keep inventory for purchasing, production, and marketing, you're going to have to keep it as cheap as possible, according to Hampton and Wagner (1989). Changes in inventory levels or the way management acquires inventory will have an impact on working capital

management (Vipulesh, 2015). A company's sales and revenue are directly influenced by inventory management. Low inventory levels can lead to stock outs, which can lead to a drop in sales. The large sums of money locked up in expensive inventory, on the other hand, can lead to a lack of investment opportunities or high short-term financing costs (Boopathi& Leeson, 2016). To put it another way: inventory management has the potential to maximise profit for businesses according to AbdulrasheedKhadijat Sultan Olanrewaju (2011). Profit maximisation is only possible if costs are low and revenue is high, according to the authors, which can only be achieved by avoiding overstocking.

To determine how much inventory a company should buy, there are four distinct management viewpoints (Kallberg& Parkinson, 1984). The marketing manager must ensure that no customer is turned away or forced to wait due to a lack of finished goods. Large quantities of raw materials and work in progress are also sought after by production managers because they allow workers to focus on continuous production runs that minimise set-up, changeover, and spoilage costs over longer production runs.

Cash Management and Financial Performance

The term "cash" refers to the sum of cash available to cover daily running expenses. Cash is a business's most liquid asset (Erik, 2017). Cash management's objective is to determine and achieve the appropriate level and structure of cash in relation to the nature of the business's operations and objectives. Managing cash and cash equivalency effectively requires striking an optimal balance between the risk of insolvency and the costs associated with maintaining excessively high levels of cash. Both the motivation and the appropriate level of cash must be established and monitored in order to achieve and maintain this dynamic equilibrium. Cash management, as a subset of working capital management, is frequently referred to in the literature as the cash conversion cycle.

According to Daniya, Abdulrahma, Baba, and Kolo (2018), the cash conversion cycle is the number of days between when a company pays its debts and when it gets paid back. CCC can be calculated like this: Average receivables + average inventories - average payables = CCC = average receivables - average payables. Depending on how the company collects money from customers, accounts receivable accounting can change. This is because the company's credit collection policies affect how often and how long customers must pay.

2.2 Theoretical Framework

The value of good working capital management has been hotly debated. Accordingly, the current research paradigm incorporates theories such as stakeholder and agency theories as well as working capital management theory

Stakeholders Theory

Freeman (1984) described stakeholder groups as critical components of the organisation to consider. Another idea put forth by Freeman is re-engineering theoretical perspectives in order to incorporate the various stakeholder groups. Stakeholders are "any community or person who may influence or be influenced by the achievement of the organization's objectives," according to Freeman (1984). Effective organisations focus on all relationships that influence or are affected by the achievement of their purpose. That is, stakeholder management is a pragmatic idea.

As a result, they expect to receive value for money and satisfactory services in return. Those who manufacture goods for a business, such as a supplier, are entitled to reasonable terms and a steady stream of business. Stakeholders typically have varying stakes in a company. When it comes to an individual's stake in the company, it is determined by how much he has invested in the company's relationships and commitments, which are based on specific assets (Williamson, 1984).

Agency Theory

This is when there are a lot of shareholders and control is separate from ownership. It doesn't matter if people in power don't own shares, but they might be very good at running things. In this theory, we look at how owners and managers work together and how the goal of maximising owner returns is met, as well as how this happens. The relationship between corporate finance suppliers and the people who run the company is called the "agency relationship" (Bebeji, Mohamed, &Tanko, 2015). Aminu and Zainudin (2015), say

that agency is "a contract in which one or more people (the principals) hire another person (the agent) to do some work on their behalf, giving the agent some decision-making power."

