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WORKING CAPITAL MANAGEMENT AND THE FINANCIAL PERFORMANCE OF OIL AND GAS COMPANIES IN NIGERIA

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Abstract

The study examined the influence of working capital management on the financial performance of oil and gas companies in Nigeria. Ex-post-facto research design was adopted for the study. Secondary data were employed through audited annual reports published on the Nigerian Exchange (NGX) Group and the fact books of the five (5) oil and gas companies selected for the purpose of the study. The data for the study were obtained for the period of fifteen years (2010 to 2024). Ordinary least square regression, with the aid of E-views 10, was used in analysing the data and testing the stated hypotheses. Account receivable ratio value showed a positive insignificant effect on Return on Assets (ROA) of the oil and gas companies under study. Current ratio value had a positive significant effect on Return on Assets (ROA) of the oil and gas companies under study. The study recommends that Oil and gas financial managers should improve on the utilization of their current ratio. This can be achieved through efficient management of current Assets and current liabilities in order to improve the liquidity of the oil and gas companies. Managers of firms should ensure efficient management of account receivables by putting in place good credit policies that will enhance return on Assets (ROA).

Key Words: Working Capital Management, Account Receivable Ratio, Current Ratio, Return on Assets

1. Introduction

Firms that desire to be outstanding in the business environment seek to employ available and limited resources to the best of its advantage, in order to achieve their goals. Considering that scarcity of resources is a significant limitation in the business environment; resource allocation theory assumes that firms pick the most economical methods for distributing production factors and allocating them to various productive activities to achieve maximum returns.

Corporate finance decisions generally, among others include management of Assets (investment decisions), management of sources of funds or liabilities and equity (financing decisions) as well as dividend decisions. These decisions have both short-term and long-term implications. The effective management of short-term Assets and liabilities to ensure sufficient liquidity for day-to-day operations of the business is called working capital management.

Working Capital Management (WCM) is one of the most important and crucial aspects of a company's overall financial management. This is because financial management efficiency is required to ensure a firm's long-term performance and achievement of its ultimate aims, which is to maximize the wealth of its owners (Leonard *et al*. 2018). A specific amount of working capital is required for business operations, as the cash holding or near cash Assets needs of an organization. A well-managed working capital ensures that the business runs smoothly by allowing the

important ingredients (cash, inventory, receivables, and payables) to circulate freely. ICAN (2018) defines working capital as the money a company needs to support the Assets it uses for day-to-day operations. Muhammad, *et al.* (2019) defined WCM as the practice of planning for the acquisition and use of short-term Assets. Furthermore, it is the procedure for deciding the organization's policy in planning for its existing Assets and liabilities holdings in financing its daily activities. This short-term choice must be effective in order to maintain the firm's working capital at an ideal level that falls between excess and shortage. This means that having enough working capital is necessary and adds value to the business by lowering risks and enhancing performance. The dimensions of working capital management include but not limited to account receivable ratio, account payable ratio, current ratio, cash conversion cycle and inventory turnover.

Accounts receivable management is a dynamic financial management process and its effectiveness is directly correlated with a firm's ability to realize its mission, goals and objectives. These category of current Assets include all credit sales where the customer is expected to pay at future date specified on the invoice. When a company sells its product or services on credit and does not collect cash immediately, then there arise trade debtors (credits).

The current ratio shows the extent to which current Assets guarantee payment of their current liabilities. The high and low current ratio of a company reflects the ability of a company to pay its obligations (Oseifuah & Gyekye, 2017). The higher the current ratio (CR) value, the better the company's ability to pay off its short-term obligations. Kasmir (2016) explains that: "The current ratio is a ratio to measure the company's ability to pay short-term obligations or debts that are immediately due when collected as a whole". Mamduh (2016) explains that: "The current ratio measures the company's ability to meet its short-term debt using its current Assets (Assets that will turn into cash within one year or one business cycle)".

Performance is the ability of an organization to gain and manage their resources optimally in many ways. Performance can be financial which objectively emphasizes on variables related directly to financial report. Financial performance is quantitatively measured such as return on equity, return on Assets, earning per share and so on or non-financial/qualitative such as increase in products by the firms, quality of products, volume of sales, which subjectively measure how well a firm can use Assets from its primary mode of business to generate revenues.

