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EFFECT OF CORPORATE SUSTAINABILITY DISCLOSURE ON FINANCIAL PERFORMANCE OF OIL AND GAS FIRMS IN NIGERIA.

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Abstract

The paper examined the effect of sustainability disclosure on financial performance of selected listed oil and gas firms in Nigeria. The population of the study comprises all the 12 listed oil and gas firms in Nigeria. The study used secondary data obtained from annual report of only ten (10) oil and gas publicly traded firms on the Nigerian stock Exchange covering a period of 5 years ranging from 2016 -2020. The research design that was adopted in this study was ex-post research design. The panel regression estimation technique was employed to investigate to what extent financial performance is affected by sustainability disclosure of the selected firms. Findings of this study revealed that environmental sustainability disclosure has statistically significant positive effect (P-value of 0.0227) on financial performance at 5% level of significant). Furthermore, economic sustainability disclosure and social sustainability disclosure has statistically insignificant effect on financial performance of selected listed firms in Nigeria. The study concluded that environmental sustainability disclosure has impacted positively on financial performance of companies investigated. However, economic social sustainability disclosure has no significant effect financial performance of selected listed oil and gas firms in Nigeria. Similarly, economic sustainability disclosure has statistically insignificant effect on financial performance of selected listed firms in Nigeria. Hence, the study recommends that, the management of oil and gas companies should improve on the environmental sustainability disclosure practices as it significantly affects their financial performance positively. Furthermore, the oil and gas firms in Nigeria should disclosure only material information regarding economic and social sustainability performance.

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Keywords: *Corporate Sustainability, Social Sustainability, Economic Sustainability, Environmental Sustainability, Corporate Performance*.

1 Introduction

Corporate disclosure is a statutory responsibility for modern organizations' management. This stems from the fact that managers of firms are the agents of shareholders who contribute their financial resources for establishment, survival and growth of the business. According to several management philosophers and new classical economists, the basic purpose of a corporate organization is to maximize profit, subject to capacity, ethical constraint, and other constraints. Consequently, mainstream financial reporting system conveys information regarding only economic performance of organizations that are important to shareholders. However, in the modern day, beyond the owners of the businesses, there are other stakeholders of corporate organization. The contemporaneous, dynamic and turbulent nature of modern business environments together with diverse information needs of wider stakeholder such as investors, shareholders, practitioners, policy makers, among others stakeholders necessitate the need by companies to engage in not only financial reporting practices but also sustainability disclosure practices. This is because shareholders and several other claimants have commenced demanding that companies disclose sustainability information for their impact on their environment and wider society of business activities. Thus, the deficiency of traditional corporate reporting and disclosure to convey sustainability information requirement has necessitated the need for reporting practices that take into consideration the balanced information needs of wider stakeholders (Nasiru, Abdulrahman, Babangida & Abubakar, 2020).

According to Whetman (2017), companies are more and more evaluated on the adverse effect of their day to day business affairs and action on people, community and environment. This led to the awareness that corporations should disclose information that pictures their sustainability achievements. Corporate sustainability is central to long run success of organization and for making sure value is being delivered across society by markets (United Nation Global Compact, 2017). The notion of sustainability practice provides that while a firm attempts to attain its conventional earnings maximization objective or even wealth maximization, it is paramount that these objectives are attained by means of actions that combine environmental and social matters in its day to day decision making (Asuquo, Dada & Onyeogaziri, 2018). Lack of adequate disclosure on the activities of the company has left shareholders at the risk of manipulated earnings as being witnessed with rising cases of scandals, frauds, suspension and even delisting (Modugu & Eboigbe, 2017). Detailed studies of Nigerian listed firms carried out by World bank Group unveiled that the financial reporting practices of firms in Nigeria are deficient (Rotimi, Folajimi & Rufus, 2019). Consequently, in 2011, the Securities and Exchange Commission (SEC) published an amended corporate governance code requiring all Nigerian listed firms to publish relevant information regarding business activities, including sustainability. The antecedent developments together with global economic crisis have led to growing attention on corporate disclosure so as to regain

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the trust of owners and other business stakeholders, and to reform the global economy (Adeleke, Akinselure & Oluwafemi, 2017).

