
Moderating effect of social disclosure on the relationship between sustainability reporting and going-concern of listed oil and gas companies in Nigeria

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ABSTRACT

This study examines the Moderating Effect of Social Disclosure on the Relationship between Sustainability Reporting and Going Concern of Listed Oil and Gas Companies in Nigeria. Ex-post facto research design was employed. Samples size adopted is Six (6). Simple Random Sampling Techniques was also adopted. The period of this study was Ten (10) years from 2012-2021. Multiple Regression analysis was conducted. Panel Corrected Standard Errors (PCSEs) was employed as a result of the presence of unobserved heterogeneity in the variables under study. . The findings reveal that Social Sustainability reporting was found to be statistically Positive and Insignificant relationship between Sustainability reporting and going-concern of Listed Oil and Gas Companies in Nigeria. The findings further reveal that Environmental Sustainability Reporting is negatively and significantly influencing the relationship between Sustainability reporting and going-concern of Listed Oil and Gas Companies in Nigeria. Finally, the findings shows that Social Donation and Gifting Disclosure have statistical Negative and significantly) influencing the Moderating Effect of Social Disclosure on the Relationship between Sustainability and Going Concern of Listed Oil and Gas Companies in Nigeria under study. Therefore, it was recommended that policies that would sustain Sustainability Reporting on Environmental and Social Donation and gifting issues should be encouraged since it had been shown to be beneficial to the going-concern of the Listed Oil and Gas Companies in Nigeria under study.

Keywords: Social Disclosure, Sustainability Reporting, Social Sustainability, Oil and Gas Companies.

1. INTRODUCTION

In the last decades, corporate social and environmental responsibilities have risen to prominence as corporate social interests are increasingly recognized, and the importance of environmental protection is globally accepted. Under the pressure of various stakeholders and the public, multinational corporations (MNCs) have begun to deal with social and environmental issues firmly, which is evidenced by an increase in the communication of social and environmental issues, in addition to, the customary financial disclosure (Gray and Bebbington, 2001). Several companies have already established a corporate responsibility promotion department to ensure that they uphold all their economic, environmental and social responsibilities as a corporation. Through communication, companies are attempting to ensure the public that they have managed their activities also in the interest beyond the shareholders, for examples in areas of environmental conservatism, corporate compliance, and social contribution). Several giant organizations like Coca Cola, Pepsi, Colgate, Unilever, ABB, etc. have established citizenship programs in this direction.

The key objective of any organization is to consistently grow and survive on a long-term basis. Most managers are also aware that their organizations are part of a large system which has profound direct and indirect influence on their operations. This implies that if these organizations must effectively and efficiently meet their objectives, they should properly adapt themselves to their environments (Baboukardos & Rimmel, 2016). Adapting organizations (especially large firms) to their environments signifies a reciprocal or a symbiotic relationship between the 'duos' as typified by systems model of viewing business, which is in line with the position taken by Kim et al (2012), Dalal, and Thaker (2019) who noted that due to the current environmental crisis, businesses must give more to their environment. In 2011, the International Federation of Accountants (IFAC) developed a sustainability framework which enabled business organizations to incorporate sustainability issues in their business approach, process and reporting practices. The reporting aspect of IFAC's sustainability framework involves providing audit and assurance on sustainability performance to enhance the credibility of sustainability reports, incorporating sustainability impacts in financial statements

The concept of sustainability has taken on importance in recent years (Hahn & Figge, 2011; Linnenluecke & Griffiths, 2010). The term sustainability has been used in reference to an organization's skill at maintaining and concomitantly demonstrating positive economic, social and environmental performance over the long term (Jamali, 2006). This approach is also named "Triple Bottom Line" (TBL) concept, as proposed by Elkington (2004). There is a gap between the concept and practice of sustainability because many organizations work with the three dimensions of Triple Bottom Line (TBL), but they do not explore their interconnections (Venkatraman and Nayak, 2010).

In this context, putting corporate sustainability into effect is challenging. As stated by Jamali (2006), the challenge lies in managing the trade-offs of the three dimensions of TBL, that is, the management of potentially conflicting relationships among the three dimensions of TBL. Presumably, this challenge can be won by sustainability management through business processes (Sarkis et al., 2006).

