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Effects of Operating Costs on Financial Performance of Oil and Gas Companies in Nigeria

Gideon Tayo Akinleye
Yunus Abdulrasheed Bolaji
Opefolu Francis Olatunji

Abstract
This research examined the effects of operating costs on the financial performance of Oil and Gas companies in Nigeria. The study sampled five (5) firms out of all the listed Oil and Gas companies on the Nigerian Exchange Group plc. Secondary data were sourced to obtain panel data. The data collated were analyzed using descriptive and inferential statistical techniques. The study found that the coefficient of administrative cost is positive and statistically significant. The beta value of distribution cost is positive and statistically significant, the beta value of firm size is positive and statistically significant, but the beta value of selling cost is negative and statistically significant. This research therefore concluded that administrative and distribution costs of oil and gas companies and degree of their size contributed positively to the improvement of their financial performance, but selling cost contributed negatively meaning that money spent on was improperly utilized. The study recommended that selling costs of oil and gas companies in Nigeria need absolute control by those concern and should be minimized to enhance their financial concert.

Keywords: Financial performance, operating costs, Nigerian Oil and Gas companies

Background to the Study
The continued global increase in the cost of doing business has been a major concern for business owners and managers. This situation requires a constant analysis of the companies' operating cost scenarios and the development of cost strategies that increase profitability. Therefore, the ability to control the operating costs of a company has positive or negative effects on the value of shareholders' equity as a result of its impact on the company's profits (Kinyugo, 2014). This is because the higher the operating expenses, the lower the net profits. However, service costs are an important part of profitability, as they must be incurred before the products reach the end user. The financial survival of the company is a function of cost control ability to reduce operating expenses due to its direct effects on the profitability of companies (Muriithi, 2017). Therefore, managing the company's activities incorrectly can lead to increased losses even with a high percentage of the company's contribution margin on the sale of each good product, while with effective operations, it can have flexibility makes a huge positive contribution to your profit margin that will eventually deteriorate. High fire
returns. Its shareholders. Operating costs are the sum of administrative costs, sales and distribution costs (Akingunola, Olawale & Olaniyan, 2017).

In view of the above, the effective control of the cost of procurement will increase the profit. Controlling these costs is done by saving money on operating expenses and avoiding unnecessary costs (Sinta, Kembaren & Fadli, 2021). As it has been established that high operating costs reduce the company’s net profit and save it is a sacrifice and replacement cost to achieve a high operating profit. Any company that intends to make a large profit and compete with others must manage well in reducing its costs and in order to earn a large amount of money will exceed its costs. Some researchers like Kinyugo (2014); Magdalena, and Suhatman (2020) among others have identified some inefficiencies in the way of managing costs in some oil and gas companies in Nigeria that lead to inconsistencies in their working capital and it-leads to an increase in wages which leads to a decrease in income, annual income. Therefore, if the owners of the company should receive a high return on their investment, the costs of their company will be controlled at the same time and reduced.

Some reviewed studies in this study area such as Shah, Mali and Malik (2011); Owolabi and Obida (2012); Rof (2012); Kiaritha, Gekara and Mun’atu (2014); Kinyugo (2014); Ghazali and Imam (2016); Murithi (2017); Edupristine (2017); Magdalena and Suhatman (2020); Shah, Mali & Malik (2020); Yeni, Della, Panny and Sonia (2020); Sinta, Kembaren and Fadli (2021) only concentrated their investigation on other sectors like financial services, consumer goods, industrial goods and health care and services instead of oil and gas. More so, the review also disclosed that previous related studies only used direct cost and indirect cost; fixed cost and variable cost, labour costs as their explanatory variables instead of administrative cost, selling and distribution costs used in this research, while those studies such as Murithi (2017) that have used the similar variables used in this study were not conducted in Nigeria. It is based on the above background and the identified gaps that this study is examines the effects of operating costs on the financial performance of oil and gas companies in Nigeria.