This study is motivated by the lack of consistent evidence due to mixed results in previous studies by examining the corporate sustainability reporting practices on corporate financial performance. As long as prior empirical studies fail to produce corroborated and consistent results, the study exploring the connection between corporate sustainability reporting and financial performance will remain unexhausted (Lyndon & Sunday, 2018). Many empirical studies have been conducted on corporate sustainability disclosure and corporate performance in developed economies (Lawrence, Thomas & Yu, 2017; Tri & Yuni, 2018; Laskar, 2019). Few studies that were conducted in Nigeria (Osemene, Kolawole & Oyelakun, 2016; Asuquo *et al.,* 2018; Lyndon & Sunday, 2018; Nwaiwu & Oluka, 2018) were concentrated mainly on environmental sustainability or social sustainability. Thus, this study examined the effect of corporate economic, social and environmental sustainability on financial performance of listed oil and gas firms in Nigeria.

1.2 Research Objectives

The main objective of this study is to examine the effect of corporate sustainability disclosure on financial performance of listed oil and gas firms in Nigeria. The specific objectives are to:

(i) Examine the effect of economic sustainability disclosure on financial performance of listed oil and gas firms in Nigeria;
(ii) Assess the effect of social sustainability disclosure on financial performance of listed oil and gas firms in Nigeria; and;
(iii) Evaluate the effect of environmental sustainability disclosure on financial performance of listed oil and gas firms in Nigeria.

2.0 Literature Review

2.1 Conceptual Review

2.1.1 An Overview of Sustainability and Sustainability Reporting

World Business Council for Sustainable Development (2002) defines corporate sustainability as – "the commitment of business to contribute to sustainable economic development, and to work with employees, their families, the local community and society at large to improve their quality of life.'' A sustainability report as defined by the Global Reporting Initiative (GRI, 2017) is a report published by a company or an organization about the economic, environmental and social impacts caused by its everyday activities. The reporting of sustainability and environmental accounting information as one of the key elements in corporate reporting enables those parties utilizing the information to have an understanding of the company's stance on environmental conservation and how it specifically deals with environmental issues (Osemene *et al.,* 2016). In Nigeria, sustainability reporting is not new to corporate organizations such as banks and oil companies. As a general

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reporting requirement in Nigeria, according to Nigeria Stock Exchange (NSE) Sustainability Disclosure Guideline (2016), all listed companies should ensure that the sustainability reports contain information that is relevant and meaningful to stakeholders. Also, the listed companies should also consider the themes and guidance provided in internationally accepted standard such as the Global Reporting Initiative (GRI) Standards. Sustainability reporting is interchangeably used with Triple Bottom Line (TBL) reporting. TBL was coined by Elkington (1994) to mean reporting on economic, environmental and social performance of organization. Thus, sustainability regarded as the integration of three performance areas: economic, social and environmental; is viewed as a necessary practice for the survival of modern corporations.

2.1.2 Corporate Financial Performance

Financial performance of a company is often ultimately reflected in corporate profits. Financial performance of a company can be measured using accounting based or stock market based measures. Accounting based measure reflects past performance of the firm; whereas stock market based measure reflect future expectations of the shareholders (Peloza, 2009). Yusuff, Emmanuel, Akpa and Odumegwu (2020) in their empirical study, reported that sustainability reporting enhance financial performance of companies. However, Weerarathna, Lokeshwara, Sandali, Chandula and Nirman (2021) documented that corporate sustainability reporting has no connection with financial performance. According to Orlitzky, Schmidt & Rynes (2003), accounting based measures shows efficient use of assets to generate value reflect internal decision making abilities as they are subject to managers' discretionary allocation of funds to different projects rather than external perception of performance. Malarvizhi and Ranjani (2016) pointed out that accounting based measures are more likely to capture unsystematic risk which is unique to firm since activities undertaken by firms which lead to high or low perceived corporate social responsibility might be mostly unsystematic Accounting based measure is often represented by conventional financial ratios such return on assets (ROA) and return on equity (ROE), earning per share, Return on Capital Employed, (ROCE).. This paper employed ROCE to measure financial performance of oil and gas listed firms in line with previous studies (Burhan & Rahmanti, 2012; Nwaiwu and Oluka, 2018; Naima, 2020).