Oil and gas companies have a far-reaching effect on society, impacting everything from household products to industrial packaging. Their products are widely used within the oil and gas sector itself, which serves as the foundation of the industry. For a country endowed with oil and gas resources, a well-developed oil and gas industry represents the highest level of value addition to these natural Assets. As a result, this sector should be prioritized, given its significant multiplier effects on the nation's economic and industrial growth.

Working capital management is concerned with two decision areas. Determination of appropriate level of investment in current Assets and decisions as to what methods of financing to use to obtain funds for these investments. Based on the various definitions, working capital management relates to the capability that a firm has in order to maintain an ideal working capital that can handle the daily financial obligations which minimizes the risk that is linked to liquidity in order to enhance performance. This study examines the influence of working capital management of oil and gas companies on their financial performance.

It is important to note that working capital management can have significant effect on the performance of companies, particularly oil and gas companies. A situation where a company is unable to pay off its short-term obligations when due indicates inefficient management of working capital. The inadequacies among financial managers in organizations, in the form of high bad debts, high inventory costs, have adversely affected operating performance. As a result of these, oil and gas companies are either temporarily or completely shut down given the negative effect on the production runs and delivery of finished goods to customers.

Moreso, oil and gas companies do experience liquidity constraint despite large resources which may be as a

result of poor working capital management and this often contribute to declining performance.

Past studies in Nigeria have revealed the relationship between working capital management and the profitability of firms focusing only mainly on the manufacturing sector, despite the fact that oil and gas companies are major contributors to the Nigerian economy, but it is consistently being overlooked. This study is focused on oil and gas companies in Nigeria.

Given the lacuna, the study attempts to minimize the gap by empirically examining the influence of working capital management on the financial performance of oil and gas companies in Nigeria.

The main objective of the study is to examine the influence of working capital management on the financial performance of oil and gas companies in Nigeria. Specific objectives of the study include to;

i. examine the influence of Account Receivable Ratio on Return on Assets (ROA) of oil and gas companies in Nigeria.
ii. ascertain the effect of Current Ratio on Return on Assets (ROA) of oil and gas companies in Nigeria.

The following null hypotheses are posed for the study;

Ho_1: Account receivable ratio has no significance influence on Return on Assets (ROA) of oil and gas companies in Nigeria.

Ho_2: Current ratio has no significance effects on Return on Assets (ROA) of oil and gas companies in Nigeria.

2. Literature Review

2.1 Conceptual Review

Overview of Working Capital

Working capital is a short-term financial Assets that has a key and delicate influence on the performance of any firm. The management of these Assets is very essential for the maximization of shareholders' wealth. The main purpose of all firms is to have enough money to pay its short-term obligations. Best possible working capital decision will enhance the company's performance (Horne & Wachowicz, 2020). The effectiveness and efficiency of working capital management is indispensable, mainly for manufacturing firms, because the key part of the manufacturing firms is made up of current Assets (CA) (Horne & Wachowicz, 2020). According to Nurein (2014), working capital is the excess of current Assets over current liabilities. This actually brings together the basic concepts of working capital (current Assets and current liabilities). There is a general belief among scholars with regard to the meaning of working capital which is the amount of money that is available to finance the firm's short term debt obligation. The obtainability of this short available fund is a role of excess of current Assets over current liabilities. While this definition of working capital remains the same almost among scholars, the effective management of this working capital is what makes the difference. The reason being that, while some managers may exercise due care and diligence in the management of firm's working capital, other managers used intuition, rule of thumb and personal judgment which could affect the working capital management.

Working Capital Management

Working capital management entails administration of the key components of working capital in a manner that demonstrates a suitable volume of operational capital is sustained to have an effective operation of a firm and for realization of similar goals of liquidity and profitability. It involves the arrangement and regulation of the short-term Assets and obligations in order to eliminate the risk that is associated with liquidity while concurrently doing away with excess investment of these Assets. Working capital efficiency is the degree which indicates the ability of a firm in harmonizing the sum relating to investment that is employed for receivables and inventories in relation to the payables on acquisition of inventories. Therefore, based on the various definitions, working capital management relates to the capability that a firm has in effort to maintain ideal working capital that can be able to handle the daily financial obligations hence minimize the risk that is linked to liquidity while simultaneously enhancing profitability.

