

Safety Practices and Performance of Oil and Gas Servicing Companies in Nigeria: Empirical Evidences from Selected Companies in Portharcourt

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Abstract *This paper examines the influence of safety practices on performance of oil and gas companies in Nigeria. The study specifically looked at the influence of Regular Provision/use of Personal Protective Equipment (PPE) and Daily Safety Briefings on the profitability of Oil and gas firms in Nigeria. Data were obtained by means of questionnaire. Analyses were performed using Pearson's product moment coefficient of correlation and regression analyses via the use of SPSS. The findings reveal a statistically positive correlation between safety practices and the performance of oil and gas companies. Further, safety practices positively influence the Operating Profit Margin (OPROM) and Return on Turnover (ROTUN) of the companies. The study recommended that continuous safety practices by all oil and gas firms to enable them to have smooth performance and enhanced profitability.*

Key words Safety practices, performance, profitability, oil and gas companies

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1. Introduction

The exploration and production of oil and gas is usually associated with inherent hazards, risks and accidents or incidents, capable of causing danger to life, property and the environment. This makes the oil and gas industry one of the most delicate and complex in nature; yet one of the most lucrative the world over. Achaw and Boateng (2014) posits that there are indeed inherent dangers in the operations of the oil and gas and related energy industries that have the potential to cause danger to the society, talking about life, property, and the environment if not properly managed. It is for such reasons of possible negative implications of oil and gas related activities that companies usually put in place adequate safety practices or measures to reduce or even eliminate accidents and fatalities in the work place.

Safety practices are therefore guidelines, rules, policies, programmes and procedures aimed at ensuring accident free work place. According to Umoh and Torbira (2013) safety practice is concerned with behaviour of employees with regards to the rules, regulations, and policies and conducts that shape or govern their actions and inactions or activities in the workplace in order to reduce or even eliminate accidental losses and injuries and maximize the nominated objective of the organization. The essence of good safety practice therefore is primarily to reduce accidents and other forms of losses. Further, good safety practices such as: the provision of personal protective equipment for staff, regular safety meetings, international safety auditing, safety inspections and use of safety manuals, can affect the image of the company, its smooth operations and goodwill among clients and contemporaries.

Achaw and Boateng (2012), Umoh and Torbira (2013), Asamoah (2012) and others have all carried out empirical studies on safety practices in the work place. However, there is no known study so far carried out on the effect of safety practices on the performance of oil and gas servicing companies in Nigeria. This paper therefore departs from the extant empirical works; as it focuses on the influence of safety practices on the profitability of oil and gas servicing companies. It is expected that the study will not only fill that gap, but will also provide the platform for researchers, managers of oil and gas companies and other policy makers on the right way to go.

2. Literature review

2.1. Safety practices

Safety practices are procedures established by the management and other regulators to ensure accidents free workplace. These practices may vary from one organization to another depending on their mode operation, the tasks in question, the location, the size of the organization, etc. However, irrespective of the organization, the aim is usually to eliminate avoidable accidents and other forms of hazards to the staff, the company itself, and the public environment in general. Achaw and Boateng (2012) identified some observed safety practices in the oil and gas industries to include: availability of alarms systems, use of PPEs, housekeeping, safety information communication, emergency assembly points, visitor safety training, integrity of equipment, availability of first aid kit, provision of firefighting equipment, dedicated safety officers, ignition control systems and detection systems. Nnadi *et al.* (2013) argued that oil companies need to carry out proper hazard identification of the operation they perform whether these are man-made or natural, and manage their risks using appropriate technology to ensure safe working practices, safety of their personnel and the protection of the public and the environment.

Good safety practices add to the reputation of the organization. It reduces accidents at the work place. It also boosts the confidence of the staff and clients. It promotes smooth operations in the company and ensures the organization do not suffer unnecessary financial losses as a result of hazards, loss of property or damage to the environment. This reduces the cost of operation and boosts the company's chances of getting more jobs. All these, impact positively on the profitability of the firm positively.

2.2. Performance measurement

Obara and Nangih (2017) opined that financial performance can be measured using financial statements. Performance is simply a measure of how well an organization has fared. It is an indicator or measure used to assess an organization in terms of the achievement of its set objectives. Profitability is one of the mostly used measures of performance. By profitability, we mean the ability of a firm to earn income over and above of its operating costs (direct and indirect). Profitability is usually measured using gross profit margin (by expressing the gross profit to turnover or revenue), operating profit margin (an expression of the relationship between the operating profit and turnover in percentage), return of total assets (by expressing the ratio of net profit to the total assets of the firm), return on equity (by looking at the relationship between the net profit and the shareholders fund or equity) and the return on capital employed (looking at net profit to capital relationship). This paper used the operating profit margin and the return on turnover as the profitability measures.

3. Methodology of research

The researcher adopted a survey approach. Data were collected through questionnaire drawn using Likert's Five-point scale, ranging from "strongly disagree" to "strongly agree". The independent variable, Safety Practices (using Provision of Personal Protective Equipment and Convening of Daily Staff Safety meetings/briefings as proxies) while the performance of firms was measured using the Operating Profit Margin(OPROM) and the Return on Turnover (ROTUN) respectively.