2.2 Empirical Review

The existing literature on the relationship between sustainability disclosure and financial performance comprised of positive, negative, neutral and mixed results in both developed and developing economies. Weber (2017) assessed the association between the financial performance of selected Chinese banks and its sustainability reporting. The study's findings revealed that there is a bi-directional relationship between Chinese banks' sustainability and financial performance. In Malaysia, Amacha and Dastane (2017) investigated the nexus between sustainability practices and financial performance of oil and gas firms. The findings indicated a significant negative association between sustainability practices and corporate performance. More so, Loh, Thomas, and Wang (2017) studied the link between corporate sustainability reporting and the value of selected Singapore-listed

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firms. The findings of the study revealed that sustainability is directly associated to a company's corporate value. Nnamani, Onyekwelu, and Ugwu (2017) studied the impact of sustainability accounting on the financial performance of Nigerian listed manufacturing firms. Regression results indicated that sustainability accounting has a positive and significant effect on the financial performance. Similarly, Asuquo *et al*. (2018) conducted an empirical study to assess the effects of sustainability reporting on the performance of selected listed breweries on Nigerian Stock Exchange. The findings revealed that economic, environmental, and social sustainability have no significant effect on the financial performance of the companies under investigation.

Furthermore, Nwaiwu and Oluka (2018) assessed the impact of environmental cost disclosure on the financial performance of listed oil and gas companies in Nigeria. The regression analysis found that disclosing environmental costs had a significant positive effect on the financial performance of Nigerian oil and gas firms. Similarly, Lyndon and Sunday (2018) conducted an empirical study to explore the connection between environmental reporting and the financial performance of publicly traded Nigerian oil and gas firms. Regression results showed that environmental responsibility reporting is significantly associated with corporate financial performance. Gungor and Dincel (2018) studied the nexus between sustainability disclosure practices and financial performance of 100 firms listed on the Borsa Istanbul (BIST) Stock Exchange in Turkey. The research findings revealed that sustainability reporting had significantly impacted on financial performance of chosen firms. More so, Tri and Yuni (2018) used the ordinary least square to examine the impact of sustainability reports on the financial performance of listed firms on the Indonesian Stock Exchange (IDX). The findings of the study revealed a direct association CRS and Firm performance for South Korean. Ahmad (2019) discovered that environmental sustainability has a positive and significant impact on asset returns in a study carried out on the effect of environmental sustainability on the financial performance of Jordanian manufacturing companies. Carp, Leontina, Afrăsinei, and Georgescu (2019) empirically assessed the impact of sustainability reporting on the growth of Romanian publicly traded firms with aid of correlation and regression analyses. The study concluded that sustainability reporting had no significant impact on business growth. More so, Emeka-nwokeji and Osisioma (2019) examined the effect of sustainability reporting on the firm value of Nigerian listed firms. The results showed that overall sustainability disclosure had positive and significant effect on firm values of selected firms. However, Wasara and Ganda (2019) carried out study on the nexus between sustainable business disclosure and financial performance of listed mining firms in Johannesburg for a five-year period from 2010- 2014. The results from panel data regression showed a direct link between social sustainability and financial performance. However, environmental sustainability has a negative connection with financial performance.