Working capital management involves planning and controlling current Assets and current liabilities in a manner that eliminates the risk of inability to meet short term obligations on one hand and avoid excessive investment in these Assets on the other hand (Feletilika, 2024). Therefore, working capital management of a firm are concerned with two decision areas. Determination of appropriate level of investment in current Assets and mix of current Assets

and decisions as to what methods of financing to use to obtain funds for this investment.

Dimensions of Working Capital Management

Various dimensions of working capital management are as follows;

i. Account Receivable Ratio

Gill (2021) asserts that the main objective of accounts receivable is to reach an optimal balance between cash flow management components. Efficient accounts receivable ratio management affords a firm to improve on its profitability by reducing the transaction costs of raising funds in case of liquidity crisis. Accounts receivable management is a dynamic financial management process and its effectiveness is directly correlated with a firm's ability to realize its mission, goals and objectives (Sherman, 2020). These categories of current Assets include all credit sales where the customer is expected to pay at future date specified on the invoice (Michalski, 2024) When a company sells its product or services on credit and does not collect cash immediately, then there arise trade debtors (credits).

Firm grant trade credits for many reasons such as giving incentives to customers to acquire goods at times of low demand (Deloof, 2023), to protect sales from competitors and attract potential customers, build and strengthen long-term relationship with dealers (Smith and Smith, 1999), and to conform to past or industrial practices. Also trade credits are a marketing tool particularly when a new product is launched or when a company wants to push its weak product. Trade credit may stimulate sales because it allows customers to access product quality before paying. To arrive at an optimal credit policy, the important decision variables (credit standard, credit terms and collection efforts) that determine investment in account receivables must be considered.

ii. Current Ratio

The current ratio shows the extent to which current Assets guarantee payment of their current liabilities. The high and low current ratio of a company reflects the ability of a company to pay its obligations (Priliyastuti & Stella, 2017). The higher the current ratio (CR) value, the better the company's ability to pay off its short-term obligations. Kasmir (2016) explains that: "The current ratio is a ratio to measure the company's ability to pay short-term obligations or debts that are immediately due when collected as a whole". Mamduh (2016) explains that: "The current ratio measures the company's ability to meet its short-term debt using its current Assets (Assets that will turn into cash within one year or one business cycle)".

The current ratio measures a firm's capability to meet up its current obligations with its current Assets. A higher current ratio indicates a stronger liquidity position, implying that the firm can easily meet its current obligations (Duru & Nyseboame, 2022). A high current ratio indicates a strong liquidity position, suggesting that the firm can easily meet its short-term obligations without facing financial distress (Duru & Nyseboame, 2022). Conversely, a very high CR might indicate inefficiency in using current Assets, potentially leading to lower returns on investment.

The current ratio is also a critical indicator for investors and creditors. It provides insights into a company's ability to meet its obligations, influencing credit decisions and investment evaluations. Companies with strong current ratios are generally perceived as lower risk, making them more attractive to lenders and investors (Chukwuemeka & Chukwuma, 2023). It is computed by dividing total current Assets by the total current liabilities. A higher current ratio indicates a stronger liquidity position, suggesting that the firm can comfortably cover its short-term obligations, while a lower ratio may signal potential liquidity issues (Duru & Nyseboame, 2022).

A current ratio of "1" or higher is generally considered acceptable, indicating that the company has at least as many Assets as liabilities. However, the ideal current ratio can vary by industry and specific business circumstances. For example, firms in industries with quick inventory turnover might operate efficiently with lower current ratios, while those in sectors with longer cash conversion cycles might require higher ratios to ensure adequate liquidity (Osagie & Omole, 2023). While a high current ratio is often seen as a sign of good liquidity, an excessively high ratio may indicate inefficiency in Assets utilization. Companies with very high current ratios might be holding too much inventory or have excessive receivables, which could be better utilized for investment or debt reduction (Ademola & Adebayo, 2022).

Financial Performance

Performance measurements are anchored on finances only; such measurements may be distorted. In most cases, financial performance measurements used are profitability and the associated ratios; leverage and the associated ratios; liquidity and activity assessment and the associated ratios. Earnings represent the profit declared by the firm during a specific period.

