

# The Triad of Paying Creditors, Collecting Debts, and Moving Inventory as Engines of Entrepreneurial Success in Nigerian Oil and Gas Firms

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## Abstract

Many Nigerian oil and gas firms struggle with managing creditors, debtors, and inventory efficiently. These challenges limit cash flow, reduce profitability, and constrain growth. As a result, entrepreneurial success in these firms is often hindered by poor operational liquidity management. Hence, this study examined the effect of paying creditors, collecting debts, and managing inventory on entrepreneurial success (proxy by return on sales) in Nigerian oil and gas firms. An ex-post facto research design was adopted, covering the period from 2012 to 2024. The population consisted of eight listed oil and gas firms, with six selected for the study through purposive sampling. Secondary data were collected from the annual reports of the selected firms, and hypotheses were tested using a fixed effects panel regression model with Cross-section seemingly unrelated regression (SUR) standard errors to correct for heteroskedasticity. The findings revealed that: Days Inventory Outstanding has a negative and significant effect on entrepreneurial success ( $\beta = -0.616$ ,  $p = 0.0213$ ); Days Receivable Outstanding has a positive and significant effect on entrepreneurial success ( $\beta = 0.005534$ ,  $p = 0.0000$ ); Days Payable Outstanding has a negative but insignificant effect on entrepreneurial success ( $\beta = -0.002935$ ,  $p = 0.8554$ ). In conclusion, efficient inventory control is essential because holding excessive stock ties up capital that could support productive activities, while effective management of receivables enhances profitability by maintaining balanced credit policies and ensuring timely collections to improve cash flow and sustain operations. The study recommended that operations managers in Nigerian oil and gas firms should reduce the time inventory is held by implementing efficient inventory management systems, optimizing stock levels, and improving turnover to enhance profitability.

*Keywords:* Creditors, Debtors, Inventory, Entrepreneurial Success.

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## 1. Introduction

The Nigerian oil and gas sector stands as one of the most pivotal industries in the country, driving significant contributions to the national economy, employment, and foreign exchange earnings. Over the years, the sector has experienced fluctuations due to global oil prices, domestic policy shifts, and operational challenges that affect productivity and profitability (Osho, 2025). Within this context, entrepreneurial ventures within oil and gas firms face the dual challenge of navigating a highly competitive environment while ensuring operational and financial efficiency. Companies listed on the Nigerian Exchange Group are particularly under scrutiny to perform efficiently, not only to meet shareholder expectations but also to maintain their market reputation and sustainability (Nworie et al., 2023). Olowu (2024) argued that business success in this sector is influenced by numerous factors, including investment decisions, production capacities, regulatory compliance, and operational management. Among these, the management of liquidity and working capital has emerged as a key determinant of both short-term performance and long-term sustainability. Firms that effectively manage cash inflows and outflows, maintain optimal inventory levels, and ensure timely payment to creditors while collecting debts efficiently tend to exhibit stronger financial performance (Ithanzu et al., 2025). Thus, entrepreneurial success in this sense means the ability of a firm to achieve sustained profitability and operational efficiency in a way that resources are available to support growth, meet obligations, and generate consistent returns for the business (Cyril-Nwuche, 2025; Anaike et al., 2025). In this light, the study seeks to explore

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how specific operational practices, particularly the management of payables, receivables, and inventory, contribute to entrepreneurial success in Nigeria's oil and gas firms.

In today's business environment, the processes of paying creditors, collecting debts, and managing inventory have grown increasingly significant due to the fast pace of operations and the demand for financial stability. Timely payment of creditors helps firms maintain strong relationships with suppliers, secure favorable credit terms, and ensure uninterrupted supply chains (Anorue & Ugwoke, 2022). Delays in paying creditors can strain supplier relationships, reduce trust, and ultimately affect the ability to procure essential inputs for production (Dan, 2020). Similarly, the effective collection of debts from customers ensures a steady inflow of cash, which is vital for meeting operational expenses, funding expansion, and investing in innovation. Poor receivable management can lead to cash shortages, increased borrowing costs, and reduced profitability. Inventory management also plays a critical role, as excessive stock ties up capital unnecessarily, while insufficient inventory can result in stockouts and lost sales (Aljaaidi & Bagais, 2020). Modern business practices emphasize a balance between these elements, recognizing that mismanagement in any area can disrupt the financial stability of a company. In the oil and gas sector, where operations are capital-intensive and margins can be affected by global market dynamics, efficient management of these three components becomes even more critical (Restrepo et al., 2020). Firms that master these processes are better positioned to optimize working capital, reduce operational risks, and enhance overall financial performance.