More so, Erhinyoja and Marcella (2019) conducted a study on the effect of social sustainability reporting on the profitability of Nigerian listed oil and gas firms using regression analysis. The results indicated that social sustainability reporting has significant negative effects on ROE but insignificant negative effect on ROCE and ROA. Nasiru *et al.,* (2020) investigated the bi-directional connection between sustainability reporting and

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financial performance of Nigerian six (6) oil and gas companies from 2004 to 2018. The results indicated that there is a positive bi- directional connection between sustainability reporting and financial performance of oil and gas companies in Nigeria. Alhassan, Islam and Haque (2021) examined the nexus between the sustainability and the financial performance of listed industrial goods firms in Nigeria covering the period 2011- 2020. The study concluded that sustainability reporting (economic, environmental and social performance indices) has a positive significant impact on financial performance of the firms investigated. Adebayo and Oyewole (2022) examined the link between environmental accounting disclosure and market Value of listed Non- financial firms in Nigeria for a period of 2012 – 2020. The findings of the study documented that environmental accounting disclosure has a significant positive effect on Market value of the investigated companies.

Previous empirical studies on the link between sustainability disclosure and firm performance indicate either inconclusive or contradictory. The majority of empirical studies reported positive link or relationship while very few other observe negative, neutral and even mixed results. Also, most of the previous studies in Nigeria have used market based measure of performance. The studies relating sustainability disclosure with accounting based performance measure that considers both internal and external stakeholders is scanty in developing country such as Nigeria particularly in recent time that considered COVID 19 pandemic period, thus constituting necessary gap which this study has filled.

2.3 Theoretical Review

This paper is anchored on stakeholder theory and legitimacy theory. Gray, Kouhy and Lavers (1995) argue that these theories should be seen not as a competitive explanation but as a source of interpretation of different factors at different levels of resolution

2.3.1 Stakeholder Theory

The stakeholder theory of modern corporations was propounded by Edward Freeman in 1984. According to the theory, the purpose of a business is to create value for stakeholders not just for shareholders (Freeman, 1984). Stakeholder theory is based on the notion that companies have wider stakeholders apart from shareholders. According to Freeman (1984), stakeholder is defined as any identifiable group or individual who can affect the achievement of an organization's objective or is affected by the achievement of an organization's objective. The theory further posits that every business has various groups of stakeholders with unique information needs or interest (Freeman, 1984). According to Wahba (2008), stakeholder theory assumes that organizational sustainability initiatives must result in higher financial performance. King (2016) recognized the significance of integrating sustainability reporting in strengthening the relationship between firm and society in which it operates. The adoption of stakeholder theory is justified on the basis that sustainability disclosure provides information which is used to evaluate firm financial performance by several stakeholders, not just the owners or investors, in a multi – stakeholder's environment. Ignoring the stakeholders' interest may tarnish firm's public image, which would in turn affect its financial performance adversely.

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2.3.2 Legitimacy Theory

Legitimacy theory is one of the most cited social theories when it comes to social and environmental reporting. Legitimacy theory is derived from the concept of organizational legitimacy, which was by Dowling and Pfeffer (1975). Lindblom (1994) defines legitimacy as –"a condition which exists when an entity's value system is in harmony with the value system of society." The absence of such condition may cause the firm to disappear. In accordance with this theory, it is germane to meet the societal norms and expectations to ensure the survival of firm in long-term. In view of the above submission, it can be deduced that company engages in voluntary disclosure such as social and environmental reporting in order to legitimize their activities and with a view to influencing stakeholders' perception as well as society's perception about the company. The adoption of legitimacy theory is justified on the ground that firms cannot exist in isolation without interacting with their immediate environment; therefore, sustainability disclosure practice is a mean of obtaining license for firms to operate in the **society.** Hence, this study is also based on legitimate theory due to the fact that, sustainability disclosure can be seen as an important tool that legitimizes the behavior of a company in economy, society and environment.