1.2 Objective of the Study

The main objective of this study is to investigate the effect of operating costs on the financial performance of oil and gas companies in Nigeria. The research specifically:

(i) To determine the effectiveness of administrative, distribution and selling cost on financial performance of Nigeria oil and gas companies

2. Conceptual Review

2.1 Operating Costs

There are three groups of expenses in accounting: cost of goods sold, operating expenses (costs), and extraordinary expenses. Operational expenses includes all the costs incurred on daily running of the firm’s activities with respect to the administration, selling, and distribution activities of the company. Cost may be in form of functional classification such as production cost, administrative cost, selling and distribution cost, research and development costs. Costs are the expenses which have been consumed in earning revenue (Edupristine, 2017). Operating costs are the costs related to company operations which include selling and distribution cost, administrative cost (Yeni, Della, Panny & Sonia, 2020). Operating costs are expenses related to company processes and costs incurred by the company to maintain its existence (Magdalena, & Suhatman, 2020). Company costs can be classified in different ways; however, the focus of this research is
on the operating system whose costs are the costs of processing, marketing and distribution (Pius, 2013). Administrative costs are the costs of creating policies, directing and controlling company activities, while distribution costs are the costs received from advertising and for delivery to customers, while selling costs are revenue. Employed to present the company's products to customers. Shah, Mali & Malik, 2020). This cost includes costs of marketing activities or processes or marketing costs of products or services such as marketing promotion costs (Kiaritha, Gekara & Mung'atu, 2014).

2.2 Financial Performance

Firms’ financial performance is a subjective measure of how well they have used their assets to generate revenues. It is a measurement of the result of a firm’s operations. Performance measurement of a corporate business has three dimensions which include adaptability, effectiveness and efficiency (Ghozali & Imam, 2016). The indicators of these dimensions are degree of returns achieved on investment, level of sales recorded and success level of new product(Akingunola, Olawale & Olaniyan, 2017). Therefore, financial performance is an analysis of the extent at which a firm has achieved its target revenue or profits (Olabisi, 2012). It is the extent to which an organization’s goals are achieved. This study uses net income to measure the selected firms’ financial performance. Net income is the operating profit after tax and interest to turnover (Abeywardhana & Magoro, 2017). Income is the amount of money received usually within a particular period usually a year.

2.3 Theoretical framework

This study underpinned on the theory of external costs and benefits which examines the outcome of economic transactions and their impact on businesses that affect “the equity that does not directly contribute to money or financial expenses (Ghozali & Imam. 2016). The theory assumes that price conditions do not reflect the costs or benefits of producing or consuming goods or services. (Ghozali & Imam. 2016), the benefits of low-paid employees are called external benefits or positive factors, while the negative or negative impact of many funds is called external costs or negative externalities (Ghozali & Imam. 2016). ). Producers and consumers in the market may not receive all the costs or receive all the benefits of economic activity (Ghozali & Imam. 2016).

The potential means of improving overall firms’ performance is to internalize costs and benefits, for instance, by requiring a firm’s managers to reduce and minimize operating costs of their companies (Abubakar, 2016). The theory drew our attention in to understanding of how operating cost might influence the returns of stakeholders and the overall firms’ financial performance. The theory of external cost is therefore relevant to this study.

The following null hypotheses will guide this study:

(i) There is no effect of administrative cost on financial performance of Nigerian oil and gas companies.

(ii) Distribution cost does not affect the financial performance of Nigerian oil and gas companies.

(iii) There is no effect of selling cost on financial performance of Nigerian oil and gas companies.
2.4 Empirical Review

The following works of various authors are reviewed in order to ascertain the effect of operating costs on the financial performance of oil and gas companies in Nigeria. A study was carried out by Kiaritha, Gekara and Mung’atu (2014) on how operating costs affect the SACCO’s financial performance. The research employed descriptive research design, and used stratified sampling and simple random sampling techniques. The study’s outcome revealed that major operating costs incurred was administrative costs which include salaries, rent and interest on loan made by the members to the companies. Kinyugo (2014) researched on cost efficiency effect on the financial performance of listed firms in Nairobi Securities Exchange. The study used secondary data and the result from it disclosed that the firms' cost management efficiency is utilized on their operating costs to generate revenue. Muriithi (2017) examined the connection between operational expenses and the financial performance of occupational pension schemes in Kenya. The study used secondary data and covered years 2007 to 2009. The search sampled 329 pension schemes and employed stratified sampling technique. It was discovered that administrative costs shows a negative correlation with the firms’ financial performance. Based on the empirical review, this study has filled a slit because the related studies that have covered the effects of operating costs on the financial performance of oil and gas companies in Nigeria are relatively rare. For instances, Kiaritha et al. (2014) investigated how operating costs affect financial performance in SACCO but not in Nigeria oil and gas. Muriithi (2017) researched into the connection between operational expenses and the financial performance of pension companies in Kenya not in Nigeria. Sinta et al. (2020) investigated the effect of operating costs, trade payables and sales on the net income in Indonesian Food & Beverage Sector.