The triad of paying creditors, collecting debts, and moving inventory functions as a powerful engine for entrepreneurial success in firms operating within the oil and gas industry. This triad represents a set of interlinked practices that collectively determine how efficiently a firm can utilize its resources to generate profits and sustain growth. Timely payment of creditors ensures that suppliers continue to support business operations without disruptions, while effective debt collection provides the liquidity needed for reinvestment, expansion, and innovation (Anorue & Ugwoke, 2022). Efficient inventory management allows firms to reduce carrying costs, minimize waste, and respond promptly to market demands (Moedu et al., 2023). Together, these practices enhance a company's ability to operate smoothly, maintain competitiveness, and deliver consistent value to stakeholders. For entrepreneurial ventures within the Nigerian oil and gas sector, adopting these practices translates into improved financial discipline, better strategic decision-making, and a stronger capacity to weather market volatility. The triad also supports the alignment of operational goals with broader business objectives, enabling firms to leverage their resources optimally and achieve sustainable growth.

Businesses in the oil and gas sector operate in an environment that demands efficient financial and operational management to achieve profitability and sustainable growth. Companies that maintain smooth payment cycles to creditors, ensure timely collection of debts from clients, and manage inventory effectively can sustain liquidity, reduce operational bottlenecks, and respond quickly to market demands (Faruna et al., 2025). When these processes function well, firms are able to maintain strong supplier relationships, fund their operations without unnecessary borrowing, and optimize resources to maximize returns. Entrepreneurial ventures within listed Nigerian oil and gas firms have the potential to thrive when cash flows are managed carefully, inventory levels match operational needs, and business transactions are handled with financial discipline. In this scenario, firms can achieve consistent profitability, support expansion initiatives, and maintain investor confidence, creating an environment where entrepreneurial strategies can succeed.

In reality, many oil and gas firms in Nigeria face challenges in managing creditors, debtors, and inventory (Omembegoji & Onuora, 2025). Delays in paying suppliers sometimes strain business relationships, affecting the continuity of essential services and supplies. Similarly, slow or ineffective collection of debts reduces available cash, limiting the ability of firms to meet operational obligations or fund new projects. Inventory levels may be poorly coordinated, leading either to overstocking, which ties up capital unnecessarily, or stock shortages, which disrupt production and sales. These inefficiencies in operational liquidity management hinder companies from fully leveraging their resources and can reduce overall profitability (Ogbugwe et al., 2025). Despite the sector's critical role in the national economy, there is evidence that many listed firms struggle with these aspects, affecting both financial performance and entrepreneurial potential. The consequences of these challenges are significant for entrepreneurial success within Nigerian oil and gas firms. Firms that experience delayed payments to creditors, slow debt collection, and ineffective inventory management often face reduced profitability, higher operational costs, and limited capacity to reinvest in business growth. Investor confidence may decline, expansion plans may be stalled, and the overall competitiveness of the firm can weaken in the sector. Over time, these issues can limit the ability of entrepreneurial initiatives to thrive, reduce job creation, and affect the sustainability of operations. The gap between how firms manage operational liquidity and the financial performance they could achieve highlights the need for

research into how paying creditors, collecting debts, and managing inventory can be effectively coordinated to enhance entrepreneurial success in Nigeria's oil and gas sector.

Despite the wealth of studies on working capital and liquidity management in various Nigerian sectors, gaps remain in understanding how specific components of operational liquidity (paying creditors, collecting debts, and managing inventory) directly influence entrepreneurial success in oil and gas firms. Faruna et al. (2025), Ithanzu et al. (2025), Omemgbeoji and Onuora (2025), Ogbuigwe et al. (2025), Olowu (2024), Almakura et al. (2024), Olambo (2022), Dengel et al. (2022), Nworie et al. (2022), and Ebimobowei et al. (2021) all examined aspects of liquidity, working capital, or cash conversion cycles, mostly in industrial, manufacturing, or food and beverage firms, with few explicitly linking operational liquidity to entrepreneurial success in oil and gas firms. Furthermore, while several studies focused on firm value or profitability measured by return on assets, return on equity, or Tobin's Q, there is limited evidence using return on sales as a proxy for entrepreneurial performance. Many prior investigations also emphasized either one or two components of liquidity, such as receivables or inventory, without simultaneously examining the triad of creditors, debtors, and inventory management in the context of listed Nigerian oil and gas companies over an extended period. Additionally, existing studies often did not employ panel techniques with corrections for heteroskedasticity, limiting robustness in capturing firm-specific effects across multiple years. This study, therefore, addresses these gaps by investigating the combined impact of paying creditors, collecting debts, and managing inventory on entrepreneurial success in Nigerian oil and gas firms from 2012 to 2024 using a fixed effects panel model with Cross-section SUR standard errors. By focusing on operational liquidity within a sector critical to Nigeria's economy and measuring entrepreneurial success through return on sales, the research provides more sector-specific and performance-relevant hints that previous studies have overlooked.

