

# Liquidity Management and Corporate Performance: Evidence from Quoted Oil and Gas Sector Firms in Nigeria

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**Abstract:-** This research work examines effects of Liquidity management on firm's corporate financial performance. This research study used ex-post-facto research design and stratify random sampling techniques to select ten out of twelve oil and gas sector firms listed in Nigerian stock Exchange(NSE), selecting and Applying the secondary data sorted from the annual financial reports of quoted oil and gas companies in Nigeria. And data collected were effectively analyzed using descriptive statistics techniques, correlation analysis and ordinary least square regression. The detailed research findings shows that the firms Liquidity management has a positive and significant impacts on corporate financial performance of the companies Quoted Nigeria oil and gas sector firms. The results from the findings also revealed that Current ratio, Accounts receivables significantly and positively influence firm's corporate performance while cash conversion circle and quick ratios shows negative, significant effects on firm's corporate performance of the firms under review. Base on the finding, the study recommends among others that oil and gas sector companies should consider liquidity management as part of their organizational management policy as this will directly influence of their financial performance and wealth creation.

**Keywords:-** Liquidity Management, corporate performance, oil and gas Sector, Nigeria.

## I. INTRODUCTION

A firm's corporate value cannot be fully maximized on the long run unless it survives the short run business challenges and Firms run into loses most often because they are unable to meet their liquidity demands; importantly, effective liquidity management is a requisite for firm's survival (Deloof, 2003). Operationally, firm's corporate finance involves capital planning and budgeting, capital structure and liquidity management, capital budgeting and structure focuses on business areas such as its overall investments in non- current assets and the management of long-term period capital. In the same vein, an organization's investment in current assets takes the form of inventories, cash and bank deposits, short term securities and accounts receivables are called liquid assets. A business organization may be able to operationally reduce its investment on non-current assets through leasing, but this becomes practically difficult decision to take for current assets. (Afza & Nazir 2008). The term liquidity means a firm's ability to repay and meet its short term financial obligations by converting its

short term assets into cash without incurring or suffering any loss (Falope & Ajilore, 2009). The importance of liquidity management as it affects corporate firm's establishment, smooth operation and profitability in today's business cannot be overstated, as it plays a crucial role in the successful daily functioning of corporate firms globally. The sustainability of a firm vividly depends on the ability and success of it financial management operational function, (Karaduman, Aknas, Caliskan, & Durer, 2011).

Liquidity management determines to a large extent the profitability level or managerial results from a business organization and as well as the value of shares in the stock exchange market and shareholders wealth (Ben-Caleb, 2009). A study of firm's liquidity is very important to all stakeholders (internal and external financial statement users or analysts) because of its close relationship with daily business operational activities (Bhunia, 2012). Thus it is very possible to argue that liquidity can be seen as a life wire of the firms and its adequate management can help towards its success and the sustainability of the firm as while its inefficient liquidity management may lead such firms to bankruptcy (Padachi, 2006).

Liquidity management is very vital financial working tool for every firm which desires to repay its current financial obligations of business. These financial obligations are operating and/or financial debts., expenses that are short term in nature mostly, but increasing long period debt. This is because a business entity, in order to remain in business must be liquid, as failure to meet its financial demands or obligations at when due may result in bad credit rating by the short term firm's creditors, thereby reducing the value of its goodwill in the respective markets which the firm operate and may ultimately leads to bankruptcy and liquidation if not quickly managed (Bhavet, 2011).