3. Methodology

The population of this study consists of all oil and gas companies listed on the Nigerian Exchange Group plc. A sample of five (5) people was deliberately drawn. The type of data source used in this study was secondary based on the nature of the research variable. This study focuses on the oil and gas sector to determine the impact of the operating costs of the oil and gas industry in Nigeria between 2008 and 2022. The period covered depends on the availability of required data. The oil and gas sector is considered to be one of the sectors with the highest market share. However, the study used descriptive statistics as an average to determine the proportion of costs each business pays in their total costs; A mixed case of least squares, fixed effects and random effects is used for data analysis to make unbiased decisions. The study also conducted post-data analysis tests such as F-closure, heteroscedacity, partial reliability, Lagrange multiplier, square root test and Hausman for more robust results. The independent variable of the study is the total cost from administrative costs (ADMC), distribution costs (DSTC), selling price (SELC) and company size (FMS) as a control variable (Muriithi, 2017), where the variable which he himself is. Financial performance measured in terms of net income (NTI) as previously used by Yeni, Della, Panny and Sonia (2020). However, ADMC, DSTC and SELC were measured in the literature as used by Sinta, Kembaren and Fadli (2021).
3.1 Model Specification

This study adapts the model used by Yeni, Della, Panny, and Sonia (2020) to conduct a study that investigates “the effect of operating cost, Trade payables, and sales on net income in the food traded food & Beverage Company Sector listed on the Indonesian Stock Exchange”. The adapted model is expressed as follows:

\[ Y = f(X_1, X_2, X_3) \]

Where: \( Y = \text{net income}, a = \text{Constant}, X_1 = \text{Operational costs}, X_2 = \text{Accounts payable and X}_3 = \text{Sales}. \) This study’s model is designed after adjusting the variable used by Yenietal. (2020) and specified below:

\[ NTI_{i,t} = f(ADMC_{i,t}, DSTC_{i,t}, SELC_{i,t}, FMS_{i,t}) \]

\( NTI_{i,t} = \text{Net income of oil and gas companies in year } t; \)
\( ADMC_{i,t} = \text{Administrative costs of oil and gas companies in year } t; \)
\( DSTC_{i,t} = \text{Distribution costs of oil and gas companies in year } t; \)
\( SELC_{i,t} = \text{Selling costs of oil and gas companies in year } t; \)
\( FMS_{i,t} = \text{Size of oil and gas firm in year } t; \)
\( f_{i,t} = \text{Model’s function}. \)

4. Discussion of Results

Table 1: Descriptive Statistics Result

<table>
<thead>
<tr>
<th>Variables</th>
<th>NTI</th>
<th>ADMC</th>
<th>DSTC</th>
<th>SELC</th>
<th>FMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>0.096377</td>
<td>0.787961</td>
<td>0.088743</td>
<td>0.098404</td>
<td>0.083561</td>
</tr>
<tr>
<td>Median</td>
<td>0.078291</td>
<td>0.801362</td>
<td>0.076554</td>
<td>0.095373</td>
<td>0.060250</td>
</tr>
<tr>
<td>Maximum</td>
<td>0.257952</td>
<td>0.895858</td>
<td>0.257952</td>
<td>0.202418</td>
<td>0.202418</td>
</tr>
<tr>
<td>Minimum</td>
<td>0.000941</td>
<td>0.507003</td>
<td>0.004542</td>
<td>0.009456</td>
<td>0.009456</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>0.065708</td>
<td>0.099018</td>
<td>0.068646</td>
<td>0.060406</td>
<td>0.060317</td>
</tr>
<tr>
<td>Jarque-Bera</td>
<td>10.90377</td>
<td>32.57431</td>
<td>11.52134</td>
<td>6.498823</td>
<td>8.343959</td>
</tr>
<tr>
<td>Probability</td>
<td>0.004288</td>
<td>0.000000</td>
<td>0.003149</td>
<td>0.038797</td>
<td>0.015422</td>
</tr>
</tbody>
</table>