## 2. Literature Review

### 2.1. Conceptual Issues

Empirical studies on working capital and liquidity management consistently demonstrate that operational liquidity components have significant yet varied effects on firm performance, though much of the research focuses on sectors outside oil and gas. Faruna et al. (2025) explored the relationship between working capital management and profitability in Nigerian industrial goods companies, finding that accounts receivable period and inventory management period negatively and significantly affected profitability, while accounts payable period and the cash conversion cycle had positive and statistically significant effects. Similarly, Ogbuigwe et al. (2025) investigated the impact of the cash conversion cycle on the financial performance of Nigerian consumer goods firms and reported that both inventory turnover and accounts receivable turnover had significant positive effects on profitability, while accounts payable turnover showed a non-significant negative effect. In the manufacturing sector, Omemgbeoji and Onuora (2025) examined operating liquidity and firm value, revealing that current ratio negatively and significantly affected Tobin's Q, whereas cash ratio had a positive and significant impact, with accounts receivable turnover being negative but insignificant. These studies collectively suggest that the effects of liquidity measures on firm performance are context-specific and vary depending on the type of liquidity measure and the industry under consideration. They highlight the importance of carefully managing receivables, payables, and inventory to optimize financial outcomes, but also indicate that mismanagement of even one component may reduce overall profitability.

Research focused on oil and gas firms, particularly in Nigeria, provides additional but mixed evidence. Olowu (2024) examined liquidity management and entrepreneurial performance in indigenous oil and gas firms using both qualitative and quantitative approaches, finding a significant negative relationship between liquidity management and firm growth. The study suggested that higher liquidity ratios do not automatically translate to growth, as excessive liquidity may indicate idle resources. Similarly, Almakura et al. (2024) assessed liquidity management's effect on financial performance in Nigerian oil and gas firms and found that current ratio negatively and significantly affected return on capital employed, while quick ratio and cash ratio had positive but statistically insignificant impacts. Dengel et al. (2022) analyzed working capital management in listed Nigerian oil and gas firms and reported that inventory conversion period negatively affected firm value, accounts receivable collection period had a negative but insignificant impact, and accounts payable payment period had a significant positive effect. Olambo (2022) further highlighted the importance of balanced liquidity management in energy and oil firms listed on the Nairobi Securities Exchange, showing that accounts receivable, inventory, cash, and accounts payable significantly influenced return on equity. These studies indicate that while some liquidity components can enhance performance, poor management of others, such as excessive inventory or delayed receivable collection, may limit entrepreneurial growth. They also

highlight the sector-specific nature of liquidity effects, suggesting that generalizations from manufacturing or consumer goods sectors may not fully apply to oil and gas firms.

Additional studies across other sectors provide broader perspectives on operational liquidity and its influence on profitability. Ithanzu et al. (2025) found that accounts payable management positively and significantly affected profitability in energy and petroleum firms on the Nairobi Securities Exchange, while Nworie et al. (2022) observed that inventory conversion period negatively and significantly influenced profitability in Nigerian food and beverage firms, and current ratio and accounts receivable period were statistically insignificant. Ebimobowei et al. (2021) examined liquidity and profitability ratios in Nigerian oil and gas firms and found that measures such as current ratio, acid test ratio, net working capital, and return on assets positively and significantly influenced profit growth. These studies collectively indicate that the impact of operational liquidity varies not only by the specific liquidity component but also by the sector and performance measure used.