The population of the study comprised of staff of oil and gas service companies in Nigeria. Through a pilot study, a total of 350 questionnaire were distributed to staff of 10 notable oil servicing firms namely; Slumberger Nigeria Ltd, Halliburton Nigeria Ltd, Baker Hughes Nig Ltd, B.G Technical Nigeria Ltd, Nest Oil Nigeria Ltd, Global Process and Pipeline Services Ltd, Poseidon Nigeria Ltd, Oil Test Nigeria Ltd, Union Energy Nigeria Ltd, Oil Data Nigeria Ltd and West African Ventures Nigeria Ltd. Out of this, 342 were returned while 338 were selected for analyses. Respondents were requested to state the extent to which the independent variables affected the dependent variables. As a guide, two hypotheses were formulated thus:

H_{01} : *There is no significant relationship between the provision/use of Personal Protective Equipment and Operating Profit Margin.*

H_{02} : *There is no significant relationship between Convening of Daily Staff Safety Meetings/Briefings and Return on Turnover.*

Responses from respondents were analyzed using the Pearson Product Moment Correlation and Regression Analysis. These statistical tools were applied with the Statistical Packages for Social Science (SPSS).

4. Data presentation and analysis

4.1. Test of Hypotheses

Hypotheses 1: There is no significant relationship between the provision/use of Personal Protective Equipment (PPEs) and Operating Profit Margin.

Table 1. Correlation between Provision of Personal Protective Equipment and Operating Profit Margin

		PPEs	OPROM
PPEs	Pearson Correlation	1	0.652**
	Sig. (2-tailed)		.000
	N	338	338
OPROM	Pearson Correlation	0.652**	1
	Sig. (2-tailed)	.000	
	N	338	338

** . Correlation is significant at the 0.01 level (2tailed).

The results of Pearson product moment correlation as shown on table 4.9 above indicates that the coefficient of determination is 0.652** at a significant or probability value of less than 0.05 ($p_v = 0.000 < 0.05$). This indicates a significant but positive relationship between safety practice of regular provision of Personal Protective Equipment for staff by servicing companies and their Operating Profit Margin. The significant relationship implies that the variable used in the model was supported and that the more PPEs are provided and are used by staff for appropriate tasks, the accidents and incidents are reduced in the work place, the more client's confidence are enhanced, the more jobs for the company and by extension a guaranteed rise in profitability of the companies (in this case the operating profit margin).

4.2. Regression Analysis

Table 2. Model Summary of Provision and use of Personal Protective Equipment and Operating Profit Margin

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.700 ^a	.630	.564	.33647

a. Predictor: (Constant), PPE

The regression outcome on the table above shows the impact of the independent variable (provision and use of personal protective equipment) on the operating profit margin of Oil servicing companies in Nigeria. The coefficient of determination R^2 indicates that 63.0% of changes or variations in the criterion or dependent variable (Operating Profit Margin) are attributable to changes or variations in the predictor or independent variable (Provision and use of personal protective equipment by staff). The theoretical implication of this result is that 37.0% of variations in the Operating profit margin of oil servicing companies are explained by other factors outside the model. The adjusted R^2 value of 56.4% is a little below R^2 of 63.0%.

Hypotheses 2: There is no significant relationship between Convening of Daily Staff Safety Meetings/Briefings and Return on Turnover.

The results of Pearson product moment correlation as shown on the table above is 0.567** and a significant value of less than 0.05 i.e $p_v=0.000<0.05$, indicating a positive and moderately significant relationship between Safety Practice of embarking of Daily Staff meeting/briefings and Return of Turnover

of Oil servicing firms companies in Nigeria. The moderate but positive relationship implies that the variable used in the model was supported.

Table 3. Correlations between Daily Staff Safety Meetings and Return on Turnover

		DASM	ROTUN
DASM	Pearson Correlation	1	0.567**
	Sig. (2-tailed)		.000
	N	338	338
ROTUN	Pearson Correlation	0.567**	1
	Sig. (2-tailed)	.000	
	N	338	338

** . Correlation is significant at the 0.01 level (2-tailed).

The implication is that daily staff meeting/briefings will enhance the safety awareness of staff of oil servicing companies, which will lead to zero incidents in the work place and so increase the chances of getting more jobs and by extension more profit (in this case Return on Turnover).

Table 4. Model Summary of Daily Staff Safety Meetings and Return on Turnover

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.800 ^a	.640	.585	.33647

a. Predictor: (Constant), DASM

The regression outcome on the table above shows the impact of the independent variable (Daily Staff Safety Meetings) on the Return on Turnover of Oil and Gas Servicing companies in Nigeria. The coefficient of determination R^2 indicates that 64.0% of changes or variations in the criterion or dependent variable (Return on Turnover) is attributable to changes or variations in the predictor or independent variable (Daily Staff Safety Meetings). The theoretical implication of this result is that 36.0% of variations in the Return on Turnover of Oil Servicing companies are explained by other factors outside the model. The adjusted R^2 value of 58.5% is a little below R^2 of 64.0%.

5. Discussion of findings

Results of our analyses reveal that there is a significant relationship between the provision/use of Personal Protective Equipment and Operating Profit Margin. By implication, it means that if adequate PPEs are provided and are used by staff for appropriate tasks, the accidents and incidents are reduced in the work place, the more client's confidence are enhanced, the more jobs for the company and by extension a guaranteed rise in profitability of the companies (in this case the operating profit margin). This agrees with the findings of Umoh and Torbira, 2013).

Again, from our second hypotheses tested was revealed that was a significant relationship between Convening of Daily Staff Safety Meetings/Briefings and Return on Turnover. The implication is that daily staff meeting/briefings will enhance the safety awareness of staff of oil servicing companies, which will lead to zero incidents in the work place and so increase the chances of getting more jobs and by extension more profit (in this case Return on Turnover).

6. Conclusions and recommendations

Safety practices impacts positively of the performance (profitability) of oil and gas and related industries in Nigeria. Findings indicate a statistically significant relationship between the independent and dependent variables. It was recommended that safety practices should be enhanced to guarantee smooth operations, clients' confidence, guaranteed jobs, safety of staff and property, financial loss due to injuries and accidents, protection of the public environment and less sanctions by the regulatory authorities.

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