Regrettably, the main focus of numerous corporate entities is profits making while the need for effective and efficient management of non- current and current assets is neglected. This idea is justified by the poor belief that profitability and liquidity are conflicting business finance goals and that, a firm can only pursue one at the expense of the other, in according to the theory of liquidity and profitability trade-off. But contrarily, Padachi (2006) is of the view that a firm is required to maintain an impartial between liquidity and profitability while performing its daily business operations. Reason had been that both inadequate liquidity and surplus liquidity directly affect firm's profitability (Ogundipe, Idowu and Ogundipe, 2012). For

example, when a firm overtrades or its requisition exceeds the economic order quantity set by management and their surpluses when the market risk remains stable it is viewed as ineffective utilization of resources which has an adverse effect on firm’s profitability. An insufficient working capital of a firm on the other hand, which lead to a liquidity crisis and a firms operational life is threatened can force a business or entity into bankruptcy, this also affect investments returns of the firm (Purity, 2013, Obida, & Owolabi 2012)

**II. LITERATURE REVIEW**

Adebayo, M., Adeyanju, D., & Olabode, S. (2011).Examined the impacts of liquidity management on Nigerian commercial banks profitability. Their research work concludes that a significant relationship exist between liquidity and profitability, and states that banks profitability is determined by their level of liquidity management. In a similar study on the impact of financial ratio on profitability, Saleem and Rehman (2011) found that financial ratios have significant effects on the financial positions of enterprise with differing amount and liquidity accounts for different amounts.

Although a number of researches have been done on this topic globally, and very few in Nigeria with its main

focus on the banking sector, manufacturing sector and non-financial sectors. And no study on Liquidity Management and Corporate performance evidence from the Oil and Gas sector firms in Nigeria (to the best of my knowledge). Still the nature of liquidity management influence on corporate performance are mixed and still not entirely recognized. Deloof (2003); Smith (1980), Shin and Soenen, (1998), the researcher deemed it necessary to fill these gaps.

**III. METHODOLOGY**

The study used the time series data and this approach was on descriptive research design. The used ex-post- facto research design was selected and used because the events (business transactions) has already taken place, therefore the data already exist and the study manipulated on its nature or value. The study used the secondary data of ten public listed oil and gas business entities collected in ten years between 2007- 2016. The data were retrieved from the firm’s published financial statements (Annual reports) of the various quoted companies used in the study and the stock exchange fact-book. The study used the stratified random sampling techniques. And it’s base on the availability of data and selects ten (10) oil and gas sector firms out of twelve (12) firms quoted in Nigeria stock Exchange (NSE)

The variables used in the study were operationalized as follows:

Variable	Measures / Proxy	Source
Returns on Assets (ROA)	Net profit / total assets	Financial Report
Cash conversion Cycle	Receivables / payables and Inventories	Financial Report
Accounts Receivable (AR) Ratio	Receivable / Purchases/ cost sales	Financial Report
Quick ratio (QUR)	(Current Asset-Inventory) /current liability	Financial Report
Current ratio (CUR)	Current Asset / Current liability	Financial Report
Accounts Payable (AP) Ratio	Accounts Payable/Sales	Financial Report
Operating cash flows (OPCF)	Operating cash flows / Total assets	Financial Report

Table 1

**A. Model Specification**

The model for this research work is premised on the main objective of this research and anchored on the sub-objective.

$$ROA = f(QUR, CUR, OPCF, ACCR, ACCP, CCC, \dots) \dots\dots\dots 1$$

This can be mathematically express as follows:  
 $ROA_{it} = d_0 + d_1 QUR_{it} + d_2 CUR_{it} + d_3 OPCF_{it} + d_4 ACCR_{it} + d_5 ACCP_{it} + d_6 CCC_{it} + E_{it} \dots\dots\dots 2$

**IV. ANALYSIS AND INTEPRETATION**

This research work investigates the effect of liquidity management on corporate performance of listed firms of the oil and gas industry firms in Nigeria. In analyzing the data, the study adopted multiple regressions. However, some preliminary analysis such as descriptive statistics, correlation matrix and diagnostic test like normality test, multi-collinearity and autocorrelation test were done to ascertain the nature, characteristics and normality of the data used in this research work.

