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EFFECTS OF ASSETS UTILIZATION ON FIRMS' FINANCIAL PERFORMANCE: A STUDY OF SELECTED OIL AND GAS FIRMS IN NIGERIA

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Abstract:
The challenges of assets utilization are critical to the growth and performance of firms in terms of liquidity, profitability and survival. Thus, there is need to examine the effects of assets utilization on firms' financial performance. Different variables were used as proxy for asset utilization as most previous works tested the effects of the entire fixed assets on performance, while this study separated fixed assets into tangible and intangible assets. Secondary data which were obtained from the financial statements of six Oil and Gas firms for thirteen years (2007 – 2019) were employed for the study. Descriptive statistics, panel unit root test, co-integration and Panel Dynamic Ordinary Least Squares (DOLS) regression estimation technique were adopted in analyzing the data. The results of the study revealed that tangible assets utilization had no effects on profitability, while the intangible assets utilisation had effects on profitability. It also revealed that current assets utilization (Inventory and Accounts Receivable) had effects on firms' profitability. The study recommended that the amount of capital investment incurred by Oil and Gas firms on fixed asset should be considered by focusing on assets to liabilities proportion in order to avoid over-capitalisation.

Key words: Assets utilization, non-current assets, current assets, firms' performance, oil & gas firms

JEL classification: G32, M41

1. INTRODUCTION

Assets are valuables of firms because they represent the resources controlled by the entity which yield economic returns or inflow to the entity. Assets can be classified into fixed or non-current assets and current assets which serve as fundamental basis for analyzing financial position of firms for purposes of shareholders' wealth maximization. Assets utilization depends on management policy on assets; nevertheless, return on assets measurement is crucial for firms in order to determine the level of increase in liquidity, profitability, solvency and efficiency. Ray and Chakraborty (2014) stated that assets utilization refers to the usage of firm's assets efficiently to maximize sales revenue and attain a reasonable profitability level. Assets utilization can be viewed from various perspectives of usage of asset such as economic life span, liquidity of firms' current assets turnover, assets revaluation and capital realization. According to IFRS 13 on fair value measurement, assets are to be measured at cost and at fair value on subsequent year; this will reveal the current value of the asset. Fair value explained the measurement value of an asset sold, or payment made for the transfer liability in an logical transaction between market participants (Schweser, 2013; Nikolaev, 2013).

Assets utilization technique is the parameter and major technique for financial performance assessment in relations to financial position. Ubesie and Ogbonna (as cited in Ofor & Farajimakim, 2020) defined assets utilization as a tool used in identifying asset opportunity gap. Assets utilization

is important for going concern of firms, liquidity position, profitability level, leverage position and channeling of limited resources to achieve firms' objectives. The major challenge of assets utilization is how to critically evaluate the maximum returns derived from the assets purchased over the economic life span in monetary terms and to reflect the effects of the returns on the financial position of firms. Also, the wear and tear suffered by assets are mainly due to lack of maintenance culture by management of firms (Akinleye & Dadepo, 2019). Improper assets management is an issue of concern for effective assets utilization which will affect liquidity position, activity/efficiency level, profitability and leverage (debt to equity) position. Ames (as cited in Peninah, 2016) considered that most businesses failed in assets management and utilization as a result of over investment on fixed assets (non-current assets) and poor inventory management (current asset). Hence, this serve as a fundamental reason for the investigation of management and utilization of assets and its effects on firms' performance considering the high level of investment on non-current assets (fixed assets) in Oil and Gas firms.

Most previous works on assets utilization were carried out in other sectors like the banking and manufacturing firms (Lubyanaya, Izmailov, Nikulina, & Shaposhnikov, 2016; Akinleye & Dadepo, 2019), but very few focused on the petroleum sector. Furthermore, the method of analysis (Panel Dynamic Ordinary Least Squares) adopted helped to critically examine the effect of individual variables and interaction which enables economic decision for firms willing to apply proper assets utilization strategy. Also, previous studies used fixed assets as a whole, while this study separated non-current assets into Tangible Assets (PPE) and Intangible Assets as a measurement of non-current assets utilization; therefore, the study employed the use of these variables as measurements of assets utilization and its effects on firms' performance. Profit before Interest and Tax was used as proxy for performance, while non-current assets utilization was proxy with tangible assets and intangible assets; current assets utilization was proxy with inventory and account receivable. Consequently, the study considered two specific research objectives such as examining the influence of non-current assets utilization on firms' performance and evaluating the effects of current assets utilization ratios on firms' performance.