Financial performance is interested on the monetary gains an organization gets as a result of proper investment. Quality of financial reports helps in telling the financial performance based on earnings report provided, audit committee records and accounting conservatism records. Director's size helps in financial decision-making process where their number matters a lot especially attached on their experience and qualifications. The shareholder capacity has a role on financial performance (Kariithi & Kihara, 2017). The study used Return on Assets as a measure for effective financial performance of the firm.

This research focuses on ROA, a measure of firm financial performance, which reflects the utilization efficiency of a firm's Assets. ROA is calculated by comparing net profit to average total Assets, covering a firm's combined performance in generating profits. It provides a standardized calculation method, facilitating analysis and comparison of different firms' performance. Barron (2022) found that ROA can cross industry boundaries and intuitively show firms' relative level in Assets profitability, providing an effective basis for horizontal comparison among firms and providing high reference value for investors and stakeholders to evaluate and make investment decisions on multiple firms. Higher ROA indicates well-operated Assets and strong profitability, enhancing a firm's reputation in the capital market and attracting investors. Strict accounting standards and audit processes make ROA data more accessible and effective (Barron (2022).

Return on Assets (ROA)

This ratio indicates how profitable a company is relative to its total Assets. The return on Assets (ROA) ratio illustrates how well management is employing the company's total Assets to make a profit (Ogbodo, *et al*., 2017). The higher the return, the more efficient management is in utilizing its Assets base (Loth 2016). The ROA ratio is calculated by comparing net income to average total Assets, and is expressed as a percentage. Since company Assets' sole purpose is to generate revenues and produce profits, this ratio helps both management and investors to see how well the company can convert its investments in Assets into profits (Shaun 2019). This ratio measures how profitable a company's Assets are. A higher ratio is more favorable to investors because it shows that the company is more effectively managing its Assets to produce greater amounts of net income. A positive ROA ratio usually indicates an upward profit trend.

Return on Assets.

According to Hanafi and Halim (2016), ROA is the company's ability to generate net income based on the number of Assets. Company values summarize investors' collective assessments of how well a company is doing, both in terms of current performance and prospects. This shows that the return on Assets affects the stock price of a company. Therefore, an increase in stock prices sends a positive signal from investors to managers. The company's value depends on the opportunity to grow; however, this opportunity depends on its ability to attract capital.

Influence of Account Receivable Ratio on Return on Assets (ROA)

Generally, trade credit implies supplying of goods and services by a supplier on a deferred payment basis. The financing theory suggests that a supplier while offering trade credit in the shape of credit sales takes the position of the financial institution. This theory regards trade credit as a perfect substitute of credit granted by financial institutions (Bhattacharya 2014). In other words, trade credit refers to a situation where a supplier sells its products now but receives the payment in a future period of time. Accordingly, trade credit gives customers time to pay with a time gap between the delivery of goods and payment for them (Garcia-Teruel & Martinez-Solano, 2010; Peel *et al*., 2020). This time lag between the sale and actual realization of cash tends to create receivables that are to be collected by a firm over a period of time (Fabozzi & Peterson, 2023). The time period required to convert the receivables back into cash or to collect cash from customers is technically known as accounts receivable

period (ARP) or accounts collection period (Mathuva, 2014).

Accounts receivable or simply receivables can thus be seen as short-term loan to customers given by the supplying firm that is to be returned within the specified period of time (Martinez-Sola *et al.,* 2013). The literature on WCM amply demonstrates that the success of a business depends heavily on the financial executives' ability to effectively manage receivables (Tauringana & Afrifa, 2023). Research has also shown that accounts receivable period has a significant impact on firm profitability (Bhatia & Srivastava, 2016; Deloof, 2023).