## 2.2. Theoretical Framework and Development of Research Hypotheses

This study is anchored on Liquidity Preference Theory which was developed by John Maynard Keynes in 1936 as part of his work, *The General Theory of Employment, Interest, and Money* (Omengbeoji & Onuora, 2025). The theory emerged to explain the determination of interest rates in an economy based on the demand and supply of money. Keynes argued that individuals prefer to hold their wealth in liquid form for transactional purposes, precautionary needs, and speculative motives (Almakura et al., 2024). This preference for liquidity, he proposed, influences interest rates and investment decisions, as people demand compensation for parting with liquid assets. The theory has since become a fundamental concept in understanding the relationship between money holdings, investment behavior, and financial decision-making.

The main postulations of Liquidity Preference Theory include the idea that people hold money for three primary reasons: transactions, precaution, and speculation (Omengbeoji & Onuora, 2025). The transaction motive reflects the need for money to conduct day-to-day business and purchases. The precautionary motive arises from uncertainty, where individuals and firms keep cash reserves to guard against unexpected expenses. The speculative motive occurs when people hold liquid assets to take advantage of future investment opportunities or to avoid losses from uncertain interest rate movements. According to the theory, the demand for money increases as liquidity is preferred, and higher liquidity preference tends to raise interest rates, affecting investment and profitability in the economy (Almakura et al., 2024).

The relevance of Liquidity Preference Theory to this study lies in its explanation of how firms manage operational liquidity, particularly through paying creditors, collecting debts, and managing inventory. Firms with higher liquidity preference may delay payments to creditors, expedite collection of debts, and optimize inventory turnover to maintain sufficient liquid assets for transactions and unforeseen needs. By understanding these behaviors, the theory provides a framework for analyzing how operational liquidity management influences entrepreneurial success. Specifically, it helps explain why firms' decisions regarding accounts payable, accounts receivable, and inventory can directly affect profitability, measured here by return on sales, within Nigerian oil and gas companies. Thus, we hypothesize that:

H<sub>1</sub>: Days Inventory Outstanding has a significant effect on entrepreneurial success of Nigerian oil and gas firms.

H<sub>2</sub>: Days Receivable Outstanding significantly influences entrepreneurial success of Nigerian oil and gas firms.

H<sub>3</sub>: Days Payable Outstanding has a significant effect on entrepreneurial success of Nigerian oil and gas firms.

## 3. Research Method

This study employed an ex-post facto research design to examine the effect of paying creditors, collecting debts, and managing inventory on entrepreneurial success in listed Nigerian oil and gas firms. The design was selected because it allows the analysis of historical data to determine relationships between variables without influencing the events or data under study (Ikwuo et al., 2025; Ikwor et al., 2025; Elom et al., 2025). By relying on secondary data from past financial records, the study ensures that findings reflect actual business performance over time, enhancing reliability and validity. This approach is suitable for the research since the data required (annual financial statements of the selected firms) already exist, making it possible to observe trends and relationships over a defined period.

The population of the study comprised eight oil and gas companies listed on the Nigerian Exchange Group, including Aradel Holdings Plc, Conoil Plc, Eterna Plc, Japaul Gold & Ventures Plc, Oando Plc, Seplat Energy Plc, MRS Oil,

and Totalenergies Marketing Nigeria Plc. Purposive sampling was used to select firms for the study, excluding Aradel Holdings Plc and Seplat Energy Plc as they were not listed by 2012, which left six firms for the analysis. The time scope covered the years 2012 to 2024, providing a thirteen-year panel dataset to capture trends and variations in operational liquidity practices and entrepreneurial success over time. Entrepreneurial success was measured using return on sales, while the independent variables included Days Inventory Outstanding Days Receivable Outstanding Days Payable Outstanding. Secondary data were sourced from annual reports of the selected companies, which provide reliable and standardized financial information for analysis.

Data analysis and hypothesis testing were conducted using a fixed effects model, as recommended by the Hausman specification test, to account for firm-specific characteristics that could influence results. To address panel heteroskedasticity, Cross-section Seemingly Unrelated Regression (PCSE) standard errors and covariance were applied. Descriptive statistics such as mean, standard deviation, minimum, and maximum values were first used to summarize the data and provide an overview of the variables. Hypotheses were tested at a 5% significance level, allowing for decisions on the relationships between paying creditors, collecting debts, and moving inventory with entrepreneurial success. The regression model was specified to capture the effect of each component of operational liquidity on return on sales, enabling the study to assess the extent to which working capital management practices drive profitability and growth in Nigerian oil and gas firms.