The study is structured into different sections from the introduction, literature review (theoretical and empirical review), methodology, results and findings, discussion of findings and finally, the conclusions reached and necessary recommendations.

2. LITERATURE REVIEW

Assets utilization measures the rate at which firms employ their assets optimally in order to increase the value of their sales and maximize profitability. The criteria for measurements of assets utilization are based on the cost of the assets, residual value, replacement costs and economic life span of the asset. The level of assets utilization need to be reviewed based on profitability, stability, efficiency and liquidity.

2.1.THEORETICAL REVIEW

Kraus and Litzenberger (1973) propounded trade-off theory which states that a company needs to balance costs and benefits by choosing the level of debt finance pattern and the rate of equity finance to be utilized. The theory helps to examine the benefits of investment in assets with respect to the source of finance. The theory assumed that optimum capital structure is a factor of firms' sufficient assets; effective and efficiency utilization of assets will have effect of firm's financial performance.

Hence, a bigger collateral leads to a bigger potential leverage; a higher share of current assets results into a greater long-term asset; and a higher share of current assets results to a lower short-term debt (Koralun-Bereźnicka, 2013). Therefore, proper decision on debt-to-equity financing of assets acquisition will increase efficiency of the firm that will emanate into the firm being profitable, liquid and able to meet its long-term financial obligations.

Agency theory was first introduced by Stephen Ross and Barry Mitnick in 1973, but later developed by Jensen and Meckling (1976). The agency theory focused on the relationship between the shareholders (principals) and managers (agents) of firms. The theory supports principals' (shareholders) wealth maximization and for the agents (managers) to lower cost of maintenance of assets in order to achieve such objective. Berle and Means (as cited in Panda & Leepsa, 2017) suggested that agency theory also contributes to assets utilization. Agency conflicts arise as a result of conflict of interests between the principals and the agents which results to agency cost ((Jensen, as cited in Panda, & Leepsa, 2017). The agents are responsible for the effective and efficient utilization of the assets in realization of optimal profitability, liquidity position and solvency level.

Freeman (1984) propounded the stakeholder's theory and the major believe by the stakeholder theorist was the need for collective group to maximize the firm's overall performance. The theory examined the basis of financial success on the constituent group and the worth of the firms in terms of intrinsic and extrinsic value which is based on collective shares ownership and company structure. The core business strategy for long term financial stability, assets utilization, profit maximization and corporate social responsibility is based on the value of the stakeholder. According to Freeman, Wicks and Parmar (2004), the ability to influence the assets utilization and performance of firms in correlation to the achievement and objectives of the firm can be levied on any person or group of persons which are the stakeholders. The theory affirms that in achieving assets utilization, firm performance, better liquidity position and good solvency level, the interest of the stakeholders must be duly considered.

2.2.EMPIRICAL REVIEW

A study of eighty-eight American firms listed on New York Stock Exchange for 2005 to 2007 was carried out by Gill, Biger and Mathur (2010) to determine the correlation between working capital management and profitability of the firms. Regression analysis was conducted and the study discovered that working capital management was statistically significant to firms' profitability. More so, it also revealed that average days of accounts receivable and profitability of the firm were negatively related, while cash conversion cycle and firms' profitability were positively related. ZhengSheng and Mawih (2014) worked on the effects of asset structure on financial performance and it revealed that asset structure did not have impact on ROE but in petroleum sector, it had effect. Olatunji and Tajudeen (2014) examined the effects of fixed assets investments on profitability of commercial banks in Nigeria. The study showed that there was a strong and positive statistical effect of investment in fixed assets on profitability of Nigerian Banking sector.

