Effect of Oil Spillage Cost on Profitability of Oil Companies in Nigeria

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Abstract
Nigeria is endowed with huge deposit of crude oil. A large portion of this deposit of crude oil is found in the Niger Delta region of Nigeria. This inevitably attracted the presence of oil companies which are involved in the exploration and exploitation of crude oil as well as production of petroleum and other bi-products in the region. However, there have been several incidences of oil spillage caused by the activities of the oil companies. This study sought to ascertain the effect of oil spillage cost on the profitability of oil companies in Nigeria. The work employed the ex-port facto research design. Panel regression was also adopted to estimate the effect of oil spillage on the profitability of the oil companies. The result of the model is mixed while the relationship between oil spillage cost (LNOSC) and profitability is significant but positive contrary to theoretical expectations. Similarly, the effect of clean-up cost (LNCUC) on profit is significant and negative in line with apriori expectation. The result of LNCUC versus profit shows that clean-up cost leads to reduction on the profit of oil companies. The study recommended that oil firms should pay close attention to the issue of oil spillage to ensure that the incident is reduced drastically, oil company should also provide adequate security over oil installations and facilities to obviate vandalism and mitigate incidences of oil spillage.

Keywords: *Clean-up cost, Compensation cost, Oil spillage cost, Revenue cost, Profitability*

INTRODUCTION

Nigeria is one of the leading oil producers in the world. It is ranked sixth at global level, first in Africa and exports about 1.8 millions barrels per day. Human activities such as exploration and production of crude oil has caused severe problems such as depletion of the ecosystem, coastal and river bank erosion, flooding, oil spillage, gas flaring, sound pollution, waste product and waste production, land degradation and soil fertility loss and deforestation. Oil spillage is a global issue that has attracted more attention since the invention of crude oil with regard to its negative consequences despite its economic benefits to the oil producing countries.

In 1956, Shell British fossil fuel (now known as Royal Dutch Shell discovered crude oil in a village called Oloibiri in the present Ogba Local Government Area of Bayelsa State in the Niger Delta region of Nigeria. Anifowose and Onuoha 2008). This discovery opened up the oil industry in 1961 in Nigeria thereby attracting more oil firms such as Agip, Mobil, Safray (now EL) Texaco and Chevron.

Nigeria is richly endowed with both renewable and non-renewable natural resources. However, Nigeria has been a member of the organization of petroleum exporting countries (OPEC) since 1971. Nigeria economy is heavily dependent on the oil sector which amounts to over 95% of export earning and about 40% of government revenues. According to the

International Energy Agency (2013) Nigeria produced about 2.53 million barrels per day in 2012 well below its oil production capacity of over 3 million barrel per day in 2011.

According to the statistical bulletin of the Central Bank of Nigeria (CBN, 2015), the average contribution of oil to government export revenue and national earnings between 1970 and 2016 was 83 percent. Studies have proved that companies' pursuit of profits has caused great social harm to the environment; hence, emphasis has been made for a meeting point between corporate objective of profit maximization and the need for environmental management. In this regard, the need for environmental cost has become the concern and focus of nations and responsible corporate management (Dimowo, 2010). Environmental management system (EMS) have emerged as a means to symmetrically apply business management to environmental costs to enhance a firm's long-run financial performance by developing processes that simultaneously improve competitive and environmental performance (Effiok, Tapang & Eton, 2012).

However, within the developing nations, the understanding is somewhat different mainly because of weak government regulations and lack of organized pressure groups and public awareness to influence organization's behaviour. Environmental expenditures in terms of effective organizational cost reduction is highly a viable approach towards managerial justification of environmental management system in enhancing organization's profitability.

THEORETICAL FRAMEWORK

This study is anchored on two theories-the Knight's theory of profit and freeman's stakeholders theory, these theories are in consonance to the effect of oil spillage cost on the profitability of oil companies in Nigeria.