Apart from profit making objective, all business concerns share one fundamental objective that is to remain as Going Concern. The assumption is that business unit will operate in perpetuity; that is the business is not expected to be liquidated in the foreseeable future. A business is considered a going concern if it is capable of earning a reasonable net income and there is no intention or threat from any source to curtail significantly its line of business in the foreseeable future (Kurfi, 2006). Going concern evaluation therefore is a financial indication that used to provide a clear image about the financial situation of the company. Altman Z Score bankruptcy prediction model is a formula developed by Altman to detect corporate bankruptcy at some period prior to the bankruptcy. Altman has categorized the firms into three levels based on his model, which are strong; moderate and weak based on the Z score percentage (Altman, 1968). For the purpose of this study, Altman quantitative model (1968) commonly known as Altman Z-score Plus is used to demonstrate how to predict failure, which analyzes combination of financial ratios on financial statement. This prediction model had about 95% accuracy rate (Altman, 1993).

The main objective of this study is to Assess the Moderating Effect of Social Disclosure on the Relationship between Sustainability and Going Concern Evaluation of Listed Oil and Gas Companies in Nigeria. While the specific objectives are:-

- i- To assess the effect of Social Sustainability Reporting on Going Concern of Listed Oil and Gas Companies in Nigeria

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- ii- To examine the effect of Environmental Sustainability Reporting on Going Concern of Listed Oil and Gas Companies in Nigeria
 - iii- To determine the Moderating effect of Social Donation and Gifting Disclosure on the Relationship between Sustainability and Going Concern of Listed Oil and Gas Companies in Nigeria

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Concept of Social Disclosure

Hamid, (2004), the concept of social disclosure entails a company's performance in offering information on societal programs implemented by the organization. To the extent that companies provide contents on their societal efforts, they are answering to societal requests and expectations regarding social disclosure. Saudagaran (2004) argued that social disclosures are used as a means of addressing the exposure firms face with regard to the social environment, and as such should be related more closely with public-pressure variables than profitability measures. Different company characteristics have been considered in the literature, as determinants of the company's disclosure level of these are the following: Size, performance, age, listing status. In addition to market structure, investment in information technology systems and risk which will be considered for the first time in a study of the determinants of social disclosure level(Hamid ,2004).

Concept of Sustainability Reporting

The term sustainability is first defined in the Brundtland Report (1987). This report defined the meaning of sustainability as a process of economic growth, environmental protection, and social equality. Sustainability in business is referred to as a process by which companies manage economic risk, environmental risk, social business risk, and their obligations and opportunities. There are three main aspects of sustainability that is Economic, environmental, and social. Sustainability disclosure is one of the primary value drivers of the firms, as it demands greater transparency of sustainability reporting from the managers, employees and the shareholders (Amico, 2012). Throughout the world, 93% of the large corporations' report sustainability measures in their annual report; however, only 59% obtained assurance for sustainability reporting. However, the literature indicates the absence of a common sustainability standard reporting framework due to which inconsistent results are reported around the world, making it challenging to implement the results of different sustainability reporting models consistently (Buallay and Aldhaen, 2018). The number of companies reporting sustainability is increasing over time;

however, the stakeholders are concerned with the authenticity of the sustainability reports. Moreover, the task of linking the frameworks that are suitable for sustainability reporting from different backgrounds is challenging (Krivaci 2017).

There is no single, generally accepted definition of sustainability reporting. It is a broad term generally used to describe a company's reporting on its economic, environmental and social performance (Mishra & Suar 2010). It can be synonymous with triple bottom line reporting, corporate responsibility reporting and sustainable development reporting, but increasingly, these terms have become more specific in meaning and therefore, subsets of sustainability reporting (Klynveld et al, 2008 and KPMG, 2008). Schaltegger (2004) defined sustainability reporting as a subset of accounting and reporting that deals with activities, methods and systems to record, analyses and report, firstly, environmentally and socially induced financial impacts and secondly, ecological and social impacts of a defined economic system (example, a company). Thirdly, sustainability reporting deals with the measurement, analysis and communication of interactions and links among social, environmental and economic issues constituting the three dimensions of sustainability (Ioannou & Serafeim (2019)

