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NEXUS BETWEEN SUSTAINABILITY REPORTING AND FINANCIAL PERFORMANCE: AN EVALUATION OF SELECTED LISTED OIL AND GAS COMPANIES IN NIGERIA

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***Correspondence**: henyyua@gmail.com*

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Mike Soomiyol[1] Maurice Teghtegh[2] Henry Yua[3]

[1]Lecturer, [2]Scholar, [3] Lecturer,
[1&2]Department of Accounting and Finance, Joseph Sarwuan Tarka University, Makurdi, Nigeria.
[3]Department of Banking and Finance, Mewar International University, Masaka.

1. Email: soomiyol@gmail.com
2. Email: mauricetegh@gmail.com
3. Email: henyyua@gmail.com

ABSTRACT:

This study examined the effect of sustainability reporting on the performance of sampled Oil and Gas firms in Nigeria. Performance proxied by return on assets (ROA) was the dependent variable while sustainability reporting surrogated by economic reporting, environmental reporting and social reporting. The major analysis to achieve the specific objectives was performed using the generalized least square (GLS) regression techniques. The significance of the association and relationships was at 5% confidence level. Z-test statistics was used to test the significance of the relationships. The results of the model revealed that the explanatory variables account for as low as 69.51% of the overall variation in the financial performance of sampled Oil and Gas firms in Nigeria. The findings shows that economic reporting and environmental reporting has a significant effect on the financial performance of sampled oil and gas firms in Nigerian while social reporting has no significant effect on the financial performance of sampled Oil and Gas firms in Nigeria. The study recommends among others that, listed oil and companies in Nigeria should intensify economic dimension of sustainability reporting as this could lead to increased performance in addition to satisfying their information needs and assisting them to hold firms to account for not only economic reporting but also environmental and social reporting as its impacts them.

1. INTRODUCTION

Global developments in businesses, especially in relation to sustainable development have underscored the importance of companies to integrate information on sustainability issues into their corporate reporting mechanism. This is also informed by the fact that the accountability aspect of financial reporting of companies will not be complete without incorporating sustainability reporting in the annual financial reports, hence the need for the inclusion of sustainability disclosures in corporate annual reports to balance the needs of stakeholders. In accounting disclosure literature, sustainability reporting has to do with the disclosure and communication of environmental, social, and governance (ESG) goals as well as a company's progress towards these goals (Owolabi & Okulenu, 2020). Sustainability reporting refers to the disclosure, whether voluntary, solicited, or required, of non-financial performance information to outsiders of the organization (Erkens, Paugam & Stolowy, 2015). In the broadest sense, sustainability reporting deals with information concerning environmental, social, economic and governance issues. The introduction of these non-financial information in published reports is seen as a step forward in corporate communication and considered as an effective way to increase corporate engagement and transparency (Moravcikova, Stefanikova & Rypakova, 2015).

Sustainability reporting has become necessary to manage and report sustainability issues as the traditional financial reports are insufficient to provide a complete description of the economic, social and environmental impacts of an organization's operation (Guthrie & Farneti, 2008). Listed firms are required by law to prepare conventional financial reports to investors, potential investors, shareholders and other stakeholders to show their financial performance at the end of an accounting period at the expense of the firm. Over the years, this disclosure has been basically financial in nature but nowadays, stakeholders expect all organizations to be more detailed on how they treat: the environment, employees, host communities and handle their corporate governance issues. Sustainability reporting has been a rising concern in today's business era as it does not only satisfy stakeholders informational needs about the economic, social and environmental activities of the firm, but also works as a competitive advantage for the company in question. Thereby, in today's business world where companies are buried in neck to neck competition, it is highly important for firms to draw sustainability reports not only to track down their economic, social and environmental performances, but also to attract more customers so as to survive in the market. This is because firms that undertake sustainability reporting are considered being transparent and thus capable of attracting investors (Oncioiu *et al*. 2020).

There are a variety of reasons that companies choose to produce sustainability reports, but at their core they are intended to be "vessels of transparency and accountability" Often, they are also intended to improve internal processes, engage stakeholders and persuade investors. Improved disclosure of non-financial information can have other benefits for reporting companies. In particular, the adoption of sustainability reporting has been found to have a positive impact on company performance and value. Organization for Economic Cooperation and Development (OECD) suggests that companies showing sustainable performance on environmental, social and governance (ESG) criteria and communicating effectively about them seem to enjoy better financial performance (OECD, 2012 & Baron, 2014). These companies generally benefit from a more diversified investor base, for example through their inclusion in actively managed investment portfolios or sustainability indices (European Commission, 2019). There are a variety of reasons that companies choose to produce sustainability reports, but at their core they are intended to be vessels of transparency and accountability. Often, they are also intended to improve internal processes, engage stakeholders and persuade investors. Improved disclosure of non-financial information can have other benefits for reporting companies. In particular, the adoption of sustainability reporting has been found to have a positive impact on company performance and value. OECD suggests that companies showing sustainable performance on environmental, social and governance (ESG) criteria and communicating effectively about them seem to enjoy better financial performance (OECD, 2012 & Baron, 2014). These companies generally benefit from a more diversified investor base, for example through their inclusion in actively managed investment portfolios or sustainability indices (European Commission, 2019).