	ROCE	ACCP	ACCR	CCC	CURA	QUKR	OPCF
Mean	0.5181	0.2284	0.3303	0.2055	0.3971	0.7915	0.7107
Maximum	1.3200	0.6360	0.7300	3.6000	0.9600	3.3800	3.8500
Minimum	0.2000	0.0680	0.0000	-0.0280	0.0040	0.0800	0.0780
Std. Dev.	0.1996	0.1446	0.1482	0.3896	0.2482	0.4850	0.4309
Jarque-Bera	5.1013	22.422	1.1536	14485.7	5.9971	1001.0	3209.9
Probability	0.0780***	0.0000*	0.5617	0.0000*	0.0499**	0.0000*	0.0000*
Observations	97	97	97	97	97	97	97

Table 2: below, provides the summary of the descriptive statistics

Source: Researcher’s (2018). Note: \*\*10% level of significance \*1% level of significance

The descriptive statistics result provided some insight into the nature of the data collected from the selected firms that were used in the study. Firstly, it was observed that within the period under review, the sampled firms have positive return on capital employed which is average at 0.5181. The study also observed a large difference numerical gap between the maximum value and the mean value shows that the sampled firms used for the study are dominated with firms that perform low. The standard deviation value of 0.1996 reveals that, performance of the business organizations used revolves around the minimum value. This reveals that most of the firms used perform poorly as indicated by the minimum and mean value. Secondly, it was observed that on the average over the period, the selected firms has positive operating cash flow with a mean value of 0.7107 maximum and minimum value of 0.3.8500 and 0.0780 respectively, the large difference between the maximum and minimum operating cash flow reveals only few firms has high level of operating cash flows, majority of the firm operating cash flows.

Account payable has a mean value of 0.2284, maximum value of 0.6360 and minimum value of 0.0680. The large difference between the mean value and the maximum value shows that most firm account payable is

below the 22.8 days collection period. Cash conversion cycle has a mean value of 0.2055 maximum value of 3.600 and minimum value of 0.0280. The table shows that quick ratio has a mean value of 0.7915, maximum value of 3.3800 and minimum value of 0.0800. the value indicates that most firm has low quick ratio while only few firm has high quick ratio.

Lastly, the Jarque –bera (JB) which test for normality of the data or the existence of outlier shows that all the variables are normally distributed at 1% level of significance except current ratio and profitability (ROCE) which is normally distributed at 5% and 10% level of significance. Account receivable is not normally distributed. The failure of the account receivable may not distort the result. This means that no outlier that may likely distort our conclusion, hence our result is reliable for drawing generalization. This also means that ordinary least square estimation techniques can be used to estimate the panel regression model.

A. Correlation Analysis

In examining the relationship among the variables, the study employed the Pearson correlation coefficient (correlation analysis), the results are presented in table 3.

	ROCE	ACCP	ACCR	CCC	CURA	QUKR	OPCF
ROCE	1.000000						
ACCP	-0.303081	1.000000					
ACCR	0.239150	-0.190508	1.000000				
CCC	-0.139908	0.028527	-0.018745	1.000000			
CURA	0.202005	-0.167231	-0.089676	-0.063277	1.000000		
QUKR	-0.110591	-0.086022	-0.078296	0.008073	0.063576	1.000000	
OPCF	-0.017453	-0.167428	-0.386294	-0.079975	0.209157	0.064363	1.000000

Table 3: Pearson correlation matrix

Source: Researchers summary (2018) of e-view 8

The findings from this correlation analysis table above, shows that return on firm’s capital employed has a negative relationship with account payable, cash conversion cycle, quick ratio and operating cash flow. But it has positive significant relationship with current ratio and account receivable. This positive relationship shows that an increase in the account receivable and current ration positively influences the level of return on capital employed of oil and gas firms. The negative relationship reveals that the higher the account payable, cash conversion cycle, quick ratio an operating cash flow, the lower the return on capital employed of oil and gas firms in Nigeria.

In checking for multi-colinearity the study noticed that no two explanatory variables were perfectly correlated. This indicates the absence of multi-colinearity problem in the model used for the analysis and also justifies the use of the ordinary least square.