Source: Data Analysis, 2023

Table 1 exhibits the results of descriptive analysis. Thus, the mean of net income (NTI) is 0.096377 implying that on average, Nigerian Oil and Gas achieved performance of 10% which below the industrial average of 20%. The average value of administrative cost (ADMC) to total operating costs (OPCs) is 80% (0.797961) meaning that 80% of the firms’ OPCs constitute ADMC. This result is similar to the out of research conducted by Kiaritha, Gekaraand Mung’atu (2014) which disclosed that ADMC is the major operating cost of the companies. The Jarque-Bera value of 32.57431 with probability values of 0.0000 means the variable is normally distributed. The mean percentage of distribution cost (DSTC) to total operating costs is 10% (0.098743), implying that 10% of OPCs is made up DSTC. The Jarque-Bera value is 32.57431 with probability values of 0.0000 indicates the unlikelihood of outlier in the data series. The average proportion of selling cost (SELC) to total operating costs is 10% (0.098404), indicating that 10% of OPCs consist of SELC. The Jarque-Bera value is 6.498823 with probability values of 0.038797 indicating the unlikelihood of outlier in the data series. The mean percentage of firm’s size (FMS) is 84% (0.083561) meaning the oil and gas companies are very big in size. The Jarque-Bera value is 8.343959 with probability values of 0.015422 indicating the normality of the data sets.
4.3 Regression Analysis

Table 2: Pooled Least Squares Result

<p>| SERIES: NTI, ADMC, DSTC, SELC, FMS |</p>
<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-0.064090</td>
<td>0.059457</td>
<td>-0.471337</td>
<td>0.9143</td>
</tr>
<tr>
<td>ADMC</td>
<td>0.012233</td>
<td>0.004222</td>
<td>2.897045</td>
<td>0.0040</td>
</tr>
<tr>
<td>DSTC</td>
<td>0.943343</td>
<td>0.019274</td>
<td>48.94275</td>
<td>0.0000</td>
</tr>
<tr>
<td>SELC</td>
<td>-0.074485</td>
<td>0.023400</td>
<td>-3.183078</td>
<td>0.0016</td>
</tr>
<tr>
<td>FMS</td>
<td>0.126151</td>
<td>0.020667</td>
<td>6.103869</td>
<td>0.0000</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.887566</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted R-squared</td>
<td>1.630704</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Durbin-Watson</td>
<td>30.18692 (p=0.870)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pesaran CD</td>
<td>$X^2 = 18.520$,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wald Hetero. Test</td>
<td>p=0.236</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Data Analysis, 2023

Method: Pooled Least Squares

Sample: 2008 2022

Included observations: 75

Cross-sections included: 4

Total pool (balanced) observations: 300

In Table 2, the result of Breusch-Pagan (LM) test between pooled ordinary least square (POLS) and random effect (RE) with $X^2$ of 3.68781 and probability of 0.060 accepts the null hypothesis that RE is not fit in favor of POLS. Also, the F-restricted test between POLS and fixed effect (FE) with $X^2$ of 0.609632 and probability of 0.845711 also accepts the null hypothesis that FE is not appropriate in favor of POLS. Thus, POLS is considered the most suitable data estimator for this study. The $R^2$ result shows that net income (NTI) accounts for 88.9% (0.888694) changes in administrative cost (ADMC), distribution cost (DSTC), selling cost (SELC) and firms’ size (FMS), while the remaining 0.01% changes in NTI is accounted for in the error term. The adjusted $R^2$ is 0.887566 implying that even if other variables accounted for in the error term are included in the model, the explanatory variables would still account for 88.8% increase in the financial performance (NTI) of Oil and Gas companies in Nigeria. Also, the coefficient of ADMC is positive (0.012233) and significant (P=0.0040<0.05) meaning that a unit increase in ADMC will increase the net income of Oil and Gas companies in Nigeria by 1%. The result is in line with the outcomes of the studies conducted by Kiaritha, Gekara and Mung’atu (2014); Kinyugo (2014); Muriithi (2017) which reflected a positive significant effect of administrative cost of firms’ financial performance and concluded that the budgeted money on ADMC were properly utilized. The beta value of DSTC is positive (0.943343) and significant (P=0.000<0.05) implying that a unit increase in DSTC will increase the NTI of the firms by 94%.