This study is motivated by the need to adhere to the call by Haln and Kuhnen (2013) for a study to be conducted on the topic to cover all the themes of sustainability (economic, social and environmental) since they concluded in their study that most studies on this topic covers only one theme of sustainability which often environmental. This study therefore intends to test three sustainability variables (environmental, economic and social) hitherto not frequently tested against performance by previous studies. For instance, Chiamogu and Okoye, (2020); Omesi and Berembo, (2020); Etale and Otuya, (2020); Nasiru *et al*. (2020); Syder *et al*. (2020); Owolabi and Okulenu, (2020); Erhirhie and Ekwueme, (2019). Most of these studies have shared similar focus with our present study. However, none of these existing studies have examined sustainability reporting and performance of listed oil and gas firms in Nigeria using variables such as economic reporting, environmental reporting and social reporting to the best of our knowledge. These studies have either adopted the qualitative approach or binary approach of measurement which are often considered unrealistic in accounting research.

Also, most of the recent studies carried out in the area of sustainability reporting were undertaken using samples from advanced economies with sophisticated sustainability reporting framework with a handful of these study focusing on developing economies like Nigeria and the oil and gas industry in particular. This study will focus on listed oil and gas companies' firms drawn from the Nigeria stock exchange which has hitherto not being considered by previous literature. It is against this backdrop that this study is set to evaluate the effect of sustainability reporting on the financial performance of listed oil and gas companies in Nigeria.

1.1 Objectives of the Study

The broad objective of this study is to investigate the effect of sustainability reporting on financial performance of listed oil and gas companies in Nigeria. The specific objectives of the research are to:

i. assess the effect of Economic reporting on the financial performance of listed oil and gas companies in Nigeria.
ii. determine the effect of Environmental reporting on the financial performance of listed oil and gas companies in Nigeria.
iii. investigate the effect of social reporting on the financial performance of listed oil and gas companies in Nigeria.

1.2 Research Hypotheses

In order to test the effect of sustainability reporting on financial performance of listed oil and gas companies in Nigeria, the following hypothesis are formulated in their null form:

Ho_1: Economic reporting has no significant effect on the financial performance of listed oil and gas companies in Nigeria.

Ho_2: Environmental reporting has no significant effect on the financial performance of listed oil and gas companies in Nigeria.

Ho_3: Social reporting has no significant effect on the financial performance of listed oil and gas companies in Nigeria.

2. LITERATURE REVIEW

2.1 Conceptual review

2.1.1 Sustainability Economic Reporting

According to GRI (2011), economic reporting is the process by which a firm communicates to its variety of stakeholders' information regarding its range of economic activities on wages and benefits, labour productivity, job creation, research and development and investment.

2.1.2 Environmental Reporting

One of the key components of sustainability reporting is environmental reporting. Makori and Jagongo (2013) sees environmental reporting as the ability of a firm to provide accurate information in the financial statements regarding the estimated social cost occasioned by the production externalities on the environment and how much deliberate intervention cost bridge the gap between the marginal social cost and private cost by firms. Environmental reporting is done in stages: from ad-hoc comments in the annual reports to stand-alone environmental reports. Investments in the environment are no longer viewed as additional costs but as part of corporate responsibility

2.1.3 Social Reporting

Social reporting is a form of reporting that discloses information about employment, occupation, health and safety, training and education, diversity and opportunity, community involvement and customer health and safety (GRI 2011). This is to say, it provides information about social responsibility practices that could increase a company's reputation, reduce potential liabilities and regulatory costs. This suggests a positive association between future cash flows and voluntary practice of social reporting. On the other hand, firms that engage in substantial social activities and disclose such in their financial statements will likely have reduced information asymmetries and may access capital at a lower cost. Disclosing its social activities plays a positive role in the decision made by investors.

2.1.4 Benefits of Corporate Sustainability Reporting.

The internal and external benefits associated with Sustainability Reporting according to KPMG (2008) in Kwaghfan (2015) are as follows:

i. Reporting demonstrates a company's commitment to managing its environmental, social and economic impacts and, in doing so, establishing a sound basis for stakeholder dialogue and demonstrating transparency. It as well helps existing and prospective employees have expectations about corporate environmental, social and economic behavior, and consider such factors in deciding whether to join or remain with an organization. Publication of sustainability related information can play a role in positioning a company as an employer of choice. This status can enhance employee loyalty, reduce staff turnover and increase a company's ability to attract and retain high quality employees.

ii. Sustainability reporting often involves the collection, collation and analysis of data on resource and materials usage, and the assessment of business processes. This process can help a company to better identify opportunities for cost savings and revenue generation through more efficient use of resources and materials.

iii. Corporate reputation is a function of the way in which a company is perceived by its stakeholders on one or more of the environmental, social and economic dimensions. Sustainability reporting can play an important role in managing stakeholder perceptions, and in doing so, help to protect and enhance corporate reputation.

iv. Internal management reporting of sustainability information focuses management attention on its approach to sustainability. External reporting causes focus not only on the integrity of the data, but also on continuous improvement across areas of reported performance. Furthermore, the establishment of publicly disclosed performance goals and quantified targets may drive internal change.

v. Sustainability reporting may assist the company prepare itself to manage emerging areas of compliance (e.g. greenhouse gas emission data) through the establishment of appropriate reporting systems and processes. Reporting may help a company to influence future regulatory responses (e.g. minimizing regulations across areas where voluntary disclosure frameworks are seen to be adequate).

vi. Sustainability Reporting may stimulate leading edge thinking and performance, thereby enabling a company to enhance its competitiveness. For example, the development of innovative products and services may be enhanced through a better understanding of particular stakeholder concerns, need and expectations. It may facilitate more rigorous and robust management systems and decision-making processes to better manage environmental, economic and social risks, opportunities and impacts.