Financial managers, who are often agents for the company's owners (principals), are often in charge of working capital management. They make all the important decisions about short-term assets and liabilities for the company. This shows that agency theory is important for working capital management. This person oversees making decisions about a company's receivables and payables, as well as its inventory, stock, and debts. It's also important to note that the relationship between a company and its stakeholders is a symbiotic one, which means that the company gets money from its creditors in exchange for repaying them on time. Customers Firms will get their money if you give them your money. In return, you should get value for your money and good service. Suppliers are people who make things for the company, so they expect fair prices and steady customers. It's common for different people to have different stakes in businesses. A person's stake is based on how much money they have, his relationship and commitments to the company, which are based on specific investments in the company (Williamson, 1984).

Working Capital Management Theory

In 2004, Smith came up with this theory. According to WCM theory, managers should strive for optimal levels of working capital and make rapid changes in these optimal levels (CCC) using the cash conversions cycle.). Using these cycles, businesses can see immediately how much working capital they will need in the future. The "cash conversion cycle" refers to the time it takes from the time a company pays for raw materials in cash to the time it receives the money from its accounts receivable. Financial position and income statement data are incorporated into the cash conversion cycle to measure liquidity in a time-based manner. Work-capital management theory is based on the CCC model developed by Brennan, Maksimovic, and Zechner (2003).

It is a prescriptive theory of working capital management that states that businesses should invest their long-term assets (fixed assets) to make the most of their short-term assets (liquid assets) and achieve better financial results as a result. This theory was chosen because it directly advocates the effective management of working capital components as a fundamental for better financial performance.

3. Methodology

This study employed an ex-post facto research design. After an independent variable occurs, the researcher examines the dependent variable to determine if there are any possible connections between them. As a result, this research design was selected. As a result, this is consistent with the study's objectives.

The study population included all 21 consumer goods companies that were listed on the Nigerian Exchange (NGX) as of December 31, 2020.Secondary sources were used to compile the study's data. Data was gathered from annual reports and financial statements. Information on accounts receivable, payments due, inventory, cash, and its equivalents, and return on assets were among the details culled. The dependent variable, the independent variables, and the control variable formed the study variable.

Table 1: Study Variables and Measurement

Variables	Acronym	Measurements
Return on Asset	ROA	(PAT/TA)*100
Receivable Period	ACRP	(Rec/Sales) *365
Payable Period	ACP	(Pay/COGS) *365
Inventory Conversion Period	INCP	(Inv/COGS) *365
Cash Conversion Period	CCP	ARP+ICP-APP
Firm Size	Control	Log TA

Source: Adopted with modification from Abdul-khadir et al., (2020)

3.1 Model Specification

Regression analysis was utilized to examine the link between working capital management and performance of listed consumer goods companies operating in Nigeria. Return on Asset was used as a dependent variable and four independent variables as proxies for working capital management: ACRP, ACP, INVCP, and CCC. Firm size was added for robustness. The model adopted is as follows:

ROA = β0 + β1ACRPit + β2ACPPit + β3INVCPit + β4 CCCit + β5LogTAit +Eit .....(i)

Where:

ACRPit = Account Receivable Period of company i in year t,

ACP it = AccountPayable Period of company i in year t,

INCP it = Inventory Conversion period of company iin year t,

CCC it = Cash Conversion Cycle of company i in year t,

TAit= Total Assets

Eit = error term

β0 = is the intercept,

β 1 -β 5 = coefficient of independent variables, i and t company, time

Log= Natural Log.

4 Results and Discussions

4.1 Descriptive Statistics

Table 2: Descriptive Statistic

Variables	Obs	Mean	Std.Dev.	Min	Max	Skew.	Kurt.
ROA	150	11.951	10.263	-23.278	42.191	0.29	4.002
INCP	150	96.466	69.804	15.197	515.722	3.278	17.219
ACP	150	159.632	132.76	7.154	1113.777	3.26	20.763
ACRP	150	76.679	129.989	4.035	1289.997	6.507	54.952
CCP	150	13.514	136.82	-416.151	588	1.295	8.731
TA	150	38958206	6.117	388481	712293070	-0.82	2.988

Source: Researcher's Computation, 2022

Table 2 displays the descriptive statistics that have been gathered over a ten-year period. There were 900 data points in total for each variable. The average ROA is 11.951, while the maximum and minimum values are 42.191 and -23.278, respectively. The disclosure index has a standard deviation of 10.263 points, which indicates that it is clustered around the mean value. A skewness of 0.29 indicates a normally distributed dataset. Kurtosis (4.002 > 3) shows that the data are evenly distributed below the mean.