Yahaya, Kutigi, Solanke, Onyabe and Usman (2015) determined the relationship between current assets management and financial performance of fifteen Nigerian deposit money banks for a period of five years that is 2010-2014. The results of the study showed that cash and bank balances, financial assets, loans and advances and return on asset were positively related. It also suggested that the relationship between derivative assets, loans and advances and return on asset were negatively significant. Harc (2015) examined tangible assets effects on capital structure by conducting a research on Croatian small and medium-sized enterprises with a sample of 500 SMEs in Croatian 2005 to 2010. The findings revealed that tangible assets had negative relationship with short term leverage and were statistically significant during the period of 2005 to 2010. Also, it showed that there was positive and statistically significant relationship between tangible assets and long-term leverage.

In the work of Gladys and Job (2017), quoted firms under service sector of Nairobi Stock Exchange within the period of 2010 and 2014 showed the effects of asset structure on the financial performance. The study revealed that asset structure had significant effects on financial performance of firms; non-current asset had impact on financial performance, while current assets and intangible assets had no statistical significance on financial performance, Akinleye and Dadepo (2019) studied assets utilization and performance of Ten (10) selected quoted manufacturing firms

in Nigeria for 2012 to 2016. It was revealed that assets utilization had positive and significant effects on performance of manufacturing firms in Nigeria. Ofor and Farajimakim (2020) examined the effects of assets utilization of net worth of big cap companies quoted in the Nigeria Stock Exchange between 2012 and 2016. It was revealed that both current assets and tangible non-current asset were positively significant with net worth of companies.

3. METHODOLOGY

The study adopted Akinleye and Dadepo (2019) method by purposefully selecting Six (6) Oil & Gas firms in Nigeria. The firms selected were Conoil Plc, Japaul Oil & Maritime Services Plc, Eterna Plc, MRS Plc, Oando Plc and Forte Oil. These firms were selected due to their large market shares in the Oil and Gas sector compared to other firms in the same sector and also due to availability of data. Data were obtained from the annual reports of 2007 to 2019. The dependent variable was financial performance (Profit before Interest and Tax); independent variables were Non-Current Assets (Tangible Asset (PPE) and Intangible Assets (goodwill, brand and patent rights) and Current Assets (Inventory and Account Receivable), while Size was used as controlled variable. Panel Dynamic Least Squares (DOLS) regression was employed to unravel the relationship between dependent and independent variables via linear function under the standard assumptions. E-views statistical software 9.0 was used for data analysis.

3.1. RESTATEMENT OF RESEARCH QUESTIONS

The two research questions are stated below:

i. What influence does non-current assets utilization have on firms' performance?
ii. Do current assets utilization ratios have effects on firms' performance?

3.2. MODEL SPECIFICATION

In order to attain normality, the model is stated in log-linear form as:

$$InPBIT_{it} = \beta_0 + \beta_1 InTA_{it} + \beta_2 InITA_{it} + \beta_3 InIV_{it} + \beta_4 InARV_{it} + \beta_5 InS_{it} + \mu_{it} \quad \ldots eqn2$$

Where:
PBIT = Profit before Interest and Tax
TA = Tangible Assets
ITA = Intangible Assets
IV = Inventory
ARV = Account Receivables
S = Size
β_0 = Intercept Coefficient
β_1 = PBIT coefficient with regards to TA
β_2 = PBIT coefficient with regards to ITA
β_3 = PBIT coefficient with regards to IV
β_4 = PBIT coefficient with regards to ARV
μ = Error term
i= 1, 2, …, 6 (individual firm)
t = 2007, 2008, … ,2019

4. RESULTS AND DISCUSSION

4.1. DESCRIPTIVE STATISTICS

Table 1 showed that PBIT (-4.937) was negatively skewed and it showed symmetrical nature of data. Jarque-Bera statistic of 3888.450 with p=0.0000<0.05 showed a rejection of the null hypothesis of normality which means distribution of data were not normal. TA, ITA, ARV, IV and S series with skewness of 4.9079, 3.1925, 1.5314, 1.7220 and 1.8688 respectively revealed positively skewed variables and asymmetric in nature. The Jarque-Bera statistic of 3011.646, 397.1576, 39.69084, 70.93148 and 76.88003 for TA, ITA, IV, ARV and S respectively with all p=0.0000<0.05 also showed that all these variables were not distributed normally.