Available literature on WCM generally signifies that the nature of the relationship between accounts receivables period and firm profitability generally depends on the length of accounts receivable period adopted by a firm. (Baños-Caballero *et al*., 2016). However, firms can have a long or short receivables conversion period (Temtime, 2016; Mwangi *et al*., 2014). Quality guarantee theory of trade credit suggests that adoption of longer receivables period by firm results in the increase of investment in working capital. This theory further argues that extending the receivables period gives customers enough time to verify the quality of goods before paying. This tends to reduce the opacity of information between the buyer and seller. Thus, it is only the product quality guarantee that fosters the reduction of information asymmetries between buyer and seller by allowing the customer to fully verify the goods and be satisfied before making any payment. Furthermore, reduction of information asymmetries between buyer and seller eliminates future contentions relating to the goods because customers are given ample time to assess the quality before any payments are made. Giving customers an opportunity to verify the goods before making any payment boosts the trust of customers in the firm. Such confidence may, in turn, result in good reputation of the firm in the market.

Effect of Current Ratio on Return on Assets (ROA)

The current ratio shows the extent to which current Assets guarantee payment of their current liabilities. The high and low current ratio of a company reflects the ability of a company to pay its obligations. The higher the current ratio (CR) value, the better the company's ability to pay off its short-term obligations. A high current ratio (CR) can affect stock prices because it can cause positive assessments it can affect investors' interest in investing in the company. This is because the company is considered liquid enough to immediately fulfill its obligations and has good prospects in the short and long term.

Onyeka, *et al* (2018) examined the effect of current ratio and leverage on cash and cash equivalents (CASH) and return on Assets (ROA) was investigated in the study. Ex-post-facto research approach via quantitative panel methodology was employed to fathom the effects of the predictors and control variables on the dependent variables. Data were collated from the audited annual reports of thirty-two (32) quoted manufacturing firms on the Nigerian Stock Exchange for the fifteen-year period: 2003 – 2017. The all-inclusive model using fixed effect regression depicted the existence of an insignificant positive influence of current ratio and leverage on both cash and ROA, but a significant positive effect of logarithm of total Assets on Cash. These results imply that optimizing firms' profits necessitate striking the best liquidity-profitability trade-offs.

2.2 Theoretical Review

Resource Based Theory (RBT)

The study is anchored on the Resource Based Theory (RBT) by Wernerfelt (1984) and refined by (Barney, 1986) who borrows heavily from earlier research by Penrose (1959). Central to the proposition of RBV is that a firm represents a collection of unique resources and capabilities that provide basis for sustained competitive advantage so long as they are valuable, rare, non-substitutable and difficult to imitate (Barney, 1991).

The theory indicated that firms are bundle of heterogeneous capabilities that are imperfectly immobile across firms. According to this view, firm performance can be attributed to unique resources in which knowledge is one of the key resources of the organization (Guthrie, *et al.*, 2004).

The resource-based theory (RBT) emerged as a complement to Porter's theory of competitive advantage (Barney, 2002). Initially, Wernerfelt (1984) developed a theory of competitive advantage based on

the resources any organization develops or acquire to implement product market strategy. Wernerfelt's (1984) basic contribution was recognizing that organization specific resources along with competition among organizations based on their resources can be essential for organizations to gain advantages in implementing product market strategies (Barney, 2002). Resources refer to all components made available by an organization to performers of innovative work tasks. It has been averred that employees need access to sufficient resources to be creative. These resources may include appropriate access to funds, materials, facilities, knowledge, information, sufficient time to produce novel work in the domain, and the availability of training.

The theory is relevant to the study because the theory suggest that a firm's resources, including working capital, is a key source of competitive advantage.

2.3 Empirical Review

Nangih and Diepreye (2024) investigated the impact of current ratio on profitability of consumer goods manufacturing firms listed on the Nigeria Exchange Group. It specifically examined the effect of Current Ratio on Return on Assets (ROA) and Return on Equity (ROE). The research was anchored on the Liquidity Preference Theory, proposed by Keynes in 1930, which suggests that investors prefer cash or other highly liquid holdings. The study used panel data approach. A quantitative, longitudinal research design was adopted. Purposive sampling techniques was employed to select Nestlé Nigeria Plc, Dangote Sugar Plc, Bua Foods PLC, and Unilever Plc as samples used for the study. Data were collected from 2016 to 2023 and were analyzed using descriptive statistics correlation and regression analysis, with the aid of E-views analytical software. The findings indicate that the Current Ratio positively influence profitability.