Knight's theory of profit (1921)

This theory was propounded by Frank H. Knight, who believed profit as a reward for uncertainty-bearing, not to risk bearing. Simply, profit is the residual return to the organization for bearing the uncertainty in the business. Knight had made a clear distinction between risk and uncertainty. The risk can be classified as a calculable and non-calculable risk. The calculable risks are those whose profitability of occurrence risks cannot be determined. Due to the uncertainty of events, an organization makes profit and vice versa. Thus, the Knight's theory of posit was based on the promise that posit arises out of the decisions made under the conditions of uncertainty. Knight between that profit arise out of the decision made concerning the state of the firm's operation.

The major criterion of the Knight's theory of profit is, the total profit of an organization cannot be completely attributed to uncertainty alone. There are several functions that also contribute to the total profit such as organizational environment, organization operations and coordination of business activities. Oil spillage is a non-calculable risk in as much as the risk of its occurrence cannot be determined or anticipated through statistical data. A company cannot be careful enough for there not to be occurrences of spills because there are internal factors such as corrosion and aging pipeline, equipment failure, that leads to oil spillage as well as external factor. A company has a reasonable control over the internal factors that leads to spill but does not have control over the external factors.

However, oil spillage cost affects the profitability of a firm's but it is not the only factor that can affect the company's profit as there are many other factor's that can affect the overall profit of a firm.

Freeman's stakeholders' theory (1984)

This theory was propounded by Edward Freeman in 1984 and it is a theory of organizational management and business ethics that addresses morals and values in managing an organization. The stakeholders' theory holds that a company's stakeholder includes anyone that the company's operations have an effect on. Stakeholders are those groups of individuals without whose support the organization will cease to exist. These group includes customers, employees, environmental right group, local communities, government etc. All members of his group have to be considered and satisfied it order to keep the company healthy and successful in the long run.

The stakeholder's theory also states that if a company forces its operations which has detrimental effect on communities, the company will eventually fail. A company's strong relationship with its stakeholders is based on trust, respect and cooperation. If a company has good relationship with its stakeholders the easier. It is for the company to meet its corporate business objective. A company cannot ignore any of its stakeholders and expect to truly succeed, although there might be short term profit, but as stakeholders become dissatisfied and feel let down, the company may not survive the pressure from the stakeholders (Tapang & Bassey, 2017).

The stakeholders' theory raises the awareness of the relationship and the ripple effect of a company activities on its stakeholders. If a company can get all its stakeholder to swim or row in freeman. Oil spillage, a common occurrence and is sometimes generated as an unintended outcome of exploration or production activity that affect communities and in most cases, no compensation is trade to these communities (Amnesty International, 2009 as cited in Ingwe, Bessong & Uwanade, 2013). The neglect of host communities by oil companies led to the emergence of agitations in Nigeria. This study is as anchored on stakeholders' theory because oil spillage affects their host communities and their environment. The theory argues that companies exist to carter for the interest of stakeholders not only shareholders. Therefore, whatever the cost of preventing or ameliorating the effect of oil spillage, firms should be ready to bear it.

CONCEPT OF OIL SPILLAGE

Oil spillage is the uncontrolled discharge of crude oil or its by-products including chemicals and wastes, which mainly occurs through equipment failure, operation errors or willful damage have been identified as the main source of environmental damage in the area oil is being exploited wartime (Nwilo & Badejo, 2001). An oil spill according to Osuji (2004) is a release of a liquid petroleum hydrocarbon into the environment due to human activity and is a form of pollution. The term often refers to marine oil spills, where oil is released into the ocean or coastal waters. Oil spills include releases of crude oil from tankers, offshore platforms, drilling rigs and wells, as well as spills of refined petroleum products such as gasoline, diesel and their by-products, and heavier fuels used by large ships such as bunker fuel, or the spill of any oily refuse or waste oil. Spills may take months or even years to clean up. Oil also enters the marine environment from natural oil seeps.