Table 1. Descriptive Statistics

	PBIT	TA	ITA	ARV	IV	SIZE
Mean	-338026.5	54050673	33200182	31775654	6915278	1.42E+08
Median	1626729	13304561	40457.00	20577993	5605721	95311154
Maximum	41028755	9.47E+08	4.32E+08	1.39E+08	32458405	6.79E+08
Minimum	-1.38E+08	543320.0	0.000000	593632.0	12527.00	725471.0
Std. Dev.	19129723	1.28E+08	99812054	33395802	6878033	1.53E+08
Skewness	-4.937184	4.907850	3.192496	1.531495	1.722043	1.868788
Kurtosis	36.15031	31.81514	12.02409	4.682455	6.156476	6.112222
Jarque-Bera	3888.450	3011.646	397.1576	39.69084	70.93148	76.88003
Probability	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Observations	78	78	78	78	78	78

Source: Researchers' computation, 2020 using E-views

4.2. PANEL UNIT ROOT TEST

Levin, Lin and Chu; Im, Pesaran and Shin; ADF-Fisher chi-square and PP-Fisher Chi-square panel unit root tests were adopted to check the stationarity of data. The results on (Table 2) revealed that PBIT and IV were stationary at level with p<0.05; therefore, the null hypothesis was rejected, while TA, ITA, ARV and SIZE with p>0.05 showed that the variables were not stationary at level. Meanwhile, at first difference, TA, ITA, ARV and SIZE showed that p<0.05 which suggested a rejection of the null hypothesis at I(1). Hence, since the variables were stationary at first difference, there is need for panel co-integration test.

Table 2. Panel Unit Root Test

Variables	Levin Lin & Chu: p-value	Im, Pesaran and Shin: p-value	ADF-Fisher chi-square: p-value	PP-Fisher Chi-square: p-value
@ Level				
PBIT	0.0000***	0.0014***	0.0042***	0.0030***
TA	0.3330	0.7438	0.6983	0.3066
ITA	0.0966	0.2484	0.4261	0.6663
IV	0.0084***	0.0334***	0.0282***	0.4087
ARV	0.6124	0.5672	0.5379	0.6021
SIZE	0.1958	0.1368	0.1109	0.7205
@1st Diff				
PBIT	-	-	-	-
TA	0.0000***	0.0000***	0.0000***	0.0000***
ITA	0.0002***	0.0354***	0.0258***	0.0906
IV	-	-	-	-
ARV	0.0108***	0.0500***	0.0026***	0.0000***
SIZE	0.5249	0.0497***	0.0369***	0.0105***
*** level of significance at 5% respectively				

Source: Researchers' computation, 2020 using E-views

4.3. CO-INTEGRATION TEST

Table 3 showed the various panel co-integration results (Pedroni Residual and Kao Residual). Co-integrating equation at 5% significance level with the assumption of linear deterministic trend in the data revealed that two of the variables co-integrated under Pedroni residual panel co-integration while Kao residual panel co-integration test revealed that there was co-integration between all the variables. Considering Pedroni residual and Kao residual panel co-integration tests, it could be deduced that there was a long-run relationship between PBIT, TA, ITA, IV, ARV and SIZE.