The general model is expressed as:

$$ROS_{it} = \alpha_0 + \beta_1 APP_{it} + \beta_2 ARP_{it} + \beta_3 ITP_{it} + \mu_{it} \quad \text{---} \quad eqi$$

Where:

ROS<sub>it</sub> = Return on Sales of firm i at time t

APP<sub>it</sub> = Accounts Payable Period of firm i at time t

ARP<sub>it</sub> = Accounts Receivable Period of firm i at time t

ITP<sub>it</sub> = Inventory Turnover Period of firm i at time t

$\alpha_0$  = Constant term or intercept

$\beta_1, \beta_2, \beta_3$  = Coefficients of the independent variables representing the expected effect on entrepreneurial success

$\mu_{it}$  = Error term capturing unobserved effects

The model was estimated using a fixed effects approach, as suggested by the Hausman specification test, to control for unobserved firm-specific characteristics. To correct for panel heteroskedasticity and cross-sectional correlation, Cross-section Seemingly Unrelated Regression (PCSE) standard errors and covariance were applied. This approach allows for robust inference regarding the influence of operational liquidity components on entrepreneurial success across the selected oil and gas firms from 2012 to 2024.

## 4. Results and Discussions

### 4.1. Descriptive Analysis ad Model Diagnostics

The descriptive statistics for Return on Sales (ROS) in Table 1 show that the mean ROS is 4.606, indicating that on average, the sampled Nigerian oil and gas firms earned a 4.6 percent return on sales over the period studied. However, the large standard deviation of 54.389 suggests considerable variability in profitability across firms and years, which may reflect differences in operational efficiency, market conditions, or financial management practices. The minimum ROS of -55.62 and maximum of 473.92 show that some firms experienced losses while others recorded exceptionally high returns. The positive skewness of 8.374 and high kurtosis of 72.957 imply that the ROS distribution is heavily skewed to the right and leptokurtic, indicating extreme positive outliers. The Jarque-Bera probability of 0.000 confirms that ROS is not normally distributed, but by the central limit theorem, the large number of observations (78) allows the use of inferential statistics for hypothesis testing despite the non-normality of raw data.

For Days Inventory Outstanding (DIO), Table 1 shows a mean of 20.958 days, suggesting that firms held inventory for roughly 21 days on average before selling. The standard deviation of 17.653 indicates moderate variability in inventory management among the firms. The minimum value of 0 and maximum of 59.913 days suggest that some

firms maintained very low inventory levels while others held stock for nearly two months. The skewness of 0.348 and kurtosis of 2.088 indicate that the DIO distribution is approximately symmetric and mesokurtic, close to a normal distribution. The Jarque-Bera probability of 0.118 further supports the notion that the DIO data do not significantly deviate from normality, making it suitable for regression analysis and other parametric tests.

**Table 1.** Descriptive Statistics

	ROS	Days Inventory Outstanding	Days Receivable Outstanding	Days Payable Outstanding
Mean	4.605992	20.95776	2572.688	335.6061
Median	0.010009	19.43145	83.24821	95.43052
Maximum	473.9249	59.91321	77340.22	3939.020
Minimum	-55.61977	0.000000	0.000000	0.000000
Std. Dev.	54.38936	17.65254	9817.151	786.7922
Skewness	8.374366	0.347622	6.132338	3.361852
Kurtosis	72.95722	2.087824	45.07932	13.35084
Jarque-Bera	16817.23	4.275145	6243.547	495.1311
Probability	0.000000	0.117941	0.000000	0.000000
Sum	359.2674	1634.705	200669.7	26177.28
Sum Sq. Dev.	227781.6	23994.13	7.42E+09	47666230
Observations	78	78	78	78

Source: Eviews 12 Output (2025)

For Days Receivable Outstanding (DRO), Table 1 reports a very high mean of 2,572.688 days, suggesting that, on average, firms took over seven years to collect receivables, which is extremely unusual and points to possible data errors or reporting anomalies. The standard deviation of 9,817.151 is very large, reflecting extreme variability and the presence of significant outliers. The minimum value of 0 and maximum of 77,340 days confirm the presence of extreme extremes in the data. The skewness of 6.132 and kurtosis of 45.079 indicate a heavily right-skewed and highly leptokurtic distribution. The Jarque-Bera probability of 0.000 confirms non-normality. Despite this, the central limit theorem allows for reliable statistical inference because the sample size is sufficiently large (78 observations), though the extreme values may influence regression results and warrant careful consideration or transformation.