3.0 Research Methodology

This study employed the ex-post facto research design. The method is suitable for the study in that any of the variables of the study cannot be directly manipulated or controlled because the events or phenomena under study had already taken place before the study was carried out. The study population includes 12 oil and gas companies quoted on Nigerian stock exchange as at 31st December, 2020. Two companies were dropped from the population due to non- availability of data and 10 companies were used as sample for the study. The study used secondary data covering the period 2016-2020. The heightened interest and growing awareness on sustainable development issues as a result of the forecast made in 2016 by United Nation that biodiversity loss, land degradation, water shortage will be more worsening than ever before in the nearest future informed the selection of the period. In addition, the period signify the period of corporate failure occasioned by unsustainable business practice, post- global financial crises period and the period of corona virus (COVID-19) pandemic, hence the rationale for the period. Data on accounting -based measures and sustainability disclosure were sourced from annual reports and accounts and standalone sustainability reports. Content analysis method was employed to extract information on sustainability disclosure from corporate communication media such as standalone corporate sustainability reports and annual reports. Panel data least square multiple regression was employed to achieve the objectives of the study. The variables measurement and description are presented in Table 3.1

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Table 3.1 Variables identification and measurement

Variable	Label	Description	Sources	A priori Expectation
Dependent				
Financial performance	ROCE	Earnings/Capital Employed	Nnamani,,Onyekwelu, and Ugwu (2017)	
Independent				
Economic Performance Disclosure	ECPD	Indirect economic impacts, economic performance, market presence	Global Reporting Initiative (2016), Aggarwal (2013)	+
Social Performance Disclosure	SPD	Training and education community development/philanthropy, occupational health and safety, human rights, anti-corruption, diversity and equal opportunity	Global Reporting Initiative (2016), Aggarwal (2013)	+
Environmental Performance Disclosure	ENPD	Material, water, energy, carbon emissions, effluent and waste, bio diversity	Global Reporting Initiative (2016) ,Aggarwal (2013)	+
Control				
Firm Size	SIZE	Natural logarithm of total assets	Birhan (2017)	+
Financial Leverage	LEV	Long term debt/ Equity	Ching,Gerab and Toste (2017)	-

Source: Global Reporting Initiatives (2022)

3.1 Model Specification

In line with (Umoren, Isiavwe, &Atolagbe, 2016), the empirical model for this study was specified as follows:

Then

$$Y = (\text{ROCE}) \quad \ldots\ldots \quad (i)$$

$$X = (\text{ECPD}, \text{SPD}, \text{ENPD}) \quad \ldots\ldots \quad (ii)$$

$$Z = (\text{SIZ}, \text{LEV}) \quad \ldots\ldots \quad (iii)$$

Then,

$$\text{ROCE} = f(\text{ECPD}, \text{SPD}, \text{ENPD}, \text{SIZ}, \text{LEV}) \quad \ldots\ldots \quad (iv)$$

The econometric form is as follows:

$$\text{ROCE}_{it} = \beta o + \beta 1\ \text{ECPD}_{it} + \beta 2\ \text{SPD}_{it} + \beta 3 \text{ENPD}_{it} + \beta 4\ \ln \text{SIZ}_{it} + \beta \text{LEV}_{it} + \mu_{it} \ldots\ldots (v)$$

Where: ROCE = Return on capital employed

β_0 = Intercept or constant of the coefficient

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ = Parameters of the estimates

X=Sustainability disclosure components (economic performance disclosure (ECPD), social performance disclosure (SPD), environmental performance disclosure (ENPD)

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Z stands for the vector of two control variables used in this study are the size of the firm (SIZ) and leverage (LEV).

4.1 Discussion of Results

Table 4.1 reveals sustainability disclosure practices and corporate financial performance (proxy with ROCE) of listed oil and gas companies in Nigeria.