As shown in Table 2, it takes a total of 3 months and 6 days to convert inventory into cash. According to the standard deviation of 69.804 around the mean value of 96.466, there are significant differences in the results of the various studies. There is no problem with the transmission of the data. Having a Kurtosis value of 17.219 indicates that the inventory conversion period of the companies is shorter than the average in the sample.

In the ACP, 7.154 is the minimum and 1113.777 is the maximum. The average payment time for credit purchases is 5 months 9 days. The standard deviation of 132.76 is lower than the mean, indicating good payment management. In this case, the skewness of 3.26 indicates a normally distributed sample, while the Kurtosis of 20.763 indicates a deviation below the sample mean of 159.632.

The ACRP has a mean of 76.679, a minimum of 4.035, and a maximum of 128997. The average collection time for credit sales is 2 months 16 days. The standard deviation of 129.989 is higher than the mean, indicating a good receivable management. Skewness of 6.507 indicates normally distributed data, while Kurtosis of 54.952 indicates the deviation is less than the sample mean of 76.679.

The CCP has a mean of 13.514 and a range of -416.151 to 588. The standard deviation of 136.82 indicates that the companies' CCPs were widely dispersed. Its skewness is

1.295, and its Kurtosis is 8.731, which means the data values are not significantly higher than the mean. The mean value of 13.514 shows that the cash conversion period is well managed.

Above all, the descriptive statistics clearly show that the sample companies studied have good working capital management.

4.2 Correlation Analysis

Table 3 displays the correlation matrices between the study's dependent (ROA) and independent (variables). The correlation matrices between independent variables are also shown in the table to check for any excessive intercorrelation.

The first section displays the correlation between the dependent and independent variables. The analysis was conducted to ensure that ordinary least square regression satisfied the linearity assumption. As shown in Table 3, the correlation coefficient between ROA and INCP was -0.283, which was found to be statistically significant at the 5% level of significance. This implies that as inventory turnover days increase, the return on assets decreases. There is a weak inverse relationship between the two variables. In terms of the correlation between ROA and ACP, the value of r=-0.176 with a p0.05 indicates a weak negative association. This implies that as accounts receivable grow, ROA will decline.

Table 3: Pairwise correlations

Variables	ROA	INCP	ACP	ACRP	CCP	TA
ROA	1.000					
INCP	-0.2831*	1.000				
ACP	-0.1758*	0.3588*	1.000			
ACRP	-0.1852*	0.4923*	0.6646*	1.000		
CCP	-0.1501	0.6291*	-0.1560	0.556*	1.000	
TA	0.1718*	-0.2291*	-0.0351	-0.334*	-0.400*	1.000

* Shows significance at the .05 level Source: Researcher's Computation, 2022

ACRP/ROA = -0.1852 and CCP/ROA = -0.1501 have weak negative correlation. Only ACRP-ROA correlation is 0.05 significant. The correlation between CCP and ROA was non-significant at the 0.05 level. Return on assets increases as accounts receivable and cash conversion cycle decrease. Finally, the dependent variable and independent variables had a linear correlation. So, the OLS linear relationship assumption holds.