2.2 Theoretical Review

2.2.1 Legitimacy Theory

Legitimacy theory is derived from the concept of organizational legitimacy which was first brought to limelight by Dowling and Pfeffer in 1975. Legitimacy theory provides a broad perspective on social and environmental disclosures, and in that sense also on sustainability reporting, as it accepts that companies operate in a so-called agreement with the social environment around them: they perform socially desired actions and in return their actions and objectives are approved, which confirms the continuous existence of the firm (Deegan, 2006; Guthrie & Parker, 1989). Thus, companies attempt to make sure that the activities they engage in are perceived as legitimate by external parties. As a matter of fact, gaining legitimacy is a resource needed for a company to survive. Legitimacy theory holds that, a firm has a social contract, which can be implicit and/or explicit with the society as a whole (Shocker & Sethi 1974). Social contract is expressed by the expectations of the society which are not fixed and changing over time (Islam & Craig, 2008). The firm holds a moral obligation to meet the expectations of the societal members. If a firm fulfills the expectations of the whole society, then it would be treated as legitimate otherwise its legitimacy would be at risk (Deegan & Jeffry 2006). Only legitimate firms have the right to utilize society's natural and human resources. So, organizations are required to respond to the changing expectations of the society to maintain their legitimacy.

The assertion behind the legitimacy theory is that, organizations are engaged in a social contract concord between them and the society within which they are located. It is therefore expected that organizations will operate according to the norms of such societies and reveal vital information to the society about the use of the environment (Utile, 2016). Therefore, to be legitimate firms must engage in corporate social responsibilities and report same through sustainability reporting in order to gain acceptance from all stakeholders.

2.2.2 Stakeholder Theory

Stakeholder theory was propounded by Edward Freeman in 1984. Stakeholder theory views the explicit expectations of the various stakeholder groups within the society as determining the social disclosure practices. Stakeholder theory proposes that, organizations have various groups or individuals called stakeholders who affect or are affected by the activities of the firm (Sweeney & Coughlan, 2008). The argument advocated by the stakeholder theory is that all stakeholders have the right to be treated reasonably by the organization and to have information on the performance of the companies within their location (Freeman, 1984). Thus, for firms to achieve this, they must engage in corporate responsibilities and report same through sustainability reporting.

2.3 Empirical Review

The study reviews relevant literature on effect of sustainability reporting on performance of listed firms. For instance, Ismail *et al.* (2022) investigated corporate sustainability reporting and firms' financial performance in emerging markets using 24,029 firm year observations from fourteen (14) emerging markets including China, Egypt, Hungary and others for the period 2011-2018. The study employed correlational research design and weighted least square regression to analyze the data. The study found that sustainability report results in high financial performance in emerging markets. Therefore, it is recommended that firms in emerging markets engage in sustainability reporting. The study has a time lag of 3 years because the study is in 2022 but the cover period is only up to 2018. It also cuts across several countries but the present study findings will be narrowed to Nigeria in the industrial goods sector.

Chiamogu and Okoye (2020) ascertained the extent environmental cost affects financial performance of oil and gas companies in Nigeria. The specific objectives were to determine the effect of community development cost and environmental remediation cost on Tobin’s on oil and gas companies in Nigeria. Ex post facto research design was employed and data was obtained from annual reports and accounts for the periods 2011 to 2018. The hypotheses were tested using regression analysis with aid of e-view 9.0. The results of the empirical data analysis revealed that community development cost and environmental remediation cost has positive significant effect on Tobin’s.

Omesi and Berembo (2020) investigated the relationship between social accounting and the performance of listed oil and gas companies selected in Nigeria during the years 2012-2017. In particular, it examined the relationship between the social accounting and the return on asset of listed oil and gas companies in Nigeria. The explanatory and correlative project was adopted for the study, while secondary data were used for the study. The result of the study showed that there is no significant relationship between the social accounting and the performance of the activities of the oil and gas companies in Nigeria under study.

While the study of Omesi and Berembo (2020) was limited to the investigation of the relationship between social accounting and the performance of listed oil and gas companies selected in Nigeria during the years 2012-2017. This present study takes a different turn by focusing on the three components of environmental, social and economic disclosure of oil and gas companies in Nigeria from the period 2010-2019.

Etale and Otuya (2020) examined the relationship between environmental responsibility reporting and financial performance of quoted oil and gas companies in Nigeria. The study used secondary data obtained from the annual reports of 13 oil and gas companies quoted on the floor of the Nigeria Exchange Group for the years 2012- 2017. The study adopted the ordinary least square (OLS) regression method as the basic technique of data analysis. The study found significant positive relationship between financial performance and environmental responsibility reporting in the oil and gas sector of Nigeria. However, the findings of the study indicate that environmental responsibility reporting in Nigeria is still developing and that organizations operating in the oil and gas sector report very little information about the impact of their operations on the environment. This finding is not quite surprising as most multinational oil and gas companies are not quoted on the NSE, as such were not included in the study.

The study of Nasiru, Abdulrahman, Babangida and Abubakar (2020) like the present study focus on listed oil and gas firms. However, the study of under reviewed only take sample from listed oil and gas firms in Nigeria. This present study made use of 8 listed oil and gas firms in Nigeria.