B. Hypotheses Testing

To examine the effect of liquidity management on corporate performance, the study used the multiple regression analysis. The result obtained is summarized in table 4 below.

	Coefficient Value	Probability value
C	0.518258	0.0000
ACCR	0.249853	0.0892
ACCP	-0.343827	0.0164
CCC	-0.060902	0.2167
CURA	0.147280	0.0659
QUKR	-0.052025	0.1906
OPCF	-0.012599	0.8024
R-squared	0.487963	
Adjusted R-squared	0.433828	
F-statistic	3.472075	
Prob(F-statistic)	0.003926	

Table 4: Return on capital employed Model

Source: Researchers summary of OLS regression Analysis from E-view 9.5

In table above, the study observed from the result the R. sq value of 48.796 and R-sq(adj) 43(38%) this implies that all the independent variables jointly explain about 43% of the variation in firm's corporate performance (ROCE) of the sampled firms. Hence about 43% of the firm performance can be attributable to the liquidity management. The F-statistics value of 3.4721 and its probability value of 0.0039 shows that liquidity management has effect on firm performance and the effect is statistically at 1% levels.

• **Hypotheses 1:** Quick ratio has no significant effect on corporate performance.

The analysis result showed a coefficient value of -0.0520 and a P-value of 0.1906. The negative coefficient value of 0.0520 reveals that quick ratio negatively influences the return on capital employed of firms such if quick ratio is not properly manage, one percent increase in the quick ratio can lead to about 0.05 percent decrease in the corporate performance. The probability value of 0.1906 reveals that the effect of quick ratio on return on capital employed is not statistically significant. Based on the analysis result, the study rejects the alternate hypothesis and accepts the null hypothesis, it therefore concludes that, quick ratio has no statistical significant effect on return on capital employed of firms listed in oil and gas sector of the Nigeria stock exchange.

• **Hypotheses 2:** Current ratio has no significant effect on corporate performance.

The analysis result showed a coefficient value of 0.1473 and a P-value of 0.0659. The positive coefficient value of 0.1473 reveals that current ratio positively influences the corporate performance (return on capital employed) of firms such that one percent increase in the current ratio can lead to about 0.15 percent increase in the corporate performance. The probability value of 0.0659 reveals that the effect of current ratio on corporate performance (return on capital employed) is statistically significant. Based on the analysis result, the study rejects the null hypothesis and accepts the alternate hypothesis it therefore concludes that current ratio has statistical significant effect on return on capital employed of firms listed in oil and gas sector of the Nigeria stock exchange.

• **Hypotheses 3:** Operating cash flow has no significant effect on corporate performance.

The analysis result showed a coefficient value of -0.0126 and a P-value of 0.8024. The positive coefficient value of -0.0126 reveals that operating cash flow negatively influences the corporate performance (return on capital employed) of firms such that one percent increase in the operating cash flow can lead to about 0.01 percent decrease in the corporate performance. The probability value of 0.8024 reveals that the effect of operating cash flow on corporate performance (return on capital employed) is not statistically significant. Based on the analysis result, the study rejects the null hypothesis and accepts the alternate hypothesis it therefore concludes that operating cash flow has no statistical significant effect on return on capital employed of firms listed in oil and gas sector of the Nigeria stock exchange.

• **Hypotheses 4:** Account receivable has no significant effect on corporate performance.

The analysis result showed a coefficient value of 0.2498 and a P-value of 0.0892. The positive coefficient value of 0.2498 reveals that account receivable positively influences the return on capital employed of firms such that one percent increase in the account receivable can lead to about 0.24 percent increase in the corporate performance. The probability value of 0.0892 reveals that the effect of account receivable on return on capital employed is statistically significant. Based on the analysis result, the study rejects the null hypothesis and accepts the alternate hypothesis it therefore concludes that, account receivable has statistical significant effect on return on capital employed of firms listed in oil and gas sector of the Nigeria stock exchange.