Correlations between independent variables are presented in the second section. INCP/ACP =0.3588, INCP/ACRP =0.4923, INCP/CCP =0.6291, INCP/TA =-0.2291. The longer the inventory conversion cycle, the longer the accounts receivable, payable, and cash conversion period. Increasing the conversion period reduces total assets. ACP and ACRP, CCP and TA had rho = 0.665, -0.156, and -0.035, respectively. ACP and ACRP are positively correlated. This predicts that as ACP increases, so does ACRP. ACP/TA has a weak negative correlation, indicating that as ACP increased, CCP and TA decreased. The ACRP/CCP correlation was 0.556, while the ACRP/TA correlation was -0.334, indicating a weak negative correlation. The final correlation was between CCP and TA, which was shown in table 4.2 to be rho = -0.400, and significant at the 0.05 level. All correlation matrices between independent variable pairs have low intercorrelation. This eliminates multicollinearity.

4.3 Regression Analysis

This study examines four hypotheses about working capital management and financial performance of Nigerian consumer goods firms. Table 4 shows the regression results for the hypotheses tests.

Table 4: Regression Results

Variables	Pooled OLS	Fixed Effect	Random Effect
ACRP	0.039 (0.036)	0.037 (0.002)	0.034 (0.046)
ACP	-0.035 (0.010)	-0.054 (0.000)	-0.050 (0.000)
INCP	-0.035	-0.036	-0.035

	(0.010)	(0.002)	(0.002)
CCP	-0.035 (0.010)	-0.0014 (0.269)	-0.017 (0.174)
TA	0.757 (0.127)	-1.560 (0.041)	-0.643 (0.328)
Constant	3.276 (0.710)	45.278 (0.001)	28.837 (0.015)
R^2	0.101	0.214	0.016
Prob>F	4.083 (0.004)	8.899 (0.000)	27.431 (0.000)
Heteroskedasticity	1.30 (0.2547)		
VIF	5.42		
LM Test	90.69 (0.000)		
Hausman		12.166 (0.016)	

Note: the figures in parenthesis ( ) are the p-values

Source: Researcher's Computation, 2022

Since all three models have F-statistics of 4.083(0.004), 8.899(0.000), and 27.431(0.000) for pooled OLS regression, fixed and random effects, respectively, they are valid for drawing inference. The independent variables in the three models explained 10.1 percent, 21.4 percent, and 1.6 percent of the systematic variation in ROA, respectively.

The study used the Breusch and Pagan Lagrangian multiplier (LM) test for random effects to decide between pooled data and panel regression. As shown in table 4.3, the test result was 90.69 with p=0.0000.05. The panel model was preferred over the pooled model. So the study used panel data regression estimation.

The two widely used panel data regression estimation techniques (fixed effect and random effect) were used to test the cause-effect relationship between the dependent (ROA) and independent variables (ACRP, ACP, INCP, CCP). Table 4.3 shows the results of two panel data estimation methods (fixed effect and random effect). The results showed differences in coefficient magnitude, sign, and number of insignificant variables. The random effect assumes that the error term and explanatory variables are not correlated, whereas the fixed effect panel regression assumes that they are. The Hausman specification test was used to select between the two panel regression estimation results, with the random effect model being preferred over the fixed effect model. The Hausman test p-value (0.016) indicates that we should reject the null hypothesis and accept the alternative hypothesis at 1% significance. Our conclusions and recommendations should therefore be based on fixed effect panel regression results. This implies that the fixed effect results are statistically more appealing than the random effect.

The study provided the following detailed analysis for each hypothesis.

Cash Conversion Cycle and Firm Performance.

The study's initial hypothesis was that the cash conversion cycle and firm performance were not linked. ROA is negatively impacted by CCP, as seen in Table 4, with a coefficient of -0.014. (0.269). There was a statistically insignificant correlation between a unit change in cash conversion period and a 1.4 percent change in return on assets. That the cash conversion cycle has no bearing on a company's performance has long been established. Return on assets is not affected by the length of the cash conversion phase.