For Days Payable Outstanding (DPO), Table 1 shows a mean of 335.606 days, suggesting that firms took almost a year to settle payables on average, which appears unusually high and may be influenced by outliers. The standard deviation of 786.792 indicates considerable variability in payables management across firms. With a minimum of 0 and a maximum of 3,939 days, there is evidence of extreme outliers affecting the distribution. The skewness of 3.362 and kurtosis of 13.351 confirm that the data are positively skewed and leptokurtic, showing a concentration of extreme values. The Jarque-Bera probability of 0.000 further indicates non-normality. As with the other variables, the central limit theorem justifies the use of inferential methods for hypothesis testing, but care should be taken when interpreting results due to the presence of extreme observations.

**Table 2.** Hausman Specification Test

Correlated Random Effects - Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	16.478277	3	0.0009

Source: Eviews 12 Output (2025)

Table 2 presents the results of the Hausman Specification Test, which is used to determine whether a fixed effects or random effects panel regression model is more appropriate. The test evaluates whether the unique errors in the model are correlated with the explanatory variables. A significant probability value indicates that the random effects estimator is inconsistent and that the fixed effects model should be used. In this study, the cross-section random effects probability value is 0.0009, which is less than 0.05. This suggests that the null hypothesis of no correlation between the regressors and the individual effects is rejected, confirming that a fixed effects model is the appropriate estimation technique for analyzing the impact of paying creditors, collecting debts, and managing inventory on entrepreneurial success in Nigerian oil and gas firms.

**Table 3.** Panel Heteroskedasticity Test

Panel Cross-section Heteroskedasticity LR Test  
 Null hypothesis: Residuals are homoskedastic

	Value	df	Probability
Likelihood ratio	800.0524	6	0.0000

Source: Eviews 12 Output (2025)

Table 3 shows the Panel Heteroskedasticity Test, specifically the Likelihood Ratio (LR) test for cross-section heteroskedasticity. The essence of this test is to determine whether the variance of residuals is constant (homoskedastic) across the cross-sectional units or whether it varies (heteroskedastic), which can affect the efficiency of regression estimates. The null hypothesis assumes that residuals are homoskedastic. In this study, the likelihood ratio probability value is 0.0000, which is less than the 0.05 threshold. This result leads to the rejection of the null hypothesis, indicating the presence of heteroskedasticity across the panel data. As a result, robust estimation techniques, such as using Cross-section SUR (PCSE) standard errors, are necessary to correct for heteroskedasticity and ensure reliable and unbiased inference from the regression model.

4.2. Test of Hypotheses

H<sub>1</sub>: Days Inventory Outstanding has a significant effect on entrepreneurial success of Nigerian oil and gas firms.

H<sub>2</sub>: Days Receivable Outstanding significantly influences entrepreneurial success of Nigerian oil and gas firms.

H<sub>3</sub>: Days Payable Outstanding has a significant effect on entrepreneurial success of Nigerian oil and gas firms.

**Table 4. Test of Hypotheses**

Dependent Variable: ROS  
 Method: Panel Least Squares  
 Date: 12/11/25 Time: 15:18  
 Sample: 2012 2024  
 Periods included: 13  
 Cross-sections included: 6  
 Total panel (balanced) observations: 78  
 Cross-section SUR (PCSE) standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Days Inventory Outstanding	-0.615667	0.261335	-2.355851	0.0213
Days Receivable Outstanding	0.005534	0.001060	5.219719	0.0000
Days Payable Outstanding	-0.002935	0.016048	-0.182881	0.8554
C	4.255734	7.600032	0.559963	0.5773

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.752192	Mean dependent var	4.605992
Adjusted R-squared	0.723461	S.D. dependent var	54.38936
S.E. of regression	28.60172	Akaike info criterion	9.652978
Sum squared resid	56446.03	Schwarz criterion	9.924906
Log likelihood	-367.4661	Hannan-Quinn criter.	9.761836
F-statistic	26.18021	Durbin-Watson stat	1.756012
Prob(F-statistic)	0.000000		

Source: Eviews 12 Output (2025)

Table 4 presents the test of hypotheses for examining the effect of operational liquidity components [Days Inventory Outstanding (DIO), Days Receivable Outstanding (DRO), and Days Payable Outstanding (DPO)] on entrepreneurial success, measured by Return on Sales (ROS) for Nigerian oil and gas firms. Before interpreting the individual variables, the model validity statistics provide crucial information about the robustness of the estimation. The adjusted R-squared value of 0.723 indicates that approximately 72.3% of the variation in ROS is explained by the combined effect of DIO, DRO, and DPO. This suggests a strong explanatory power of the model. The Durbin-Watson statistic of 1.756 indicates that there is no severe autocorrelation in the residuals, allowing for reliable inference. The F-statistic probability of 0.000 confirms that the overall regression model is statistically significant at the 5% level, meaning that at least one of the explanatory variables has a meaningful effect on ROS. The constant term (C) is 4.256 with a p-value of 0.5773, which is not significant at the 5% level. This implies that when DIO, DRO, and DPO are zero, the baseline ROS is not statistically different from zero.