Although most human-made oil pollution comes from land-based activity, but public attention and regulation has tended to focus most sharply on seagoing oil tankers (Nwilo and Badejo, 2001). There is no doubt that sabotage, vandalism of oil infrastructure and thefts of oil are serious problems in Nigeria. However, the scale of the problem remain unclear. Oyebamiji and Mba (2014) averred that increase in communities sabotage activities (as opposed to organized theft, described above) is a reflection of wider problems that exist in oil spill and getting clean-up contract or compensation is the only way they can access any benefit from the oil operations.

Nigeria has had the misfortune of one spill to many dire largely to negligence on the part of the oil companies failure to adhere to basic international standards in facilities installation and clear acts of sabotage of oil bunkably by miscreants addition to that, oil waste dumping and indiscriminate gas flaring. All these constitute to destroy the biodiversity of the affected areas leading to loss of wildlife, aquatic life and soil and health degradation.

Moreso, crude oil spills in marine environment, have gone exponential due to deep sea dredging and crude oil transportation by petroleum industries, across the globe. The spilled constituents have chronic tendencies of causing extensive alteration of the ecosystem of marine organisms from the smaller plankton to the largest whole. Oil spill has the tendency of spreading through the entirety affected ocean causing havoc to the aquatic organisms. In Nigeria, inhabitants of the host communities where the oil is being exploited have became living dead; due to pollution of their environments. The air they breathe is polluted their rivers are polluted, their lands have lost its fertility. No wonder an expert once retorted that anger walks on four legs in these environments (Osuji, 2004).

IMPACT OF OIL SPILLAGE IN NIGERIA

Major oil spills heavily contaminate coastal shorelines, causing severe localized ecological damage to the near-shore communities. Since the discovery of oil in Nigeria in the 1950s, the country has been suffering the negative environmental consequences of oil population explosion and the lack of enforcement of environmental regulation has led to substantial damage to Nigeria's environment, especially in the host communities. Oil spills in Nigeria have been a regular occurrence and the resultant degradation of the surrounding environment has caused significant tension between the people living in the host communities and the multinational oil companies operating within.

These negative consequences was addressed in the past decade, when environmental groups, federal government and the foreign oil companies operating in Nigeria began to take steps to address the impacts. Large area of the mangrove ecosystem has been destroyed. The mangrove forest was in the past a major source of wood for the indigenous people, but the activities of the oil companies destroyed the mangrove forest completely. Several blow-outs at prospecting sites coupled with spillage as a result of damage to pipelines have been reported from time to time in different sites in the oil producing areas of Nigeria (Olaniyan, 2011).

The effects of these spills have been catastrophe in many respects depending on the oil dosage, the type of oil, metrological conditions, physical geography of the area and the biota (Nwalewo and Ifeadi, 2014). Statistics have shown that during 1976-1980, the majority of oil spill incidents occurred in the purely mangrove swamp zones and the offshore areas of the country, which constitute the most productive biological areas. In a period of six months, mangrove vegetation started dying in the contaminated waters, aquatic creatures were drastically affected. Worse still, re-pollution of the top soil from below was noted about two after the incident while water table was affected across 15.1 acres. From the above analysis, oil pollution whether it is due to spillage or discharge of crude oil or refined petroleum products damages the environment in various ways.

Oil spill on the land could lead to retardation of vegetation growth for a period of time and in extreme cases, leads to destruction of vegetation. It could also create potential fire hazard, as in the scenario of Oyakamo oil pipeline spillage which render the soil unfit for cultivation. The environmental problems seem to be well articulated by people in the oil producing areas for instance, Ikpoirukpo, 2016 in lines study of two small communities around the forcados oil terminal, opines that 86% of the respondents identified problems consequent on oil exploration, report oil pollution, among four basic groups of problems as the most important (Oti, Effiong, & Tapang, 2012). However, occupant of the host communities have claimed that the compensation paid was not commensurable to the damage suffered as a result of the operational activities of the oil companies, while the oil companies claimed that they have adequately compensated these communities because they normally employ the services of professionals estate surveyors to available the damage before compensation is paid (Victor, 2014).