Table 3. Panel Co-Integration Test

Pedroni residual co-integration test								
Series	**Panel v-statistic**		**Panel rho-statistic**		**Panel pp-statistic**		**Panel-ADF statistics**	
	Statistic	**Prob.**	**Statistic**	**Prob.**	**Statistic**	**Prob.**	**Statistic**	**Prob.**
PBIT, TA, ITA, IV, ARV, SIZE	1.5771	0.0574	0.8149	0.7924	-5.1615	0.0000***	-5.0698	0.0000***
Series	**Group rho-Statistics**		**Group PP-Statistics**		**Group ADF-Statistics**			
	Statistic	**Prob.**	**Statistic**	**Prob.**	**Statistic**	**Prob.**		
PBIT, TA, ITA, IV, ARV, SIZE	2.935404	0.9983	-3.5455	0.0002***	-3.7783	0.0001***		

Kao residual co-integration test		
Series	**ADF Statistics**	
	t-statistics	**Prob.**
PBIT, TA, ITA, IV, ARV, SIZE	-4.544390	0.0000***

***, 5% level of significance

Source: Researchers' computation, 2020 using E-views

4.4. PANEL DYNAMIC LEAST SQUARES (DOLS) RESULTS

4.4.1. TEST OF THE INFLUENCE OF NON-CURRENT ASSETS UTILIZATION ON FIRMS' PERFORMANCE

Table 4 showed the partial regression of the influence of non-current assets utilization (Tangible Assets and Intangible Assets) on firms' performance (PBIT) TA (β_1= -0.0520) and ITA (β_2= -0.1248) implied that for every 1% increase in TA and ITA, PBIT decreased by approximately 0.05% and 0.12% respectively. This supports the theoretical a-priori expectation of negative slope coefficient between PBIT, TA and ITA, i.e $\beta<0.05$. TA (p= .1569>0.05) and ITA (p= .0174<0.05) indicated that TA did not statistically significantly affect PBIT, while ITA had statistically significant effect on PBIT.

4.4.2 TEST OF THE EFFECTS OF CURRENT ASSETS UTILIZATION ON FIRMS' PERFORMANCE

IV (β_3= -1.9230) and ARV (β_4= -0.4419) as shown on (Table 4) indicated that for every 1% increase in IV and ARV, PBIT decreased by approximately 1.92% and 0.44% respectively. IV (p=.0038<0.05) and ARV (p= .0023<0.05) indicated that the null hypothesis was rejected; therefore, current assets utilisation had significant effects on profit before interest and tax. Thus, the second objective is achieved.

4.4.3 EFFECTS OF ASSETS UTILIZATION (NON-CURRENT AND CURRENT ASSETS UTILIZATION) ON FIRMS' PERFORMANCE

The combined Assets Utilization (Non-Current and Current Assets Utilization) on (Table 4) with coefficient of determination (R^2= 0.3958) showed that changes in PBIT can be explained by 39.58% variations in the five variables. The probability of f-statistic (p= .0415<0.05) criteria which helps to evaluate the overall significance of the model indicated that Assets Utilization (Non-Current and Current Assets Utilization) had effects on firms' performance (PBIT).

Table 4. Panel Dynamic Least Squares (DOLS) on Effects of Assets Utilization on Firms' Financial Performance

Panel dynamic least squares (DOLS)		
Variables	**Coefficient**	**Prob.**
TA	-0.0520	0.1569
ITA	-0.1248	0.0174
IV	-1.9230	0.0038
ARV	-0.4419	0.0023
SIZE	0.2132	0.0000
R^2= 0.3958; p-value= 0.0415		

Source: Researchers' computation, 2020 using E-views

4.5. DISCUSSION

The empirical findings as stated above revealed that the asymptotic significance of most of the tested variables were less than 0.05 decision criterion. At 5% significance level, the result passed the overall significant test (F-test) which indicated that the estimated coefficient is equal to zero and that tangible assets have no significant effect on profitability, while intangible assets showed effect on profitability. Objective two revealed that current assets utilization (Inventory and Accounts Receivable) had effects on firms' financial performance, while the combined results showed that assets utilisation (Non-Current Assets and Current Assets) had significant effects on firms' performance.