Syder, Ogbonna and Akani (2020) examined the effect of sustainability accounting report on shareholder value of quoted oil and gas companies in Nigeria. Cross-sectional and ex-post facto research designs were employed for the study. The population of the study was nine quoted companies on 2016/2017 fact book of the Nigerian Stock Exchange (NSE). The study sample was purposively selected to include only those companies that operated both on upstream and downstream sectors of the industry. Secondary data were obtained from the annual corporate reports of the concerned companies and Nigerian Stock Exchange from 2009 to 2018 by content analysis. Data analysis was with aid of E-view software version 7. It involved Autoregressive Distributed Lag (ARDL) bound test, descriptive statistic, model estimations and diagnostic analysis that adopted Augmented Dicky-Fuller Unit root test, error correction model and co-integration as well as multiple regressions. The findings of the study are: that employee training and community development expenditures had positive and significant effect on shareholder value added of the companies. However, the environmental compliance cost has no effect on shareholder value added. Predicated on these findings, it was concluded that sustainability accounting report has significant effect on shareholder value of quoted oil and gas in Nigeria, although the extent depends on the actual practice of the entity.

While the study of Syder, Ogbonna and Akani (2020) examined the effect of sustainability accounting report on shareholder value of quoted oil and gas companies in Nigeria from the period 2009-2018. This present study varies by examining the sustainability reporting and performance of listed oil and gas firms in Nigeria using sample drawn from the period 2010-2019.

Owolabi and Okulenu (2020) explicated on sustainability reporting as a catalyst to performance of insurance company in Nigeria. The study made use of the ex post facto research design. A sample was taken from Mutual Benefit Assurance PLC, which was employed in this study. Data was gotten from the annual reports and accounts of the sampled firm through content analysis. The data were analyzed using multiple regression analysis. The results revealed that sustainability reporting has a small but positive relation with Environmental Reporting and market value and performance of the organization, social reporting was negatively related with market value and performance of the organization, and economic reporting was positively related with market value and performance of the organization.

Erhirhie and Ekwueme (2019) examined corporate social sustainability reporting and financial performance of Oil and Gas Industry in Nigeria. This study assessed the effect of corporate social sustainability reporting on Return on Assets, Return on Equity, and Return on Capital Employed of oil and gas companies listed on the Nigeria Stock Exchange. Ten oil and gas companies were sampled for the study. The study utilized secondary data collected via financial ratios and accounts of the individual companies and content analysis. The findings showed that social sustainability reporting exerts negative effect on all three performance proxies, howbeit only its effect on return on equity was statistically significant.

Uwalomwa, Obarakpo, Olubukola, Ozordi, Osariemen, Gbenedio and Oluwagbemi (2018) provides an insight into the bi-directional relationship between sustainability reporting and firm performance in quoted Deposit Money Banks (DMBs) in Nigeria. While the population size comprises of all deposit money banks quoted on the floor of the Nigerian Stock Exchange, judgmental sampling technique was used in the selection of the sampled banks. Considering the period 2014-2016, the annual report and stand-alone sustainability reports of the selected banks were analyzed through the use of content analysis and coded in order to obtain the sustainability disclosure index. The panel regression technique was used to analyze the data. The empirical findings show that there is a bi-directional relationship between sustainability reporting and firm performance of quoted Deposit Money Banks (DMBs) in Nigeria. This finding confirms the proposition of the legitimacy theory.

3. MATERIAL AND METHOD

The ex-post facto research design was adopted in this study. The population for this study comprised all 13 listed oil and gas companies in Nigeria Stock Exchange as at December, 2019. These firms are presented in a table below:

Table 1: Population of Oil and Gas Companies in Nigeria

S/No.	Nigeria
1	Total
2	Mobil
3	Forte Oil
4	Eternal
5	Japaul Oil

6	Mrs
7	Oando
8	Rakunit
9	Seplat
10	Becopetro
11	Anino
12	Cap oil
13	Con oil

Source: NSE, 2019

This study used the judgmental sampling technique to select 8 listed oil and gas companies in Nigeria as at 31st December 2019. The main criteria for the selection of the companies are:

1. They must be consistently quoted during the period under study.
2. Each company selected must also have complete data covering the period under investigation (2010-2019).

Using the above criteria, the following listed Oil and Gas Companies were selected to form the sample size:

Table 2: Sampled Listed Oil and Gas Companies in Nigeria

S/No.	Nigeria
1	Total Plc.
2	Mobil plc.
3	Forte Oil
4	Conoil
5	Eternal
6	Japaul Oil
7	MRS
8	Oando

The descriptive statistics and multiple regression analysis were used for analysis of data generated for the study variables. The study uses descriptive statistics to summarize the collected data in clear and understandable way using numerical approach, correlation analysis to ascertain the relationship between the dependent and independent variables and to investigate the direction of such relationship.

The study also utilizes the linear regression to describe the dependent variable using the explanatory variables.

To ensure the suitability of data employed in the study, some data robustness tests were conducted, such as normality test, heteroscedasticity, Variance Inflation Factor tests and Hausman specification test respectively. Data normality test was also conducted to ensure that the sampled data does not contain outliers that will produce spurious regression results. The test was conducted using Shapiro-Wilk test for normal data. In order to check if the error terms in the models do not have constant variance, the heteroskedasticity test was conducted. A regression model assumes that the variance of the error term is constant. If the error terms do not have constant variance, they are said to be heteroskedastic. According to Richard (2015), if the Chi Squared value of the heteroskedasticity test is significant with p-value below an appropriate threshold ($p<0.05$), then there is heteroskedasticity.