Ohidoa and Omoregha (2024), investigated the effects of working capital management on financial performance in oil and gas firms. The longitudinal research design was used. The secondary source of data was sourced from the Nigerian Exchange Group (NGX) as at 31st December, 2022 for various years. The Ordinary Least Squares (OLS) estimation technique method was adopted for analysis with the aid of the E-views (9.0) software. Findings obtained showed that WCFP and WCIP have positive and significant relationship with ROCE and a negative and significant relationship with ROCE. The study thus concludes that only WCFP, and WCIP are good predictors of financial performance. This study thus recommends that companies should ensure that the cash conversion sequence is systematically monitored to avoid idle cash balances, occurrence of cash shortages as well as cash theft by employees.

Lazarus *et al.* (2023), investigated the effect of account receivables and inventory conversion cycle on performance of Manufacturing Firms Listed on Ghana Stock Exchange. The paper adopted cross-sectional study which adopts quantitative research approach. A panel data of six (6) listed Ghanaian manufacturing firms on the Ghana Stock exchange for the periods 2011 to 2020 was used for the study. Data was obtained from the audited financial statements of the firms. Correlation and Ordinary Least Square (OLS) multiple regressions were employed to analyze the data. The finding revealed that there is statistically negative (Beta = −0.201) and significant (P-value = 0.000) effect of account receivables period on return on assets. The study revealed that there is statistically significant negative effect between inventory conversion period and return on asset (Beta = −0.273, $P < 0.05$). The results indicated that (current ratio, sales growth and cash to sales) had no significant positive effect (Beta = 0.115, $P > 0.05$), (Beta = 0.071, $P > 0.05$), (Beta = 0.092, $P > 0.05$) on return on asset.

Muhammad (2023) investigated the determinants of working capital management efficiency of automotive and engineering firms listed in Karachi Stock Exchange of Pakistan. Cash Conversion Cycle, Days sales Inventory, Days Payable Outstanding and Days Sales Outstanding are the explanatory variables. Whereas the descriptive statistics, Pearson's Bivariate correlation analysis and ordinary pooled least square with fixed effect model are applied to investigate the significance of panel data set. It is quarterly based and secondary data in nature that comprises of 9 firms for 5 years. The observations are taken from financial years 2006 to 2010 of the listed firms. In spite of these a questionnaire is also filled by the firm's financial representatives during the research on Enterprise Resource Planning (ERP) which shows positive results or the efficiency of working capital management. It is concluded that to keep the working capital efficient

cash conversion cycle must be shortest. For this there is need of tight collection policy and liberal payment policy while the inventory management must be efficient by reviewing the inventory policy.

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3 Methodology

3.1 Research Design

The study employed *Ex-post facto* research design. The data collected already existed and the study made no attempt to manipulate its nature or value. The study employed *Ex-post Facto*, because it used past data performances. Also, *Ex-post facto* research design involves the ascertaining of the impact of past factors on the present happening or event.

3.2 Population of the Study

The research population comprised of five (5) oil and gas companies listed on the Nigerian Exchange (NGX) Group as at December 2024.

Table 1 Select Oil and Gas Companies for the study

S/N	Companies
1.	TotalEnergies Nigeria PLC
2.	Conoil PLC
3.	MRS oil Nigeria
4.	Eterna PLC
5.	Oando PLC

Source: Researcher's Compilation, 2025

The five oil and companies was selected due to the availability of data on the floor of Nigeria Exchange (NGX) Group on the years under study.

3.3 Sample size and Sampling Technique

The sample size for this research work was drawn from oil and gas companies in Nigeria. Considering the paucity of the sample size, the entire population is used in the study. The study employed census sampling technique.

3.4 Data and Sources

Secondary data were employed through audited annual reports published on the Nigerian Exchange (NGX) Group and the fact books of the five (5) oil and gas companies selected for the purpose of the study.

3.5 Model Specification

The model used was premised on the main objective and anchored on the sub-objectives. The following mathematical model was developed to analyse the

influence of working capital management on the financial performance of oil and gas companies in Nigeria using account receivable ratio (ARR), current ratio (CR), as the explanatory variables to see how they influence Return on Assets (ROA). It is the dependent variable, which is used to measure the financial performance of oil and gas companies.