The beta value of SELC is negative (-0.074485) and significant (P=0.016<0.05) indicating that a unit increase in SELC will decrease the NTI of the firms by 7%. The beta value of FMS is positive (0.12615) and insignificant (0.000) meaning that a unit increase in FMS will increase the NTI of the firms by 13%. Durbin-Watson value of 1.630704 is above 2 which means there is no serial correlation in the series. Pesaran CD test result for cross-section dependence shows a statistics value of 30.18692 and probability values 0.870. The
null hypothesis of no correction of fundamental error in the significant level used accepted meaning that the variables used are valid. Wald test result for heteroskedasticity (hetero) with $X^2$ value of 18.520 and p-value of 0.236 accepts the null hypothesis that there is no hetero.

Table 3: Fixed Effect Model Result

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-0.017090</td>
<td>0.025457</td>
<td>-0.671337</td>
<td>0.5043</td>
</tr>
<tr>
<td>ADMC</td>
<td>0.032072</td>
<td>0.030866</td>
<td>1.039061</td>
<td>0.3026</td>
</tr>
<tr>
<td>DSTC</td>
<td>0.956202</td>
<td>0.044964</td>
<td>21.26602</td>
<td>0.0000</td>
</tr>
<tr>
<td>SELC</td>
<td>-0.084519</td>
<td>0.051600</td>
<td>-1.637975</td>
<td>0.1062</td>
</tr>
<tr>
<td>FMS</td>
<td>0.139503</td>
<td>0.047940</td>
<td>2.909954</td>
<td>0.0049</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.889449</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted R-squared</td>
<td>0.876049</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Durbin-Watson</td>
<td>1.610128</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pesaran CD</td>
<td>30.18692 (p=0.870)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wald Hetero. Test</td>
<td>$X^2 = 18.520$, p=0.236</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SERIES: NTI, ADMC, DSTC, SELC, FMS

Source: Data Analysis, 2023

Method: Panel Least Squares

Sample: 2008 2022
Periods included: 15
Cross-sections included: 5
Total panel (balanced) observations: 75

In Table 4.4, the result of Hausman test conducted between fixed effect (FE) and random effect (RE) models shows $X^2$ of 11.4306 and probability of 0.00329. Thus, the null hypothesis is rejected in favor of FE. Also, the F-restricted test between POLS and fixed effect (FE) with $X^2$ of 0.609632 and probability of 0.845711 also accepts the null hypothesis that FE is not appropriate in favor of POLS. Thus, POLS is considered the most suitable data estimator for this study. The $R^2$ result shows that net income (NTI) is accounts for 89% (0.889449) changes in administrative cost (ADMC), distribution cost (DSTC), selling cost (SELC) and firms’ size (FMS), while the remaining 0.01% changes in NTI is accounts the error term. The adjusted $R^2$ is 0.876049 implying that even if other variables accounted for in the error term are included in the model, the explanatory variables would still account for 88% increase in the financial performance (NTI) of Oil and Gas companies in Nigeria. Also, the coefficient of ADMC is positive (0.032072) and insignificant (P=0.3026>0.05) meaning that a unit increase in ADMC will decrease the net income of Oil and Gas companies in Nigeria by 3%.

The result is in line with the outcomes of the studies conducted by Kiaritha, Gekara and Mung’atu (2014); Kinyugo (2014); Muriithi (2017) which reflected a positive significant effect of administrative cost of firms’ financial performance and concluded that the budgeted money on ADMC were properly utilized. The beta value of DSTC is positive (0.956202) and significant (P=0.000<0.05) implying that a unit increase in DSTC will increase the NTI of the firms by 96%. The beta value of SELC is negative (-0.084519) and insignificant (P=0.1062>0.05) indicating that a unit increase in SELC will decrease the NTI of the firms by 9%. The beta value of FMS is positive (0.139503) and insignificant (0.0049) meaning that a unit increase in FMS will increase the NTI of the firms by 14%. Durbin-Watson value of 1.610128 is above 2 which means there is no serial correlation in the series. Peseran CD test result for cross-section dependence shows a
statistics value of 30.18692 and probability values 0.870. The null hypothesis of no correction of fundamental error in the significant level used accepted meaning that the variables used are valid. Wald test result for heteroskedasticity (hetero) with \( X^2 \) value of 18.520 and p-value of 0.236 accepts the hull hypothesis that there is no hetero.