The Variance Inflation Factors (VIF) was equally utilized to measure the degree to which the variance of the estimated regression coefficients is inflated as compared to when the predictor variables are not linearly related. VIF is used to describe how much multicollinearity (correlation between predictors) exists in a regression analysis. A VIF greater than 10 is usually considered problematic.

Further test such as the Hausman specification test was also carried out to check whether the difference in coefficients are not systematic; If the test result is consistent with this assumption, the random effect is the most appropriate model otherwise the fixed effect model is adopted (Sarveshwar, 2016). The analysis above will be done with the aid of STATA version 16.

3.1 Model Specification

The following linear regression model has been formulated to guide the researcher in the investigation;

Profitability = f (Sustainability)

$ROA = f\,(ECONR, ENVR, SOCR)$ --eqn 1

$ROA_{it} = \alpha + \beta_1 ECONR_{it} + \beta_2 ENVR_{it} + \beta_3 SOCR_{it} + \beta_4 FS_{it} + e$------------------------eqn 2

where;

ROA_{it} = Return on Asset for oil and gas in time t

$ECONR_{it}$ = Economic reporting for oil and gas in time t

$ENVR_{it}$ = Environmental reporting for oil and gas in time t

$SOCR_{it}$ = Social reporting for oil and gas in time t

FS_{it} = Size of the company in time t

α = Model constant

β_1 - β_4 = Coefficients of the variable used in the models.

e = The error term in the model

3.2 Decision Rule

Reject the null hypothesis if the probability lies below 5%.

4. RESULT AND DISCUSSIONS

4.1 Data Analysis

4.1.1 Multi-collinearity Test

Table 1 shows the result of the ulticollinearity test based on VIF. The VIF ranges from 1.30 to 2.11 with a mean of 1.63 which is below a threshold 10 indicating the absence of ulticollinearity among the variables of the study. Based on this result, the study concludes that there is no ulticollinearity challenge among the variables.

Table 1: Variance Inflation Factor Results

Variable	VIF
SOCR	2.11
ECONR	1.72
ENVR	1.39
FS	1.30
Mean VIF	1.63

Source: STATA Version 16 Output

4.1.2 Heteroscedasticity

Ho = There is absence of heteroskadasticity in the distribution.

Decision Rule: Reject the null hypothesis if the probability of the chi square lies below 5%.

Table 2 presents the result of the heteroskadasticity test. The result of the test shows the presence of heteroskedasticity given that the probability of the chi square lies below 5%, based on the p-value of 0.0000. To correct the presence of heteroscedasticity, the final regression result will be computed using robust standard errors.

Table 2: Breusch-Pagan / Cook-Weisberg test for Heteroskedasticity

Ho: Constant variance	Significance Level
Variables: fitted values of ROA	
Chi2(1)	47.03
Prob > chi2	0.0000

Source: STATA Version 16 Output

4.1.3 Shapiro-Wilk Test for Normality

The test result as presented in Table 3 shows that all variables have z- statistics values that are significant at 1%. This shows that the data used for the study is not normally distributed. Even though this study do not find extremely well visualized results for normal distribution, it is worth mentioning that according to the central limit theorem, sufficiently large random samples from the population, i.e. larger than 30, are expected to be approximately normally distributed (Singh, Lucas, Dalpatadu & Murphy, 2013). Since this study has a sample size that consists of 80 observations, it can be assumed that the samples are normally distributed (Ott & Longnecker, 2008; Singh, Lucas, Dalpatadu & Murphy, 2013).

Table 3: Shapiro-Wilk W Test Result

Variable	**Obs**	**W**	**V**	**Z**	**Prob>z**
ROA	80	0.46881	36.461	7.880	0.00000
ECONR	80	0.80062	13.685	5.733	0.00000
ENVR	80	0.90957	6.207	4.000	0.00003
SOCR	80	0.93148	4.703	3.392	0.00035
FS	80	0.45602	37.339	7.932	0.00034

Source: STATA Version 16 Output

4.1.4 Hausman Specification Test

This test checks if the error terms are correlated with the regressors. The test statistic result presented in Table 5 below is statistically insignificant at 5% as the probability statistics lies above the 5% level of significant. Hence, the study cannot reject the null of fixed effects. Consequently, the study estimates the random effects model. Therefore, the regression result presented in Table 7 and analysed in this study are based on the random effect robustness model.

Table 4: Hausman Specification Test

Chi2(1)	47.03
Prob > chi2	0.9961

Source: STATA Version 16 Output

Table 5: Correlation Matrix

	ROA	ECONR	ENVR	SOCR	FS
ROA	1.0000				
ECONR	0.0670	1.0000			
ENVR	0.0938	0.3486	1.0000		
SOCR	0.0408	0.4327	0.2630	1.0000	
FS	-0.0272	0.6332	0.4741	0.5079	1.0000

Source: STATA, Version 16 Output

Table 5 revealed that there is no relationship among the explanatory variables that is large enough (greater than 0.7) to pose the problem of serial correlations among the data. The table reveals a positive correlation coefficient between economic reporting (ECONR) and return on assets (0.067) of sampled oil and gas firms during the period under study. The positive coefficient between economic reporting and return on assets of the sampled firms is an indication that ECONR is associated with increased in financial performance of sampled oil and gas firms during the study period. In addition, environmental reporting (ENVR) is positively correlated with return on assets (0.0938) of sampled oil and gas firms in Nigeria during the study period. The positive coefficient between ENVR and ROA of sampled Oil and Gas firms suggests that ENVR is associated with increased financial performance. Finally, Table 5 shows a positive association between social reporting (SOCR) and return on assets of sampled Oil and Gas firms (0.0408). The positive relationship between SOCR and ROA of sampled Oil and Gas firms is an indication that social reporting is associated with increased financial performance of sampled Oil and Gas firms.