Mathematically, the model is presented as follows;

Model Specification for Objective One

$$ROA = f(ARR) + e$$

Model 1

This equation can be rewritten as putting the variables

$$ROAit = \beta 0 + \beta_1 ARR_{it} + e$$

Equation 1

Whereas:

β*0*	=	Intercept
ROA	=	Return on Assets
ARR	=	Account Receivable Ratio
e	=	Error term
t	=	Time dimension
i	=	individual firm

Model Specification for Objective Two

$$ROA = f(CR) + e$$

Model 2

This equation can be rewritten as putting the variables

$$ROAit = \beta 0 + \beta_1 CR_{it} + e$$

Equation 2

Whereas:

β*0*	=	Intercept
ROA	=	Return on Assets
CR	=	Current Ratio
e	=	Error term
t	=	Time dimension
i	=	individual firm

3.6 Method of Data Analysis

The secondary data collected was analyzed using descriptive statistics, correlation analysis, regression and interaction analysis. Multiple regression analysis was used to evaluate the effect of the independent variables with the aid E-view. The result reveals the degree of influence and the level of significance. The collected research data was checked for any errors and omissions, coded, defined and then entered into E-view. This study used both descriptive and inferential statistics. A panel data was used to evaluate the hypotheses.

4. Results and Discussion

4.1 Hypotheses Testing

Hypothesis One:

HO_1: Account receivable has no significance influence on Return on Assets (ROA) of oil and gas companies in Nigeria.

Table 2: Regression Analysis showing the influence of Account receivable on Return on Assets (ROA) of oil and gas companies in Nigeria

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.845113	1.675107	1.698466	0.0935
ARR	0.097648	0.228196	0.427913	0.6699
R-squared	0.002404	Mean dependent var		3.448427
Adjusted R-squared	-0.010723	S.D. dependent var		7.946065
S.E. of regression	7.988553	Akaike info criterion		7.019203
Sum squared resid	4850.091	Schwarz criterion		7.079631
Log likelihood	-271.7489	Hannan-Quinn criter.		7.043394
F-statistic	0.183109	Durbin-Watson stat		1.617960
Prob(F-statistic)	0.669925			

Source: Researcher's Computation using E-views 10.0 (2025)

The results indicated that account receivable exhibited a positive relationship with the Return on Assets (ROA) with a coefficient of 0.097648%. This means that if other factors remain unchanged, a one-unit increase in account receivable will lead to a one-unit increase in Return on Assets (ROA).

The R-squared value of 0.002404 indicates that about 0.002404% variation in Return on Assets (ROA) of the oil and gas companies under study is accounted for by the independent variable of this study.

The statistical significance of the above relationships was given by the p-value associated with each of the

variables. Since this study t-test is based on the 95% level of confidence, a variable is said to have significant effect if its p-value is greater than 0.05. Therefore, with the p-value of 0.6699, account receivable value is said to have an insignificant effect on Return on Assets (ROA) of the oil and gas companies under study. Therefore, the null hypothesis which states that account receivable has no significance influence on Return on Assets (ROA) of oil and gas companies in Nigeria, is accepted.

Hypothesis Two:

HO_2: Current ratio has no significance effects on Return on Asset (ROA) of oil and gas companies in Nigeria.

Table 3: Regression Analysis showing the influence of Current ratio on Return on Assets (ROA) of oil and gas companies in Nigeria

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2.490921	2.607436	-0.955314	0.3424
CR	6.052088	2.503698	2.417260	0.0180
R-squared	0.071394	Mean dependent var		3.448427
Adjusted R-squared	0.059176	S.D. dependent var		7.946065
S.E. of regression	7.707372	Akaike info criterion		6.947538
Sum squared resid	4514.672	Schwarz criterion		7.007967
Log likelihood	-268.9540	Hannan-Quinn criter.		6.971729
F-statistic	5.843144	Durbin-Watson stat		1.753273
Prob(F-statistic)	0.018035			

Source: Researcher's Computation using E-views 10.0 (2025)

The results indicated that current ratio exhibited a positive relationship with the Return on Assets (ROA) with a coefficient of 6.052088%. This means that if other factors remain unchanged, a one-unit increase in current ratio will lead to a one-unit increase in Return on Assets (ROA).