Account Receivable Period and Firm Performance

The second hypothesis of the study was to determine whether account receivable period affected return on non-

assets. According to table 4, ACRP's regression coefficient and p-value for working capital management were 0.037. This indicates that a change of one unit in ACRP predicts a 3.7% change in ROA. The ACRP p-value of 0.037 refutes the null hypothesis that there is no significant relationship between account receivable days and firm performance. Therefore, receivables play a significant role in determining return on assets. As was previously noted, the cash conversion period has a negligible effect on the return on assets.

Inventory Days and Firm Performance

The third hypothesis of the study posited an insignificant relationship between inventory days and company performance. The coefficient of -0.036 in Table 4 indicates that INCP appears to have a negative and statistically significant influence on ROA (0.002). The correlation between an increase in inventory conversion days and a 3.6% improvement in return on assets was statistically significant at p=0.0020.05. The association between inventory days and business performance was shown to be statistically significant, refuting the null hypothesis. The consequence is that inventory conversion days should be considered when calculating return on assets. As was previously noted, the cash conversion period has a negligible effect on the return on assets.

Accountable Payable Days and Firm Performance

The fourth and final hypothesis of was to see if account payable days affect return on assets. As shown in table 4.3, ACP had a regression coefficient of -0.054 and a p-value of 0.000 for working capital management. This means that a unit change in ACP predicts a 5.4 percent change in ROA. The null hypothesis that there is no significant relationship between account payable days and firm performance is rejected because the ACP associated p-value is 0.00005. As a result, payables are a significant determinant of return on assets. As previously observed, the cash conversion period has little impact on the return on assets.

5 Conclusion and Recommendations

According to the findings of this study, using return on assets as a proxy, the cash conversion period had no effect on the performance of the firm. The number of days in accounts receivable has an impact on the performance of a company. Inventory days had a significant negative impact on firm performance, and Account payable days also had a negative impact on firm performance, according to the findings. In conclusion, the study recommends that consumer goods companies manage their working capital efficiently and effectively. This will raise investors' expectations of future financial success, thereby increasing the value of their investments on the market. According to the findings of the study, businesses should implement strategies that will allow them to selectively select customers who will pay their bills on time.

References

Abdul-Khadir, M.I., Abdul, A., Aliyu,S.(2020) Effect of Working Capital Management on Financial Performance of Quoted Conglomerates firms in Nigeria. AE-Funai Journal of Accounting, Business and Finance. 1-14

Gill, A. S., & Biger, N. (2019) 'The Relationship between Working Capital Management and Profitability', *International Business Research*, 12(8), p. 142. doi: 10.5539/ibr.v12n8p142.

Aminu, Y. & Zainudin, N. (2015). A review of anatomy of working capital management theories and the relevant linkages to working capital components: A Theoretical Building Approach. *European Journal of Business and Management*, 7(2), 10-18

Akoto, R. K., Awunyo-Vitor, D., & Angmor, P. L. (2013). Working capital management and profitability: Evidence from Ghanaian listed manufacturing firms. Journal of Economics and International Finance, 5(9), 373-379.

Abdulrasheed, A., Khadijat, A. Y., Sulu, B. I., & Olanrewaju, A. A. (2011). Inventory Management in Small Business Finance: Empirical Evidence FromKwara State,

Beaumont, S. M. & Begemann, E. (1997) 'Measuring associations between working capital and return on investment', *South African Journal of Business Management, Vol. 28 No. 1, pp. 1-5.*

Charitou, M., Lois, P. & Santoso, H. B. (2012) 'The Relationship Between Working Capital', *International Business & Economics Research Journal*, 11(8), pp. 839–849.

Deloof, M. (2003) 'Does working capital management affect profitability of Belgian firms?', *Journal of Business Finance and Accounting*, 30(3–4), pp. 573–588. doi: 10.1111/1468-5957.00008.