Social Sustainability

Social sustainability includes improving human resource related practices which include employees' training and development, employees' health and safety, diversity, equal opportunity and wage discrimination issues), addressing consumers' issues, for example, customers' health & safety, product labelling, communication practices, customers' complaints and compliance with product laws), protecting human rights such as freedom of association, removing child labour issues, nondiscrimination and other safety measures, etc.), and addressing other issues of broader stakeholders and community concerns such as involving the local community, reducing corruption, showing public policy concerns, discouraging anti-competitive behaviour, and complying with the law (Global Reporting Initiative, 3.1 2011). The concept gained prominence as a result of the ethical perspective of the organizations which recognized the value of social responsibilities in addition to their prime objective of wealth maximization.

Social sustainability can be described as a company's commitment to behave socially and environmentally responsibly while striving for its economic goals. It includes the company's relationship with all its stakeholders, from market-related stakeholders (customers, share owners, suppliers) to internal (e.g., employees, board of directors) or societal stakeholders such as government, Non-Governmental

Organizations). It is assumed that the variety of stakeholders and their concerns lead to corporate responsibility including economic, environmental and social aspects (Zink & Steimle 2008). Social sustainability is a hard-edged business decision not because it is a nice thing to do or because people force us to do it but because it is good for our business (Akinyomi, 2013).

According to McWilliams and Siegel (2001), social sustainability refers to doing all those activities which are not forced by law of those countries where they operate their businesses, and which are not for the primary benefits of the business but for the benefits of the society. Likewise, social sustainability is expressed as a persistent commitment by the businesses regardless of their nature, to behave in a way that aligns with ethics and contributes to the economic development by fine-tuning and improving the standard of living of the people.

Environmental Sustainability Reporting

Environmental reporting and its later development into sustainability reporting has been the most important aspect of accounting and the environment especially in the last two decades (Gray, 2014). Environmental reporting provides a strategic framework for achieving a holistic re-appraisal of corporate performance. Although it is not a new concept, environmental reporting remains an interesting area of discourse for academics and an intensely debatable issue for business managers and their stakeholders.

According to Deegan and Rankin (1996), corporate environmental sustainability reporting refers to the way and manner by which a company communicates the environmental effects of its activities to particular interest groups within society and to society at large. Companies, through the process of environmental communication, may seek to influence the public's perception of their operations. They attempt to create a good image as they interact with the environment at large, including the use of natural resources and a company's impact on earth's ecosystems, compliance with environmental regulations, leadership in addressing climate change, energy-efficient operations, renewable energy, natural resource conservation, pollution prevention programs, strategy towards sustainable development and programs to engage stakeholders in environmental improvement.

Considering that accounting provides the most important corporate system of information collection and analysis in environmental accounting context, it means that someone has the duty to give an explanation of how resources have been used (Schaltegger & Burritt, 2000). Therefore, the goal of environmental accounting is to prepare environmental reports for interested users. According to the European

Environmental Agency (EEA), environmental reports are “the principal vehicle for company communication on the environment and a fair and credible reflection of the company’s environmental activities.

Concept of Going Concern

Going concern is an important assumption that underlying the preparation of financial statements. Based on this assumption, financial statements are prepared to reflect the ability of a company to continue operation in a foreseeable future (Dabor & Tijjani, 2011). Any financial difficulties that may affect the appropriateness of the application of going concern assumption need to be disclosed accordingly in the financial statements and the matter must be highlighted in the audit report (Salawu, et al, 2017). Depending upon the going concern status of the company, the report would show the intention or the necessity to liquidate, cease trading or seek protection from creditors pursuant to laws or regulations. The types of going concern opinion to be issued vary from modified audit opinion, qualified audit opinion, and adverse opinion. A modified audit opinion is issued for companies that are facing going concern problem and when the information on the problem is adequately disclosed in the financial statements.