These findings are in line with the works of some researchers (Okwo, Okelue, & Nwaeze, 2012; Mwangi, Makau, & Kosimbei, 2014; Mawih, 2014; Olatunji & Tajudeen, 2014; Yahaya, Kutigi, Solanke, Onyabe, & Usman, 2015) that non-current (tangible assets) and current assets have effects on firms' performance. It also supported part of the findings of Ofor and Farajimakim (2020) that current assets positively affected companies' net worth, while it negates the other aspect that tangible non-current asset positively affected the net worth of companies.

5. CONCLUSIONS AND RECOMMENDATIONS

The study investigated the effects of assets utilization on firms' performance. On the strength of the findings, the study concluded that tangible assets had no effects on firms' profitability, while intangible assets have effects on profitability. Also, current assets (Inventory and Accounts Receivable) have effects on the firms' profitability. These findings showed that the selected Oil and Gas firms did not judiciously apply the theories adopted in this study (trade off, agency and stakeholders' theory) as huge capital investment in tangible assets showed no significant effects on profitability of the firms. It could be deduced from the findings that over investment of operating capital on tangible assets reduced profitability level due to unnecessary tied down of funds meant for immediate returns. It is also evident that the agents whose responsibility was to ensure proper decision on debt-to-equity financing of assets acquisition must re-strategize on capital investment in asset acquisition and carry out proper feasibility study on the long-term returns that the assets will generate vis-a-vis assets optimum level, economic useful life and

replacement cost of the assets in order to increase firms profit level, operational efficiency, solvency and liquidity position.

Aggressive, conservative and matching source of finance are being used by some of these firms to identify risks and returns on investment of assets, but focus should be on short-term and long-term leverage as a source of finance. The matching concept principle is a better yardstick in investing in non-current assets, especially tangible assets (PPE) since the concept is more suitable for companies with standard asset management procedures. In achieving corporate objective, management should map out cutting-edge asset structure and management strategies reputed to engender increased profitability. Hence, the individual effect and interaction of variables like the tangible assets having negative effect and statistical insignificant revealed that firms that make better decision on economic useful life span of tangible assets and replacement procedure will reduce cost and achieve efficient assets utilization. So, firms over concentration on purchase of tangible assets will not affect their liquidity position. The inventory and account receivables with negative effects but significant effect revealed that the rate of inventory turnover of firms must commensurate with the rate of recovery of debts.

Based on the findings of the study, it was recommended that firms' management need to carefully examine their assets utilization policy to ensure optimal utilization of the assets in order to generate increase in profitability. Investment in tangible assets should also be controlled as it does not yield instant returns. Besides, management needs to give proper attention to the rate of assets turnover, in order to enhance adequate assets optimal utilization for the basic economic useful life span. Also, the policy of firms concerning account receivables should be regularly reviewed to avoid bad debts and meets liquidity demand of the firm.

Hence, this study will enlighten practitioners on the need for proper assets utilisation and control of assets investment by determining the proper mix of equity/debts to finance assets acquisition to avoid over-capitalisation. To researchers, this study serves as an eye opener that tangible assets does not always have effects on profitability, while intangible assets such as goodwill, brand and patent rights are important to Oil and Gas firms. The study is limited to only one sector of the economy and it also limited its variables of current assets to inventory and account receivable; non-current assets to tangible (PPE) and Intangible Assets. The number of controlled variables used is also limited to one (size).

Research studies are inconclusive as this study only examined the effects of assets utilization on firms' financial performance of selected Oil and Gas firms in Nigeria from 2007 to 2019, gaps must have been created which can be filled in further studies. Henceforth, researchers can consider sample enlargement to include other sectors of the economy such as manufacturing, agriculture, financial services, etc. Also, increasing the variables adopted in the research to reflect assets management and structure by considering assets to liabilities re-structuring.

6. CONTRIBUTION TO KNOWLEDGE

Due to lack of assets utilization techniques, improper replacement, schedule for assets economic life span and assets wastage or obsolete, this study on assets utilization will serve as an eye opener for firms to adopt assets restructuring strategy and liabilities restructuring strategy. It will also reduce firms' wastages on assets and enhances sound assets structure in terms of non-current assets acquisition, replacement and disposal, as well as liquidity position, financial stability and debt control.

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