The results in Table 4.1 show the level of sustainability disclosure across the three dimensions of sustainability disclosure`. Environmental sustainability disclosure index has a mean of 63.5 %, maximum and minimum values of 100% and 20%. The standard deviation from the mean of environmental disclosure index is low as it stands at 0.17, this implies that risk of not disclosing environmental sustainability performance. Similarly, the average social sustainability reporting index by Nigeria oil and gas listed firm is 56.4% with a minimum index of 25% and maximum reporting index of 100%. Also, the average economic sustainability reporting index stands at 39.5% with a minimum of zero and maximum of 100%. This shows that firms report more on social activity than environmental aspect of their sustainability disclosure practices. The standard deviation of social sustainability disclosure index which stands at 0.18 is lower than that of economic sustainability index which shows 0.20. More so, the average ROCE stands at 18.5 % with a maximum value and minimum value of 88.8% and 52% respectively. This implies that the average return on capital employed is very low. In addition, on average, the selected oil and gas firms make a profit before interest and tax of 18.5kobo for every 1Naira capital invested. Similarly, some companies make a higher profit per capital invested to the tune of 88.8 kobo per 1 Naira capital employed and others makes a loss of 52 kobo per I naira invested. In addition, it could be deduced from the result in Table 4.1 that all sustainability variables (ECPD, ENPD, and SPD) do not have normality distribution problems because none of the variable has values that significantly falls outside the range of -3 to +3. Kurtosis statistics of ROCE and leverage and size exceeded 3. The high kurtosis implies fatter tails and a higher peak or simply put, the distribution is leptokurtic.

Table 4.1: Descriptive Statistics

	ROCE	ECPD	SPD	ENPD	SIZE	LEVERAGE
Mean	0.18	0.39	0.56	0.64	1.34	0.14
Median	0.15	0.40	0.51	0.67	6429	0.12
Maximum	0.89	0.80	1.00	1.00	8.00	4.06
Minimum	-0.52	0.00	0.25	0.20	1165	-3.64
Std. Dev.	0.24	0.20	0.19	0.17	1.89	0.95
Skewness	-0.05	0.13	0.74	-0.32	2.39	-0.27
Kurtosis	4.48	2.70	2.71	2.72	7.91	12.51
Jarque-Bera	4.61	0.34	4.77	1.03	98.25	189.13
Probability	0.10	0.84	0.09	0.60	0.00	0.00
Sum	9.24	19.75	28.20	31.77	6.70	7.12
Sum Sq. Dev.	2.76	1.98	1.71	1.50	1.75	44.08
Observations	50	50	50	50	50	50

Source: Author’s Computation, 2022

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4.2 Correlation Analysis

The results in Table 4.2 are the correlation coefficients of the variables used for the study. The results indicate that the correlation coefficients among the explanatory variables are relatively low with none of the estimated coefficient close to 0.9 which is the threshold from which one would be concerned about the presence of multicolinearity among the regressors. Thus, the problem of multicolinearity does exist among the explanatory variable of this study.

Table 4.2: Correlation Matrix of all Variables (2015-2019)

Variables	ROCE	ENPD	SPD	ECPD	LEV	SIZE
ROCE	1.00					
ENPD	0.32	1.00				
SPD	0.32	0.58	1.00			
ECPD	-0.23	0.39	0.48	1.00		
LEVER	0.10	-0.12	-0.08	-0.01	1.00	
SIZE	-0.03	-0.42	0.00	-0.05	0.09	1.00

Source: Author's Computation, 2022

4.3 Panel Regression Result and Discussion

There are three methods to panel regression model these are pool OLS, fixed effect, and random effect. The results of the F-test with a F value of 10.45 and corresponding p-values of 0.000 rejects the null hypothesis of no firm effect. Thus, there exist firm effect in the model and pool OLS is not appropriate for the study. Furthermore, Hausman test is conducted to ascertain the most appropriate technique from the fixed effect and random effect. The result of the Hausman test shows a chi2 of 18.43 with p-value of 0.0025. These results reveal that the null hypothesis of consistency of random effect technique is rejected at 1 percent level of significance. Thus, among the three alternative panel estimation techniques, the fixed effect model is the most appropriate technique of analysis and as a result, the interpretation and discussion of results of this study would be based on the results obtained from the fixed effect model in column two of Table 4.3.