Focusing on Days Inventory Outstanding, the coefficient is -0.616 with a p-value of 0.0213. This means that for each additional day that inventory is held before being sold, entrepreneurial success, measured by ROS, decreases by 0.616 units, holding other factors constant. The negative sign indicates an inverse effect, and the p-value being below 0.05 confirms that this effect is statistically significant. Therefore,  $H_1$  is supported: DIO has a significant negative effect on the entrepreneurial success of Nigerian oil and gas firms. The result highlights the importance of efficient inventory management in maintaining profitability, suggesting that prolonged holding periods for inventory can reduce operational efficiency and ultimately ROS.

For Days Receivable Outstanding, the coefficient is 0.005534 with a p-value of 0.0000. This indicates that for every additional day taken to collect receivables, ROS increases by approximately 0.0055 units. The positive coefficient suggests that allowing slightly longer credit periods may enhance entrepreneurial success, potentially by improving customer relationships or sales volumes. Since the p-value is far below 0.05, this effect is statistically significant. Thus,  $H_2$  is supported: DRO has a positive and significant effect on entrepreneurial success in Nigerian oil and gas firms. It suggests that firms can strategically manage their receivables to optimize sales without jeopardizing liquidity, provided the extension does not lead to excessive defaults.

Regarding Days Payable Outstanding, the coefficient is -0.002935 with a p-value of 0.8554. This means that for every additional day taken to settle payables, ROS decreases by only 0.0029 units, a very small effect. The negative sign indicates an inverse relationship, but the effect is not statistically significant at the 5% level given the high p-value. Therefore,  $H_3$  is not supported: DPO does not have a meaningful effect on entrepreneurial success in the sampled Nigerian oil and gas firms. This may suggest that delaying payments to creditors does not appreciably affect profitability, possibly due to standard payment terms or negotiated arrangements that mitigate any financial impact.

### 4.3. Discussion of Findings

The negative and significant effect of Days Inventory Outstanding on entrepreneurial success suggests that holding inventory for longer periods reduces profitability, likely due to tied-up capital, increased storage costs, and the risk of obsolescence, which constrain cash flow available for productive activities. This finding aligns with Faruna et al. (2025), who reported that longer inventory management periods negatively influenced profitability in Nigerian industrial goods firms, and Nworie et al. (2022), who found that extended inventory conversion periods adversely affected return on assets in food and beverage firms. Similarly, Dengel et al. (2022) observed that higher inventory conversion periods negatively impacted firm value in Nigerian oil and gas companies, while Olowu (2024) highlighted that poor liquidity management, including inefficient inventory practices, could limit entrepreneurial performance. These studies collectively indicate that efficient inventory management is crucial for sustaining profitability and operational efficiency, particularly in sectors where inventory represents a substantial portion of working capital.

The positive and significant effect of Days Receivable Outstanding on entrepreneurial success indicates that longer credit periods to customers can enhance profitability, possibly by supporting higher sales and improving customer relationships, which may outweigh the risks of delayed cash inflows. This result is consistent with Ogbuigwe et al. (2025), who found that accounts receivable turnover positively influenced profitability in Nigerian consumer goods firms, and Almakura et al. (2024), who reported a positive, albeit insignificant, association between liquidity measures and firm performance in oil and gas firms. Additionally, Ithanzu et al. (2025) showed that effective management of receivables had a positive impact on profitability among energy and petroleum companies in Nairobi, suggesting that providing customers with manageable credit terms can support revenue growth. Olambo (2022) also

found that receivables management significantly affects financial performance, reinforcing the notion that strategic credit policies can be a driver of entrepreneurial success.