Enqvist, J., Graham, M. & Nikkinen, J. (2014) 'The impact of working capital management on firm profitability in different business cycles: Evidence from Finland', *Research in International Business and Finance*, 32, pp. 36–49. doi: 10.1016/j.ribaf.2014.03.005.

Falope O.I, & Ajilore O.T. (2009), "Working capital management and corporate profitability: evidence from panel data analysis of selected quoted companies in Nigeria". Research Journal of Business Management, 3: 73-84

Gentry, J. A., Vaidyanathan, R., & Lee, H. W. (1990). A weighted cash conversion cycle. Financial Management, 19(1), 90. https://doi.org/10.2307/3666040

Gul, S. (2013) 'Working Capital Management and Performance of SME Sector', *European Journal of Business and Management*, 5(1), pp. 60–69.

Imeokparia, L. (2015). Working capital management and performance of food and beverage industry in Nigeria. Research Journal of Finance and Accounting, 6(4), 196-205

Kazi T. H. (2015). Working Capital Management and Solvency of the Industries in Bangladesh. Journal of Finance and Accounting, 6(10) 136-140.

Lazaridis, I. and Tryfonidis, D. (2006) '" The relationship between working capital management and profitability of listed companies in the Athens Stock Exchange "', *Journal of Financial Management and Analysis*, 30(76), pp. 1–12.

Nguyen, A. H., Pham, H. T., & Nguyen, H. T. (2020). Impact of working capital management on firm's profitability: Empirical evidence from Vietnam. *The Journal of Asian Finance, Economics and Business*, *7*(3), 115-125

Onaolapo, A. A., & Kajola, S. O. (2015). What Are the Determinants of Working Capital Requirements of Nigerian Firms. Journal of Finance and Accounting, 6(6), 118-127.

Osundina, J. A. (2014). Working Capital Management and Profitability: Evidence form Quoted Food and Beverages Manufacturing Firms In Nigeria. Journal of Finance and Accounting, 5(4), 101-107

Ogbuji, I., &Ogunyomi, O. O. (2014). Working Capital Management Policy and Financial Performance in the Nigerian Foods and Beverage Industry: A study of Nestle Nigeria Plc. Journal of Finance and Accounting, 5(20), 48-63.

Rafiu, O. S., & John, A. A. (2014). Working Capital Management and the Performance of Selected Quoted Manufacturing Companies in Nigeria, (2000-2009). Journal of Finance and Accounting, 5(14), 80-92

Raheman, A., & Nasr, M. (2007). Working Capital Management and Profitability: A Case of Pakistani firms. International review of business research papers, 3(1), 279-300.

Sawarni, K. S., Narayanasamy, S. and Ayyalusamy, K. (2020) 'Working capital management, firm performance and nature of business: An empirical evidence from India', *International Journal of Productivity and Performance Management*, 70(1), pp. 179–200. doi: 10.1108/IJPPM-10-2019-0468.

Sharma, A. K. & Kumar, S. (2011) 'Effect of working capital management on firm profitability: Empirical evidence from India', *Global Business*

Review, 12(1), pp. 159–173. doi: 10.1177/097215091001200110.

Shin, H.-H. & Soenen, L. (1998) 'Efficiency of Working Capital Management and Corporate Profitability', *Financial Practice & Education*, 8(2).

Shrivastava, A., Kumar, N. & Kumar, P. (2017) 'Bayesian analysis of working capital management on corporate profitability: evidence from India', *Journal of Economic Studies*, 44(4), pp. 568–584. doi: 10.1108/JES-11-2015-0207.

Talonpoika, A. M. *et al.* (2014) 'Modifying the cash conversion cycle: Revealing concealed advance payments', *International Journal of Productivity and Performance Management*, 63(3), pp. 341–353. doi: 10.1108/IJPPM-12-2012-0130.

The World Bank (2019) 'Digital Economy Diagnostic Report', *Washington, DC: World Bank. License: Creative Commons Attribution CC BY 3.0 IGO.*