• **Hypotheses 5:** Account payable has no significant effect on corporate performance.

The analysis result showed a coefficient value of -0.3438 and a P-value of 0.0164. The negative coefficient value of -0.3438 reveals that account payable negatively influences the return on capital employed of firms such that one percent increase in the account payable can lead to about -0.34 percent decrease in the corporate performance. The probability value of 0.0164 reveals that the effect of account payable on return on capital employed is statistically significant. Based on the analysis result, the

study rejects the null hypothesis and accepts the alternate hypothesis it therefore concludes that, account payable has statistical significant effect on return on capital employed of firms listed in oil and gas sector of the Nigeria stock exchange.

• **Hypotheses 6:** Cash conversion cycle has no significant effect on corporate performance.

The analysis result showed a coefficient value of -0.0609 and a P-value of 0.2167. The negative coefficient value of -0.0609 reveals that cash conversion cycle negatively influences the corporate performance (return on capital employed) of firms such that one percent increase in the cash conversion cycle can lead to about 0.06 percent decrease in the corporate performance. The probability value of 0.2167 reveals that the effect of cash conversion cycle on corporate performance (return on capital employed) is not statistically significant. Based on the analysis result, the study rejects the alternate hypothesis and accepts the null hypothesis it therefore concludes that cash conversion cycle had no statistical significant effect on return on capital employed of firms listed in oil and gas sector of the Nigeria stock exchange.

## V. SUMMARY OF FINDINGS

The study investigates the effect of liquidity management on corporate performance of the Oil and Gas sector firms in Nigeria using the panel data collected from ten quoted companies within the period of ten years from 2007 to 2016. Descriptive statistics, correlation and multiple regression analysis was used for the analysis; other diagnostic test was also conducted and interpreted. The study used six proxies to measure the level of Firm's liquidity Management and they are Quick ratio, Current ratio, Accounts receivables, Operating Cash Flows operating, Accounts Payables and Cash Conversion circle. These measures are also used in the work of Duru (2007), Akinyomi & Tesie (2014). The result of the research reveals thus:

- Base on the analysis findings, the study finds that Liquidity management has a positive statistical and significant influence on corporate financial performance of the quoted oil and gas companies in Nigeria. This implies that liquidity management influences the corporate financial performance of the quoted oil and gas sector companies in Nigeria. This finding is in line with the work of Duru, (2007), Ali, (2015), and Ali & Stanley (2016)
- Quick ratio has a negative statistical significant effect on the business performance of the oil and gas sector firms in Nigeria. This finding is in line with the work of Qasim & Ramiz, (2011) Bunnia, Khan & Mukhuti (2011) Wang, (2002)
- The analysis result showed that current ratio show the ability of the firms to meet up with their short term obligations; the result reveals that the current ratio of the selected firms under review has a strong positive statistical significant effects on the financial performance. This reveals that current ratio has positive significant effect on corporate financial performance of the oil and gas sector firms in Nigeria. This finding also goes in line with the

work of Ali,(2015) Bunnia, Khan & Mukhuti (2011) Wang, (2002)

- On the analysis result, the study finds that Operating Cash Flows management has a Negative statistical and significant effect on corporate financial performance of the quoted oil and gas companies in Nigeria. This result implies that operating cash flows management adversely influences the corporate financial performance of quoted oil and gas firms in Nigeria. This finding is in line with the work of Stanley (2016) and Zhang, (2011)
- Accounts receivables has positive statistical and significant effects on corporate performance of the oil and gas sector firms in Nigeria which means that liquidity management via accounts receivables influence the corporate financial performance of quoted oil and gas sector companies in Nigeria. This finding is in line with the work of Duru, (2007), Devraj (2013) and Purity (2013)
- Accounts payables has negative statistical and significant effects on corporate performance of the oil and gas sector firms in Nigeria which means that liquidity management through current liabilities repayments negatively influence the corporate financial performance of quoted oil and gas sector companies in Nigeria. This finding is in line with the work of Ali (2015) and Duru, (2007)
- Operating cash flows and cash conversion circles also has negative statistical and significant effects on corporate firm's performance of the oil and gas sector firms in Nigeria which means that liquidity management through these variables negatively influence the corporate financial performance of listed oil and gas sector business entities in Nigeria. This finding is in line with the work of Duru, (2007), Kwashi,(2010) and Olubukunola & Uwuijbe (2013)