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Table 6: Summary of GLS Random Effect Regression Results (Robust)

ROA	Beta Coef	Z-values	P > /Z/
ECONR	29.06831	3.33	0.001
ENVR	-18.92511	-2.22	0.026
SOCR	6.632619	0.62	0.538
FS	-2.174952	-4.39	0.000
Constant	1.938219	0.82	0.409
R^2		0.0248	
Wald chi^2 (4)		73.11	
Prob > chi^2		0.0000	

Source: Researcher's Computation Using STATA, Version 16

This section presents and analyses the GLS regression result of the explained variables proxied by ROA and the explanatory variables (ECONR, ENVR and SOCR) of the study. Table 6 presents the results of the random effects model. The Wald Chi^2 of 73.11, which is significant at 1% (0.0000), reveals the model is well fitted, while the coefficient of determination R^2 of 2.48% explains the variation of the dependent variable (ROA) as a result of the changes in the independent variables. It can therefore be inferred from result presented in Table 6 that, the independent variables (proxied by ECONR, ENVR and SOCR) have combined predictive power of 2.48% impacting on the profitability of sampled Oil and Gas firms operating in Nigeria, while the remaining 97.52% can be explained by other factors which are not captured in the model. The implication of this result is that economic, environmental and social dimension of sustainability reporting are not responsible for the overall performance of listed Oil and Gas firms in Nigeria. Other factors not captured in this study such as corporate governance mechanisms, capital structure, efficient cash flow management etc. account more for the variation in performance of listed Oil and Gas firms in Nigeria. The regression results as presented above reveals an intercept of 1.938219 at an insignificant p-value of 0.82. This simply implies that when no other variables are considered, the return on assets of sampled Oil and Gas Companies is insignificantly estimated at 1.94 occasioned by factors not examined in this study but impact on performance of sampled Oil and Gas Companies in Nigeria. The result presented in Table 7 shows that economic reporting (ECONR) positively influences the ROA of sampled Oil and Gas Companies in Nigeria. ECONR has a beta coefficient of 29.07 and a p-value of 0.001, which lies below the 5% level of significance in social sciences. This implies that a unit change in ECONR will lead to a significant increase in performance of sampled Oil and Gas Companies in Nigeria. This implies that economic reporting activities of sampled Oil and Gas Companies in Nigeria significantly enhance their financial performance.

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Furthermore, the result of the estimated model shows that environment reporting (ENVR) negatively influences the ROA of sampled Oil and Gas Companies in Nigeria. Table 7 reveals that environment reporting (ENVR) has a beta coefficient of -18.93 and a p-value of 0.026 which lies below the 5% level of significance in social sciences. This implies that a unit change in ENVR will lead to a significant decrease in the return on assets of sampled Oil and Gas Companies in Nigeria by 18.93 thus indicating that environmental reporting activity significantly decreases the performance of sampled Oil and Gas Companies in Nigeria. 2Finally, social reporting (SOCR) going by the result shows a positive relationship with the ROA of sampled Oil and Gas Companies in Nigeria. The result reveals a beta coefficient of 6.63 and a correspondent p-value of 0.538, which lies above the 5% level of significance. This implies that a unit change in social reporting (SOCR) will lead to a 6.63 decrease in ROA of sampled Oil and Gas firms. This result could be interpreted to mean that SOCR insignificantly increases the financial performance of sampled Oil and Gas Companies in Nigeria during the period under study.

4.2 Test of Hypotheses

The p-values are used to test the significance of the relationship between the dependent and the independent variables. The test is performed at 5% level of significance.

4.2.1 Hypothesis One

Ho$_1$: *Economic reporting does not have a significant effect on Return on Assets (ROA) of sampled oil and gas firms in Nigeria.*

4.2.1.1 Decision: In testing the first hypothesis, the results in Table 6 reveals that has a p-value of 0.001, which lies below the 5% level of significance. This leads to the rejection of the null hypothesis. The study therefore concludes that economic reporting has a significant effect on Return on Assets (ROA) of sampled oil and gas firms in Nigeria.

This implies that economic reporting activities significantly improves the performance of sampled Oil and Gas firms in Nigeria. This is so because sampled Oil and Gas firms' investment economic activities often translates to more reporting of these activities which thus goes a long way to enhance the performance of these companies. This finding agrees with findings of Owolabi and Okulenu, (2020) who studied sustainability reporting as a catalyst to performance of insurance company in Nigeria and found that economic reporting was positively related with market value and performance of the organization. The findings is inconsistent with findings of Asuquo, Dada and Onyeogaziri,

(2018) who examined the effect of sustainability reporting on financial performance of selected quoted brewery firms in Nigeria and found that economic performance disclosure have no significant effect on return on asset (ROA) of selected quoted firms in Nigeria.