The R-squared value of 0.071394 indicated that about 0.071394% variation in Return on Assets (ROA) of the oil and gas companies under study is accounted for by the independent variable of this study.

The statistical significance of the above relationships was given by the p-value associated with each of the variables. Since this study t-test is based on the 95% level of confidence, a variable is said to have significant effect if its p-value is greater than 0.05. Therefore, with the p-value of 0.0180, current ratio value is said to have a significant effect on Return on Assets (ROA) of the oil and gas companies under study. Therefore, the null hypothesis which states that current ratio has no significance influence on Return on Assets (ROA) of oil and gas companies in Nigeria, is rejected.

Based on the findings of the study, the following are the summary;

i. Account receivable ratio value is said to have a positive insignificant effect on Return on Assets (ROA) of the oil and gas companies under study.
ii. Current ratio value is said to have a positive significant effect on Return on Assets (ROA) of the oil and gas companies under study

Based on the findings of the study, the following are the conclusions;

Working capital is the lifeline of any company which ensure that a company has sufficient fund for daily operations that will meet capital requirements as well as reinvestment in other activities. The main objective of the study was to examine the influence of working capital management on the financial performance of oil and gas companies in Nigeria. *Ex-post-facto* research design was adopted for the study. Secondary data were employed through audited annual reports published on the Nigerian Exchange (NGX) Group and the fact books of the five (5) oil and gas companies selected for the purpose of the study. The data for the study were obtained from secondary source (that is from the published financial statements of oil and gas

companies) for the period of fifteen years (2010 to 2024). Ordinary least square regression, with the aid of E-views 10, was used in analyzing the data and testing the stated hypotheses.

5.3 Contribution to knowledge

i. This work contributes to current literature on working capital management on Return on Assets (ROA) in the oil and gas companies in Nigeria, while most studies in working capital management focused on manufacturing companies and profitability. Moreover, by extending the number of years used by other scholars from (2010-2024) which is the current financial year published financial statements.

ii. Most reviewed literature employed a combination of account receivable, account payable, cash conversion cycle and inventory turnover. This work employed all of the four variables and added current ratio to measure working capital.

5.4 Policy Implication of the Findings

The policy implication of the findings suggest that oil and gas companies could greatly benefit from policies that enhance access to affordable financing, regulate payment terms and improve infrastructure. One critical implication is the need for government and financial institutions to offer favourable credit facilities targeted at oil and gas sector. Easier access to credit where oil and gas companies manage working capital efficiently, thus improving liquidity and reducing operational disruptions.

Analyzing working capital management performance can help identify areas for improvement and inform strategic decisions. Managers of oil and gas companies should regularly monitor and evaluate working capital management performance using key performance indicators (KPIs) such as Cash Conversion Cycle and working capital turnover.

The need to implement credit management policies and negotiating favourable payment terms with suppliers can help optimize working capital. Managers of oil and gas should establish effective account receivable and payable management practices to minimize the risk of bad debt and optimize working capital.

5.5 Recommendations

The following recommendations are made;

i. Oil and gas financial managers should improve on the utilization of their current ratio. This can be achieved through efficient management of current Assets and current liabilities in order to improve the liquidity of the oil and gas companies.

ii. Managers of firms should ensure efficient management of account receivables by putting in place good credit policies that will enhance return on Assets (ROA).

5.6 Suggestions for Further Studies

The linear relationship of working capital management is extensive. Thus, it is impossible to exhaustively study the subject in a single report. Consequently, even after this effort, there are still numerous arears that are open for study. In addition, the findings of this study imply areas that need further study.

The scope of this study covers the operations of only oil and gas companies listed in the Nigeria Exchange Group for the period of fifteen years. Giving enough time and resources it is possible to attempt to study the entire listed oil and gas companies in Nigeria over a longer period of time and using different statistical methods in order to have a more comprehensive result.

The analysis and findings in this study show that there are other factors than the independents variables used for this study that affect corporate liquidity. Research could be conducted to identify those other factors so as to enhance the profit generating capabilities of oil and gas companies. Further study can be conducted in the following variable and dimensions. They are days in account receivable, days in account payable, and days in inventory turnover.

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