Table 4.3 shows coefficient of determination (R-square) that taking all the independent variable into consideration, SPD, ECPD, ENPD explained 33.8% of the total variation in the dependent variable, ROCE, while the remaining 672% is explained by other factors outside the model. As it can be seen from Table.4.2, only environmental sustainability index is statistically significant at the 5% level of significance with P-value of 0.02while economic and social sustainability indices are not statistically significant with their values of 0.29 and 0.45 respectively for economic and social sustainability. By implication, environmental sustainability disclosure has positive and significant effect on performance (return on capital employed) of selected quoted oil and gas companies in Nigeria.

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Leverage is statistically significant at 10% level of significance with the P- values of 0.07 while Size of the firm is not significant at any conventional level with the P-values of 0.99. This implies that leverage has a significant effect on the level of return on capital employed of selected quoted oil and gas companies in Nigeria. Environmental sustainability performance disclosure has a coefficient of 0.600. This implies that, given one percentage increase in environmental sustainability performance disclosure while other explanatory variables remain constant, will bring about 60% increase in ROCE of selected quoted oil and gas companies in Nigeria. Similarly, economic sustainability performance disclosure has a coefficient of 0.23 which by implication means, a unit increase in economic sustainability performance disclosure will cause 22.8% increase in ROCE of selected quoted oil and gas companies in Nigeria. Social sustainability performance disclosure shows a coefficient of -0.22, by implication, while other explanatory variables remain unchanged, a percentage increase will cause 22% decrease in return on capital employed of selected quoted oil and gas companies in Nigeria. However, the effect of social sustainability reporting on ROCE is not statistically significant at any conventional level of significance.

Table 4.3 Regression Results for Effect of Sustainability Reporting on Financial Performance of Oil and Gas Listed Firms in Nigeria

Variable	Pooled OLS	Fixed Effect	Random Effect
ENPD	0.49**	0.60**	0.55**
	(0.04)	(0.02)	(0.02)
SPD	0.49**	-0.22	0.06
	(0.02)	(0.45)	(0.82)
ECPD	-0.64***	0.23	-0.03
	(0.00)	(0.22)	(0.86)
Leverage	0.04	0.03*	0.03*
	(0.20)	(0.07)	(0.09)
Size	0.01	-0.00	0.01
	(0.57)	(0.99)	(0.71)
Constant	-0.37	-0.154	-0.44
	(0.39)	(0.92)	(0.53)
Observations	50	50	50
R-squared	0.37	0.34	
Number of FirmID		10	10
Hausman Test:			
Chi2	18.43		
P-value	0.0025		
F-Test			
F(9, 35)	10.45		
P-Values	0.000		

P-.values in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Source: Author's Computation, 2022

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4.4 Post Estimation Test of Heteroscedasticity

The results in table 4.4 deals with the post estimation test of heteroscedasticity. The results obtained from the iterative procedure of testing hetroskedasticity using likelihood ratio test reject the null hypothesis of heteroscedasticity of the error term. Therefore, it is concluded that the data used in this study does not suffer from the problem of heteroscedasticity given the likelihood ratio test chi2 statistic of 62.15 with a p-value of 0.0000.

Table 4.4:Panel Heteroscedasticity Test

Likelihood-ratio test	LR chi2 (9) =	62.15
(Assumption: . nested in hetero)	Prob> chi2 =	0.0000

Source: Author's Computation, 2022

4.5 Wooldridge Test for Autocorrelation

Table 4.5, shows the Wooldridge test for autocorrelation in panel data an estimated F statistic value of 3.056 with a P value of 0.1144. The implication of the result is that it fails to reject the null hypothesis of no first order autocorrelation in the data. Therefore, the data used in the study does not suffer from autocorrelation.