4.2.2 Hypothesis Two

Ho₂: *Environmental reporting does not have a significant effect on the Return on Assets (ROA) of sampled oil and gas firms in Nigeria.*

4.2.2.1 Decision: in testing the second hypothesis of the study, the results in Table 6 reveals that ENVR has p-value of 0.026 which lies below the 5% level of significance. This leads to the rejection of the null hypothesis. The study therefore concludes that environmental reporting has a significant effect on the Return on Assets (ROA) of sampled oil and gas firms in Nigeria.

This implies that environmental reporting significantly decreases the performance of sampled Oil and Gas firms in Nigeria. This finding implies the more Oil and Gas firms involve in environmental activities, which translates to them reporting it, will lead to a significant decrease in their performance. The findings of the study indicate that sampled Oil and Gas carries out intensive environmental responsibility reporting which is capital intensive, thus leads to decrease performance. This finding is consistent with findings of Etale and Otuya (2020) who the examined the relationship between environmental responsibility reporting and financial performance of quoted oil and gas companies in Nigeria and found a significant relationship between financial performance and environmental responsibility reporting in the oil and gas sector of Nigeria. This finding is however inconsistent with findings of Owolabi and Okulenu (2020) who explicated on sustainability reporting as a catalyst to performance of insurance company in Nigeria and found that sustainability reporting has a small but positive relation with Environmental Reporting and market value and performance of the organization. The finding is also inconsistent with findings of Asuquo, Dada and Onyeogaziri (2018) who examined the effect of sustainability reporting on financial performance of selected quoted brewery firms in Nigeria and found that environmental performance disclosure has no significant effect on return on asset (ROA) of selected quoted firms in Nigeria.

4.2.3 Hypothesis Three

Ho_3: *Social reporting does not have a significant effect on the Return on Asset (ROA) of sampled oil and gas firms in Nigeria*

4.2.3.1 Decision: More so, in testing the third hypothesis, the results in Table 6 reveals that SOCR has a p-value of 0.538, which lies above the 5% level of significance. This leads to the acceptance of the null hypothesis. The study therefore concludes that social reporting has no significant effect on the performance of sampled Oil and Gas firms in Nigeria.

This result could be interpreted to mean that social reporting insignificantly enhances the financial performance of sampled Oil and Gas firms in Nigeria during the period under study. This finding is consistent with findings of Omesi and Berembo (2020) who investigated the relationship between social accounting and the performance of sampled oil and gas companies in Nigeria during the years 2012-2017 and found that there is no significant relationship between the social accounting and the performance of the activities of the oil and gas companies in Nigeria under study. The findings also agree with findings of Asuquo, Dada and Onyeogaziri (2018) who examined the effect of sustainability reporting on financial performance of selected quoted brewery firms in Nigeria and found that social performance disclosure (SOC) has no significant effect on return on asset (ROA) of selected quoted firms in Nigeria. The finding disagrees with findings of Erhirhie and Ekwueme (2019) who examined corporate social sustainability reporting and financial performance of Oil and Gas Industry in Nigeria and found that social sustainability reporting exerts negative effect on all performance proxies. This finding is inconsistent with finding of Owolabi and Okulenu (2020) who studied sustainability reporting as a catalyst to performance of insurance company in Nigeria and found that social reporting was negatively related with market value and performance of the organization.

CONCLUSION AND RECOMMENDATIONS

This study investigated the effect of sustainability reporting on the performance of sampled Oil and Gas firms in Nigeria. Arising from the results obtained from the data collected and analyzed together with the test of hypotheses, it was found that sustainability reporting indicators like economic reporting and environmental reporting exerts a significant effect on the performance of sampled Oil and Gas firms in Nigeria. While on the contrary, social reporting has an insignificant effect on the performance of sampled Oil and Gas firms in Nigeria. In view of these findings, it is therefore, concluded that sustainability reporting influences the performance of sampled Oil and Gas firms in Nigeria. However, the degree and direction of the influence is dependent on the variable used in any research.

In consonance with the findings of the study, the following recommendations are proffered:

i. Given that most firms do not provide a comprehensive dimensions of sustainability report, listed oil and companies in Nigeria should intensify economic dimension of sustainability reporting as this could lead to increased performance in addition to satisfying their information needs and assisting them to hold firms to account for not only economic reporting but also environmental and social reporting as its impacts them.

ii. Relevant authorities in Nigeria should formulate regulatory policies for the oil and gas sector organizations to abide by in order to include more information on environmental responsibility practices in their annual reports to enhance their performance.

iii. The management of sampled Oil and Gas companies should channel efforts towards participation in adequate social spending and dissemination as a way to increase stakeholder's confidence and show more transparency in its operations. This in turn could lead to better financial performance.

REFERENCES

Asuquo, A. I., Dada, E. T. & Onyeogaziri, U. R. (2018). The Effect of Sustainability Reporting on Financial Performance of Selected Quoted Brewery Firms in Nigeria. *International Journal of Business and Law Research* 6(3), 1-10.

Asuquo, I. A, Dada, T. E & Onyeogaziri, R. U (2018). The Effect of Sustainability Reporting on Financial Performance of Selected Quoted Brewery Firms in Nigeria.*International Journal of Business and Law Research,* 6(3), 1-10.

Baron, F. (2014). Traveler, Scholar, Politician, Adventurer, *Journal of the American Hungarian Educators Association,* 7 (2)7-28

Chiamogu, A. and Okoye, J. N. (2020). Environmental Cost and Financial Performance of Oil and Gas Companies in Nigeria. *International Journal of Advanced Academic Research (Social and Management Sciences),* 6(10), 1-24.