METHODOLOGY

The ex-post facto research design was employed in this study, data were obtained using the secondary source of data collection. The study adopted the panel data regression for the analysis of data. The panel data regression technique was anchored on three better result due to increase sample size and reduction of problem of degree of bias and endogeneity problems. This research work made use of five oil companies-Agip, Shell, ExxonMobil, total and chevron which averring a period of fifteen years from 2003-2012. The selected sampled oil companies is in line with the works of Balsley and Clover (1988) as cited in Tapang, Bessong and Ujah (2015); Tapang, Bassey and Bessong (2012); Bassey and Tapang (2012) stating that it is common in research studies to use 10 percent sample size, because sample size of 10 percent of the universe has been proved to be more than adequate in research projects. Ogolo (1996) also as cited in Tapang, Bessong and Ujah (2015); Tapang, et al. (2012); Bassey and Tapang (2012) corroborate this when he posits that where a population is known, at least 10 percent of it constitutes a researchable sample.

MODEL SPECIFICATION

$OSC = \beta_0 + \beta_1 \text{ PROFT} + e$
$RL = \beta_0 + \beta_1 \text{ PROFT} + e$
$CUC = \beta_0 + \beta_1 \text{ PROFT} + e$
$CC = \beta_0 + \beta_1 \text{ PROFT} + e$

Where:
β_0 = Constant
β_1 = Coefficient
OSC = Oil spillage cost
RL = Revenue cost
CUC = Clean up cost
CC = Compensation cost
E = Error term
PROFIT = Profitability of oil companies in Nigeria

DATA RESULTS AND INTERPRETATION

TABLE 1: Transformed data: Profitability and oil spillage costs

S/N	YEAR	FIRM	LNPROFIT	LNOSC	LNCUC	LNCC
1.	2003	AGIP	25.162308	17.374290	17.627050	14.822737
2.	2004	AGIP	25.366962	17.704647	18.294127	15.257950
3.	2005	AGIP	25.412907	17.763118	17.933708	15.182911

4.	2006	AGIP	25.522465	17.485551	17.756704	15.635515
5.	2007	AGIP	25.639019	17.075747	16.396409	16.476540
6	2008	AGIP	25.559059	18.423294	17.753465	15.844004
7.	2009	AGIP	25.610424	18.852820	18.327763	16.252609
8.	2010	AGIP	25.829361	19.213556	17.955870	15.440769
9.	2011	AGIP	25.887821	18.923762	17.137015	14.733725
10.	2012	AGIP	25.734489	19.147555	18.403331	16.824058
11.	2013	AGIP	25.640667	18.574037	17.823843	16.104323
12.	2014	AGIP	25.080040	18.501600	17.740898	16.013594
13.	2015	AGIP	24.765650	18.937001	18.590112	15.913842
14.	2016	AGIP	24.096347	18.196549	17.892009	15.884055
15.	2017	AGIP	24.197963	17.844453	17.690112	15.913842
16.	2003	SHELL	25.757728	17.561731	17.739764	16.542498
17.	2004	SHELL	25.915487	17.744245	18.071361	16.542498
18.	2005	SHELL	25.953755	18.113413	17.996322	16.431950
19.	2006	SHELL	26.0061638	19.004451	18.448926	16.387267
20.	2007	SHELL	26.207679	19.430292	18.596803	16.265229
21.	2008	SHELL	26.237679	19.617297	18.657415	16.351078
22.	2009	SHELL	26.259113	19.461024	19.066020	16.554259
23.	2010	SHELL	26.374472	19.511866	18.254180	16.437968
24.	2011	SHELL	26.453243	19.333883	17.547136	16.271857
25.	2012	SHELL	26.591540	19.909140	19.164915	16.897127
26.	2013	SHELL	26.386095	19.674833	17.547136	16.271857
27.	2014	SHELL	25.666127	19.273597	18.880620	16.307122
28.	2015	SHELL	25.046031	19.346247	18.478157	15.795437
29.	2016	SHELL	25.009032	18.544734	19.190530	15.771746
30.	2017	SHELL	25.183472	19.095337	18.717852	15.569848
31.	2003	EXXON MOBIL	25.685648	18.056952	18.280752	16.054090
32.	2004	EXXON MOBIL	25.849120	17.824606	18.621726	16.270387
33.	2005	EXXON MOBIL	26.192142	18.632156	18.882789	15.950860
34.	2006	EXXON MOBIL	26.261318	18.433341	18.329800	16.361042
35.	2007	EXXON MOBIL	26.266241	18.671762	18.685571	16.421897
36.	2008	EXXON MOBIL	26.186911	19.256203	18.807147	15.779822
37.	2009	EXXON MOBIL	26.212022	18.904407	18.970218	15.995928
38.	2010	EXXON MOBIL	26.389540	19.967947	19.425881	16.213406
39.	2011	EXXON MOBIL	26.506299	19.606859	18.841763	15.644887