Table 4.5: Wooldridge test for autocorrelation in panel data

H0: no first-order autocorrelation	
F(1, 9) =	3.056
Prob> F =	0.1144

Source: Author's Computation, 2022

4.6 Discussion of Findings

This paper examined the link between sustainability disclosure and financial performance of selected listed oil and gas firms in Nigerian from 2016 – 2020. The implication of the results obtained from panel regression in Table 4.3, led to rejection of the null hypothesis ($H_0$1) of the research that environmental sustainability disclosure has no significant effect on financial performance of listed oil and gas firms in Nigeria. The findings of this research found that environmental sustainability disclosure is significant at statistically significant at the 5% level of significance (P-value = 0.02 & β = 0.600). By implication, environmental sustainability disclosure has significant positive effect on financial performance of listed oil and gas firms in Nigeria. This suggests that the oil and gas sector plays a significant role in the economy and it is vulnerable and susceptible to environmental hazards. This also suggest that, given one percentage increase in environmental sustainability performance disclosure while other explanatory variables remain constant, will bring about 60% increase in financial performance of selected quoted oil and gas companies in Nigeria.

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The study also reveals that there exists a significant positive connection between environmental sustainability disclosure and financial performance of listed oil and gas firms in Nigeria. This result is in agreement with previous research findings of Lyndom and Sunday 2018. This also corroborate with the a priori expectation of the study. However, this findings disagreed with findings of Wasara and Ganda (2019).

The results of the regression shown in Table 4.3 revealed that social sustainability disclosure is not statistically significant at any conventional level of significance (P-value 0.045 &β = **-** 0.22). The implication of these results is that the null hypothesis ($H_0$2) of the research that economic sustainability disclosure has no significant effect on financial performance of listed oil and gas firms in Nigeria is accepted. The findings of the study showed that social sustainability disclosure has insignificant effect on financial performance of selected listed oil and gas firms in Nigeria. This agrees with findings of Asuqou *et al* (2018) who found insignificant effect of social sustainability of financial performance.

The findings of this research also corroborated the findings of an empirical study carried by Ngozi and Charles (2019) which documented that social sustainability has no significant effect on financial effect on financial performance However, the study contradicts the findings of the study by Erhinyoja and Marcella (2019) which found a significant negative effect of social sustainability on financial performance.

As regard the null hypothesis ($H_0$3) of the research that economic sustainability disclosure has no significant effect on financial performance of listed oil and gas firms in Nigeria. The results of this research revealed that economic sustainability is not statistically significant at any conventional level of significance (P-value = 0.22 & β =0.23). The findings of this research showed that economic sustainability has no significant effect on financial performance of selected listed oil and gas firms in Nigeria. Therefore, the null hypothesis ($H_0$3)of this research is accepted. This result corroborates the findings of Asuqou *et al* (2018). However, the result contradicts the findings of the research carried out by Tri and Yuni (2018) which found that economic sustainability disclosure has significant effect on financial performance.

5.1 Conclusion

The research investigated the effect of sustainability disclosure on financial performance of selected listed firms in Nigerian spanning a period of 2016- 2020. Based on the findings of the study, the following conclusions were made.

i. Environmental sustainability disclosure has a significant effect on financial performance of selected listed oil and gas firms in Nigerian.
ii. Social sustainability disclosure has no significant effect on financial performance of selected listed oil and gas firms in Nigeria.
iii. Economic sustainability disclosure has statistically insignificant effect on financial performance of selected oil and gas firms in Nigeria.

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5.2 Recommendations

In line with the conclusion of this research, the study recommends that:

i. The management of oil and gas companies in Nigeria should improve the level of environmental sustainability practices as it significantly affects their financial performance positively.

ii. The oil and gas firms in Nigeria should disclosure adopt materiality approach to sustainability as disclosure of immaterial social sustainability information may not affect their financial performance.

iii. The investors and other stakeholders of companies in oil and gas sector in Nigeria should be more cautious when making decision using economic sustainability disclosure performance of oil and gas firms in Nigeria.

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