The R.Sq(Adj) of the regression analysis reveals that all the independent variables can cause 43.38% variation in corporate performance and dividend policy. Thus if managers adopt appropriate liquidity management policy and techniques, the firms under review and other related firms will always find it easy to meet their business obligations and take advantage of opportunities at all time. The study reveals that corporate financial performance depends majorly on the effective liquidity policy in operation.

## VI. CONCLUSION

Various empirical finding has been inconclusive on the effects of liquidity management and corporate performance, some studies showed that all the various measure of liquidity used for the study has positive effects on corporate performance, though the degree effect differs. This indicates that the level of liquidity in the oil and gas sector firms in Nigeria influence the extent of profitability and overall corporate performance. This study further collaborate the Anticipated income theory and Agency theory as current ratios, quick ratios and Accounts receivables ratio have a positive relationship with profitability. These theories suggest that firm's director and manager properly anticipates total sales, credit sales and putting in place good measures to recover debts at when as managerial effectiveness in this

regards will influence corporate performance. Client's credit rating is done by firms management, short term funds are sourced and negotiated by firm's management with different interest groups. Additionally, the firms use liquid assets to finance its operations and re-invest excesses and these investments analyses are done by firm's managers whose personal interests are not known to shareholders, thus corporate organizations will tend to increase their liquidity until it reaches optimal level which maximizes profit and meet up its financial obligations. The study also follows that hirigoyen (1985) whose study shows that over the medium and long run there exist a relationship between liquidity and profitability could become positive, in the sense that a low liquidity would result in a low profitability die to greater need for loans and low profitability would not generate sufficient cash flow, thus the forming a vicious cycle.

## VII. RECOMMENDATIONS

Base on the analysis result and empirical literature, the study makes the following recommendation:

- Firms quoted in the oil and gas industry should improve their liquidity management via inventory controls, excessive cost reduction and increase production because it has direct effect on the liquidity level and overall corporate financial performance of their firms. As financial performance has been empirically proven to be stakeholder's tool for evaluating management performance.
  - The quick ratio evaluate the firm's straight towards meeting its financial obligations without losing value through the sale of assets (current assets - inventory) this study therefore recommends that organizations under reviews should ensure a positive quick ratio maintained that can guarantee it ability to meet up with short term debt.
  - Current ratio shows the effectiveness of the firms to repay or meet up its short term financial demands. Firm meeting their obligations to various stakeholders especially creditors is a litmus test for survival and smooth business operations. Managers should ensure adequate and effective management of the non-fixed assets and eliminate the possibility of over trading which help firms under review and other related firms attain desired level of current ratio of 2:1 which is used for business credit rating and viability.
  - Operating cash flows measures the ability of the firms under reviews to effectively manage cash flows via making adequate plans for short and long term investments, dividends payment policy. Thus the study recommends that a firm ensures effective operating cash flows to attain high profit level.
  - On Accounts Receivables this ratio measures firm's ability to effectively collect debts from its debtors and putting good measures such as debts discounting and other policies to properly manage the firm's bad debts profiles and In the same vain firms under review and its allied are by this research work encouraged to effectively manage accounts receivables via assessment of debtor through the anticipated income theory and others to effective management accounts receivables which in turn increase profitability and create wealth for firms shareholders.
- Accounts payables: firm management are via this work advised to properly manage accounts payable for companies interest by timely projecting payment plans in such a way to attract debts discounts and commissions and delay payment were necessary to use funds meant for debts payment for other business uses with the view of increasing profitability.

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