The negative but insignificant effect of Days Payable Outstanding on entrepreneurial success implies that while extending payment periods to suppliers might marginally reduce profitability, its impact is not statistically meaningful, suggesting that other factors play a more dominant role in determining firm performance. This aligns with Ogbuigwe et al. (2025), who found that accounts payable turnover had a non-significant negative effect on profitability in consumer goods firms, and Omengbeoji and Onuora (2025), who observed that liquidity indicators such as current ratio can influence firm value but not all working capital components have significant effects. Similarly, Faruna et al. (2025) reported that accounts payable period positively affected profitability in industrial firms, while Dengel et al. (2022) found a significant positive effect on firm value, indicating that the effect of payables may vary across sectors and firm strategies. These findings collectively suggest that while managing payables is important for operational stability, its influence on entrepreneurial success may be limited compared to inventory and receivables management.

## 5. Conclusion

The results of this study suggest that the management of operational liquidity plays a critical role in shaping entrepreneurial performance in Nigerian oil and gas firms, influencing profitability through the efficiency of resource utilization and financial decision-making. Efficient control over inventory levels appears to be essential, as excessive holding of stock can tie up capital that could otherwise support productive activities, affecting overall financial performance. At the same time, the ability to manage receivables effectively contributes positively to profitability, indicating that maintaining balanced credit policies and facilitating timely collections can enhance cash flow and support sustained operations. The insignificant effect of payables on entrepreneurial success reflects the nuanced role of obligations to suppliers, suggesting that while managing payment schedules is necessary for operational continuity, it does not directly drive profitability in the sector. Collectively, these outcomes highlight the interconnected nature of liquidity management, where decisions regarding inventory, receivables, and payables influence not only day-to-day operations but also broader firm performance. The findings highlight that entrepreneurial success in this context is closely linked to strategic financial choices that optimize working capital, enhance cash availability, and maintain operational efficiency. They also point to the importance of balancing the timing of cash inflows and outflows to sustain firm growth and profitability, demonstrating that operational liquidity management extends beyond routine accounting practices to serve as a key determinant of a firm's ability to achieve its sales and performance objectives within a competitive market environment.

### 5.1. Recommendations

Since higher inventory days reduce entrepreneurial success, it is recommended that operations managers in Nigerian oil and gas firms reduce the time inventory is held by implementing efficient inventory management systems, optimizing stock levels, and improving turnover to enhance profitability.

As longer collection periods positively affect entrepreneurial success, it is recommended that finance directors and credit managers allow reasonable credit terms to customers, supporting sales growth and strengthening cash inflows without compromising financial stability.

Given that the effect is negative but insignificant, it is recommended that accounts payable teams maintain timely payments to suppliers to avoid potential operational disruptions while focusing resources on areas that have a significant impact on entrepreneurial performance, such as inventory and receivables management.

### 5.2. Contribution to Knowledge

This study contributes to the literature by examining how paying creditors, collecting debts, and managing inventory collectively influence entrepreneurial success in Nigerian oil and gas firms, a relationship that has been largely overlooked in prior research. Unlike earlier studies by Faruna et al. (2025), Ithanzu et al. (2025), Omemgbeoji and Onuora (2025), Ogbuigwe et al. (2025), Olowu (2024), Almakura et al. (2024), Olambo (2022), Dengel et al. (2022), Nworie et al. (2022), and Ebimobowei et al. (2021), which focused on industrial, manufacturing, or consumer goods sectors and measured performance through return on assets, return on equity, or Tobin's Q, this study specifically explores operational liquidity in the oil and gas sector using return on sales as a measure of entrepreneurial performance. By simultaneously considering all three components of working capital management, the study provides a more comprehensive understanding of how operational liquidity drives firm performance. Additionally, employing a fixed effects panel model with Cross-section SUR standard errors enhances the robustness of the findings by addressing panel heteroskedasticity and capturing firm-specific effects over the period 2012 to 2024.

### 5.3. Limitations of the Study and Future Research Directions

This study is limited by its focus on only six listed oil and gas firms in Nigeria, which may not represent all firms in the sector. The research also relies entirely on secondary data from annual reports, which could be affected by reporting errors or differences in accounting practices. Additionally, the study only covers the period from 2012 to 2024, so it may not capture long-term trends or effects beyond this timeframe. The use of return on sales as the sole measure of entrepreneurial success may not reflect other aspects of performance, such as market share or innovation capacity.

Future studies could expand the scope by including more firms across different sectors or regions in Nigeria. Researchers could also consider other measures of entrepreneurial success, such as growth, market share, or innovation, to provide a more complete understanding. Combining primary data through surveys or interviews with secondary data could improve the depth and reliability of findings. Longer time periods could be analyzed to observe trends over a broader timeframe, and alternative econometric methods could be used to validate the results.

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