### Table 4: Random Effect Model Result

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>-0.017090</td>
<td>0.025457</td>
<td>-0.671337</td>
<td>0.5042</td>
</tr>
<tr>
<td>ADMC</td>
<td>0.032072</td>
<td>0.030866</td>
<td>1.039061</td>
<td>0.3024</td>
</tr>
<tr>
<td>DSTC</td>
<td>0.956202</td>
<td>0.044964</td>
<td>21.26602</td>
<td>0.0000</td>
</tr>
<tr>
<td>SELC</td>
<td>-0.084519</td>
<td>0.051600</td>
<td>-1.637975</td>
<td>0.1059</td>
</tr>
<tr>
<td>FMS</td>
<td>0.139503</td>
<td>0.047940</td>
<td>2.909954</td>
<td>0.0048</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.889449</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted R-squared</td>
<td>0.883132</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Durbin-Watson</td>
<td>1.610128</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pesaran CD</td>
<td>30.18692 (p=0.870)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wald Hetero. Test</td>
<td>( X^2 = 18.520, p=0.236 )</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SOURCES:** NTI, ADMC, DSTC, SELC, FMS

Source: Data Analysis, 2023

Method: Panel EGLS (Cross-section random effects)
Sample: 2008 2022
Periods included: 15
Cross-sections included: 5
Total panel (balanced) observations: 75
Swamy and Arora estimator of component variances

In Table 4.5, the result of Breusch-Pagan test between POLS and random effect (RE) with a \( X^2 \) of 3.68781 and probability of 0.060 accepts the null hypothesis that RE is not fit in favor of POLS. Also, the Hausman test conducted between fixed effect (FE) and random effect (RE) models with a \( X^2 \) of 11.4306 and probability of 0.00329. Thus, the null hypothesis is rejected in favor of FE. Thus, fixed effect is considered fitted between the two models. The \( R^2 \) result shows that net income (NTI) is accounts for 89\% (0.889449) changes in administrative cost (ADMC), distribution cost (DSTC), selling cost (SELC) and firms’ size (FMS), while the remaining 0.01\% changes in NTI is accounts the error term. The adjusted \( R^2 \) is 0.876049 implying that even if other variables accounted for in the error term are included in the model, the explanatory variables would still account for 88\% increase in the financial performance (NTI) of Oil and Gas companies in Nigeria. Also, the coefficient of ADMC is positive (0.032072) and insignificant (P=0.3026>0.05) meaning that a unit increase in ADMC will decrease the net income of Oil and Gas companies in Nigeria by 3\%.

The result is in line with the outcomes of the studies conducted by Kiaritha, Gekara and Mung’atu (2014); Kinyugo (2014); Muriithi (2017) which reflected a positive significant effect of administrative cost of firms’ financial performance and concluded that the budgeted money on ADMC were properly utilized. The beta value of DSTC is positive (0.956202) and significant (P=0.000<0.05) implying that a unit increase in DSTC will increase the NTI of the firms by 96\%. The beta value of SELC is negative (-0.084519) and insignificant (P=0.1062>0.05) indicating that a unit increase in SELC will decrease the NTI of the firms by 9\%. The beta value of FMS is positive (0.139503) and insignificant (0.0049) meaning that a unit increase in FMS will increase the NTI of the firms by 14\%. Durbin-Watson value of 1.610128 is above 2 which means there is no serial
correlation in the series. Peseran CD test result for cross-section dependence shows a statistics value of 30.18692 and probability values 0.870. The null hypothesis of no correction of fundamental error in the significant level used accepted meaning that the variables used are valid. Wald test result for heteroskedasticity (hetero) with $X^2$ value of 18.520 and p-value of 0.236 accepts the hull hypothesis that there is no hetero.

5. Conclusion and Policy Recommendation

The study concluded that oil and gas companies' administrative and distribution costs and company size have a positive effect on their financial performance, but sales costs have a negative effect. Previous studies have also shown that despite the importance of costs spent on administrative costs, the operating cost component often improves firm performance. Hence, examining the impact of operating costs on the financial performance of oil and gas companies in Nigeria enables stakeholders to identify operating costs that require adequate management and control. The results of the study show that the money spent on sales costs is misused. The research has contributed to knowledge having discovered the proportions of administrative cost, distribution cost and selling cost that made up of total operating costs of Oil and Gas companies in Nigeria between 2008 and 2022. The study recommended selling costs of the companies need absolute control and be minimized to enhance financial performance.

References


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