Deegan, C. & Jeffry, U. (2006). Financial accounting theory. Berkshire SL6 2QL, McGraw-Hill Education.

Dowling, J. & Pfeffer, J. (1975). Organisational legitimacy social values and organizational behavior. *Pacific Sociological Review,* 18(1), 122-136.

Erhirhie, F. E. & Ekwueme, C. M. (2019). Corporate social sustainability reporting and corporate performance of Oil and Gas Industry in Nigeria. *International Journal of Accounting, Finance and Risk Management*, 4(2), 44-60.

Erkens, M., Paugam, L, & Stolowy, H. (2015). Non-financial information: State of the art and research perspectives based on a bibliometric study, Retrieved from file:///C:/Users/Dr.%20Yua%20Henry/Downloads/CCA_213_0015.pdf

Etale, L. M. & Otuya, S. (2020). Environmental Responsibility Reporting and Financial Performance of Quoted Oil and Gas Companies in Nigeria. *European Journal of Business and Innovation Research*, 6(6), 23-34.

Freeman, R.E. (1984) Strategic Management: A Stakeholder Approach. Pitman, Boston

GRI (2011). Sustainability Reporting Guidelines: G3.1 version, Retrieved from http://globalreporting.org on 17th December, 2018.

Guthrie, H. & Farneti, K. (2008). Sustainability reporting: An accountant's perspective. *Journal of Management and Sustainability*, *5*(2), 92-97.

Guthrie, J. & Parker, L. D. (1989). Corporate Social Reporting: A Rebuttal of Legitimacy Theory. *Accounting and Business Research*, 9, 343-352.

Haln, G. & Kuhnen, M. (2013). Social and positive sustainability performance measurement. Retrieved from https://www.researchgate.net/publication/323796749_Social_and_positive_sustainability_performance_measurement

Hirigoyen, G. and Poulain-Rehm, T. (2015). Relationships between corporate social responsibility and financial performance: What is the causality? *Journal of Business and Management*, 4(1), 18-43.

Ismail, W. A. W., Saad, S. M., Lode, N. A., & Kustiningsih, N. (2022). *Corporate Sustainability Reporting and Firm's Financial Performance in Emerging Markets*. International Journal of Academic Research in Business and Social Sciences, 12(1), 396–407.

Kwaghfan, A. (2015). Impact of sustainability reporting on Financial Performanceof selected quoted companies in Nigeria. *Being thesis submitted to the department of accountancy, faculty of business administration, university of Nigeria, Enugu campus in partial fulfillment of the requirements for the award of Ph.D. in accountancy.*

Moravcikova, K, Stefanikova, L, Rypakova, M (2015). CSR reporting as an important tool of CSR communication, *Procedia Economics and Finance* 26 (2) 332 – 338

Makori, D. M. & Jagongo, A. (2013). Environmental accounting and firm profitability: An empirical analysis of selected firms listed in Bombay stock exchange, India. *International Journal of Humanities and Social Science*, 3(18), 248-256.

Nasiru, A. K., Abdulrahman, B. S., Babangida, M. A. & Abubakar, S. Y. (2020). Assessment of the Relationship between Sustainability Activities and Financial Performance of Oil and Gas Companies in Nigeria. *IOSR Journal of Business and Management,* 22(1), 01-08

OECD (2012). Measuring and Managing Results in Development Co-Operation a Review of Challenges and Practices among DAC Members and Observers.

Oncioiu, I., Petrescu, A.G., Bîlcan, F.R., Petrescu, M, Popescu, D.M. & Anghel, E. (2020). Corporate Sustainability Reporting and Financial Performance, *Sustainability MDPI.* 2(7)1-13.

Omesi, I. & Berembo, A. P. (2020). Social accounting and financial performance of oil and gas companies in Nigeria (2012-2017). *European Journal of Business, Economics and Accountancy*, 8(1), 29-41.

Owolabi, S. A. and Okulenu, S. A. (2020). Sustainability Reporting: A Catalyst to Performance of Insurance Company in Nigeria. *International Journal of Research Publication*, 56(1), 1-16.

Richard, W. (2015). Heteroskedasticity. *University of Notre Dame*, 1-16.

Sarveshwar, I. (2016). Hausman test in Stata - How to choose between Random vs Fixed effect model. India. Retrieved from https://www.youtube.com/watch?v=uobkzVjAtvY.

Shocker, A. & Sethi, S. (1974).An approach to incorporating social preferences in developing corporate action strategies. California Melville.

Sweeney, L. & Coughlan, J., (2008). Do different industries report corporate social responsibility differently? An investigation through the lens of stakeholder theory. *Journal of Marketing Communications.* 14(2), 113-124.

Syder, I. D., Ogbonna, G. N. & Akani, F. N. (2020). The effect of sustainability accounting report on shareholder value of quoted oil and gas companies in Nigeria. *International Journal of Management Sciences*, 7(5), 44 –57

Utile, B. J. (2016). Effect of sustainability reporting on firm's performance: A review of Literature. *The International Journal of Business and Management*, 4(7), 203-208.

EU (2019). An economy that works for people: Ensuring social fairness and prosperity https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/economy-works-people_en

Uwalomwa, U., Obarakpo, T., Olubukola, R. U., Ozordi, E., Osariemen, A., Gbenedio, A. E & Oluwagbemi, S. T (2018). Sustainability reporting and firm performance: a bi-directional approach. *Academy of Strategy Management Journal*, 17(3), 1-16.