40.	2012	EXXON MOBIL	26.651492	18.975184	18.844064	15.739759
41.	2013	EXXON MOBIL	26.295680	18.950510	18.670324	16.087636
42.	2014	EXXON MOBIL	25.710127	19.121722	18.871846	15.725053
43.	2015	EXXON MOBIL	25.416636	18.485016	19.025897	15.830414
44.	2016	EXXON MOBIL	25.652117	18.277087	19.071160	15.990262
45.	2017	EXXON MOBIL	25.838663	18.755013	19.347886	16.045525
46.	2003	TOTAL	25.279781	17.313781	17.130071	15.589920
47.	2004	TOTAL	25.308390	17.534021	17.504463	15.626337
48.	2005	TOTAL	25.446236	16.773705	16.944295	15.601012
49.	2006	TOTAL	25.677378	17.444729	17.022735	15.773624
50.	2007	TOTAL	25.734483	16.970386	16.291048	15.840727
51.	2008	TOTAL	25.714927	18.366136	17.536306	15.869803
52.	2009	TOTAL	25.871240	17.699503	17.174446	16.089686
53.	2010	TOTAL	26.302418	17.185408	16.525559	15.693427
54.	2011	TOTAL	26.315036	17.836683	16.378440	15.474197
55.	2012	TOTAL	26.226881	17.463304	16.719080	16.149060
56.	2013	TOTAL	25.788185	18.195696	17.445507	16.008928
57.	2014	TOTAL	25.716450	18.927799	17.167097	15.984785
58.	2015	TOTAL	25.700285	18.123226	17.217188	16.394020
59.	2016	TOTAL	25.738933	17.758294	17.453754	15.659053
60.	2017	TOTAL	25.762603	17.690302	17.535961	15.899708
61.	2003	CHEVRON	25.322808	16.277304	15.906585	14.296701
62.	2004	CHEVRON	25.410285	16.487516	16.457957	14.848339
63.	2005	CHEVRON	25.501822	17.970757	18.141348	14.955105
64.	2006	CHEVRON	25.550497	17.562512	17.140518	15.530929
65.	2007	CHEVRON	25.738993	17.820854	17.141516	15.532008
66.	2008	CHEVRON	25.673979	18.282754	17.452935	15.843396
67.	2009	CHEVRON	25.953233	17.811366	17.286309	15.676858
68.	2010	CHEVRON	26.062051	18.348558	17.688710	16.079272
69.	2011	CHEVRON	16.138494	19.138551	17.680308	16.070794
70.	2012	CHEVRON	26.155498	17.790820	17.046596	15.437075
71.	2013	CHEVRON	26.104123	17.370059	16.619870	15.010342
72.	2014	CHEVRON	25.526130	16.318362	15.557660	15.236206
73.	2015	CHEVRON	25.358145	18.693771	17.787733	16.178250
74.	2016	CHEVRON	25.273935	18.420982	18.116442	16.507004
75.	2017	CHEVRON	25.445029	17.977985	17.823643	16.214206

Source: Researcher's compilation (2018)

TABLE 2(a): Descriptive Statistics and normality test

	LNPROFIT	LNOSC	LNCUC	LNCC
Mean	25.75508	18.29485	17.88625	15.89303
Median	25.73449	18.28275	17.82384	15.91384
Maximum	26.65149	19.96795	19.42588	16.89713
Minimum	24.09635	16.27730	15.55766	14.29670
Std. Dev.	0.492384	0.858664	0.877143	0.496522
Skewness	-0.789386	-0.169830	-0.362233	-0.688287
Kurtosis	4.368852	2.480449	2.534598	3.696077
Jarque-Bera	13.64460	1.204068	2.317031	7.435875
Profitability	0.001089	0.547697	0.313952	0.024284
Sum	1931.631	1372.114	1341.468	1191.978
Sum Sq. Dev.	17.94071	54.56043	56.93407	18.24355
Observations	75	75	75	75

Source: Researcher's computation (2018) from E-view 9.5

TABLE 2(b): Multicollinearity test

Variable	Coefficient variances	Uncentered VIF	Centered VIF
C	2.928	1084.9	NA
LNOSC	0.011	1346.94	2.92
LNCUC	0.009	1164.12	2.76
LNCC	0.015	1410.77	1.36

Source: Researcher's computation (2018) from E-view 9.5

TABLE 2(c): Heteroscadasticity test

Heteroscedasticity Test: Breusch-Pagan-Godfrey			
F-statistic	0.20	Prob. F(3.71)	0.89
Obs*R-squared	0.64	Prob. Chi-Square(3)	0.89
Scaled explained SS	1.36	Prob. Chi-Square(3)	0.72

Source: Researcher's computation (2018) from E-view 9.5

TABLE 2(d): Breusch-Godfrey serial correlation LM test

Serial Correlation Test: Breusch-Godfrey			
F-statistic	46.74	Prob.F(2.69)	0.000
Obs*R-squared	43.15	Prob. Chi-Square(2)	0.000

Source: Researcher's computation (2018) from E-view 9.5

TABLE 3: Estimation result for the model

Variable	Panel OLS	Fixed effects	Random effects
C	20.55 [12.008]**	24.86 [15.012]**	23.83 [13.033]**

	(1.711) {0.0000}	(1.656) {0.0000}	(1.828) {0.0000}
LNOSC	0.316 [3.034]* (0.104) {0.0034}	0.452 [5.673]** (0.079) {0.0000}	0.408 [4.287]** (0.095) {0.0001}
LNCUC	-0.206 [-2.082] (0.099) {0.0409}	-0.532 [-5.495]** (0.097) {0.0000}	23.83 [13.033]** (1.828) {0.0002}
LNCC	0.196 [1.597] (0.123) {0.1147}	0.134 [1.308]** (0.102) {0.1950}	23.83 [13.033]** (1.828) {0.2373}
R^2	0.199	0.53	0.29
ADJ R^2	0.165	0.48	0.26
F-Stat	5.875	10.77	9.635
P(F-stat)	0.0012	0.0000	0.0000
D.W	0.375	1.073	0.682

Source: Researcher's computation (2018) from E-view 0.5* Sig @ less than 5% **@ less than 1% t-value; () Standard error; {} p-value

The Statistics on table 2(a) shows that the average natural logarithm of profit (LNPROFIT) is 25.76 which is closer to the maximum value than the minimum value suggesting that the impact of the independent variables on the dependent variables is high. The lower standard deviation also attest to the low impact of the regressors on the dependent variable. The Jarque-Bera test of normality shows that the data for LNPROFIT and LNCC distribution were not normally distributed. The p-values are less than 50%. Similarly, the kurlosis value for LNPROFIT and LNCC are greater than 3, confirming the result of the Jarque-Bera test. The data for each of the variables are all negatively skewed. Table 2(b) multicolinearity among the independent variables implies that they are perfectly correlated. If the exists perfect correlation between the independent variables, the parameter coefficient will be indeterminate. Thus, the presence of multicollinearity, which implies large standard errors of the estimated coefficients. In this study, the Variance Inflation Factor (VIF) test was used to test for multicollinearity- VIFs above 10 are seen as a cause of concern. In this table, it shows that the independent variables are not correlated or collinear as the VIFs are all less than 10.

Table 2(c) The test of heteroscedasticity intended to give direction on the appropriate estimation technique to be used. A highly heteroscedastic set of observations may lose efficiency properties when estimated with the ordinary least square (OLS) technique. The Borsch-Pagan Godfrey test was used for the analysis and was reported in table 4.2(b) above. The Braisch-Pagan-Godfrey test is highly significant at 5 percent level, thus implying the absence of heteroscedasticity in data series and indicating that the study models can be estimated using the Ordinary Least Square (OLS) technique.

Table 2(d) serial correlation was used as a result of auto-correlation of the model error term. In the presence of serial correlation, ordinary least squares estimators were no longer least linear unbiased Estimator (BLUE). Moreso, the R^2 may be overestimated, standard errors underestimated and t-statistics were estimated. The Breusch-Pagan Godfrey serial correlation test shows that the data in the observation are correlated, hence, rendered the use of OLS technique inappropriate.

The data in table 3 shows the regression result of the effect of the explanatory variable on the criterion variable employing the OLS and the panel or generalized least square GLS estimation. The panel OLS, fixed and random effects, all shows significant relationship between GLS test, the fixed effects estimation is preferred. The results for the estimation reveals that the effect of oil spillage cost (LNOSC) on firms' profitability (PROFIT) is positive (t-5.673) and significant as less than 1% (coefficient = 0.452; p=0.000) and this suggest in contrast with the theory, which states that increases in oil spillage cost will result in increase in profitability. Similarly, the result for the effect of compensation cost is positive but not significant. However, the coefficient of clean-up cost (LNCUC) on profitability is negative (-0.532) and significant at less than 1% (t=-5.495; p=0.000). The adjusted R-squared of less than 48% indicates that the independent variables cannot predict the dependent variable sufficiently. The other 52% accounted for by other not considered in this study, most probably constitute the determinants of firms' profitability. While the fisher's statistic of 10.77 shows that the model is statistically significant (p=0.000), the model failed the Durbin-Watson test at 1.07.

CONCLUSION

The effects of oil spillage globally are found to be negative on both the oil companies involved in exploration and production of petroleum and other bi-products as well as their host communities. The situation in Nigeria is very deplorable because the companies have failed to adequately compensate the host communities who have suffered severe damage of their ecosystem and also denied access to their source of livelihood where both their aquatic creatures and vegetation have been destroyed by the oil spilled. The oil companies have also experienced lost of profit by way of providing compensation measures to affected host communities as well as embarking in the clean-up exercise, the clean-up cost is huge hence affecting their profit margin negatively.

RECOMMENDATIONS

Based on the findings of this study, the following recommendations were made:-

1) Oil exploration companies should ensure that measures are put in place to mitigate the occurrences of oil spillage, hence minimizing the cost incurred due to oil spillage.
2) Provision of adequate security over oil installations and facilities to obviate sabotage and vandalism.
3) Adequate compensation should be given to the host communities who suffered huge losses due to the damage of their ecosystem.

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