Empirical Review

Şimşek and Öztürk (2020) evaluated the impact of environmental accounting approaches of businesses on the overall performance of businesses. The study was carried out on businesses at Beylikdüzü Organized Industrial Zone. Multiple linear regression analysis was conducted for evaluating the relationship between the environmental accounting approaches of businesses, and the overall performance of businesses. The data which were obtained by random sampling method was analyzed in the SPSS 20 software package. The result reveals there was a mutually significant relationship between environmental accounting and performance. However, the environmental accounting approaches of the companies covered by the study were found to be at a low level. The authors concluded that professional associations needed to organize seminars and conferences to help managers and accountants raise awareness and establish a learning mechanism for “environmental accounting”.

Ldama and Pembri (2020) examined the effect of social responsibility on business performance using qualitative approach to research. It was found from the literature that the fulfillment of corporate social responsibility has significant positive effect on business performance. Also, the fulfillment of corporate social responsibility was legal and ethical to the competitive success of business organizations. In conclusion, the fulfillment of social responsibility served as a resource contributing factor to the

long-term competitive success of business organizations. Therefore, organizations wishing to survive in a volatile business environment like Nigeria ought to be socially responsible. The authors recommended that organizations should endeavor to invest more resources in the communication of their behavior regarding social commitment like the involvement in community, corporation and development, programme supporting culture or measures for helping employees.

Nkwoji (2021) investigated the relationship between environmental accounting and profitability of selected quoted oil and gas companies in Nigeria in years 2012-2017. Explanatory, historical and correlational designs were adopted while secondary data were utilized for the study. The data were gathered from annual reports and accounts of the companies available on their websites and from the Nigerian Stock Exchange (various years). The data collected were from the period 2012 – 2017. The annual reports include annual financial statements, annual sustainability reports and annual reports of global tax payment to nations by the quoted oil firms and annual returns submitted on the Nigerian Stock Exchange for the years under study. Regression was used for the data analysis and testing of the hypothesis. The result of the study showed that there was no significant relationship between environmental expenditure and net profit of the oil and gas companies in Nigeria under study. The study therefore recommended that among other things the managements of the oil and gas companies should channel efforts towards engaging in adequate environmental spending and its disclosure as a way of increasing stakeholders trust and showing more transparency in their operations.

Tiamiyu and Oyekunle (2019) provided empirical evidence of firm characteristics and sustainability reporting practice of listed manufacturing firms in Nigeria. The study was supported by the stakeholders' theory. The data were collected from secondary sources, mainly from annual reports and accounts, environmental reports and corporate websites. A data analysis was carried out using regression model. The findings revealed that firm size and asset tangibility had positive significant influence on sustainability reporting. Ownership structure had a positive influence on sustainability reporting and growth have positive insignificant effect on sustainability reporting while board size and firm profitability had a negative influence on sustainability reporting. The study recommended that firm characteristics with positive outcomes used in the study should be heavily invested on and recommended for others by the regulating agencies of government in view of the role they played in ensuring that managers acted responsibly towards people (social), profit (economic) and the planet (environment) by preparing sustainable financial reporting.

Lei and Heng (2021) noted that on the question whether environment, social or governance (ESG) activities had promoted or reduced firm performance, there was still no consensus. Especially for China, a representative country in emerging markets whose corporate ESG activities were still in their infancy, and related systems and regulatory measures not complete, its theoretical and practical circles more urgently needed to get an accurate answer to that question. Therefore, they took China's Shanghai and Shenzhen A-share listed companies which had ESG rating data from 2015 to 2019 as samples and found that corporate ESG activities had a significantly negative impact on firm performance. The authors concluded that further research showed that compared with state-owned enterprises and environmentally sensitive enterprises, non-state-owned enterprises and non-environmentally sensitive enterprises provided stronger evidence to support the above conclusions.

Xue et al (2021) focused on deriving value-oriented business intelligence from the voluntary disclosure of sustainability reports. This study used an advanced business analytics approach, specifically with Latent Dirichlet Allocation (LDA) topic modelling, to codify intangible knowledge embedded in annual sustainability reports to infer a firm's strategic intent behind voluntary disclosure. A secondary panel dataset consisting of information on 680 firms in 3 years was constructed by matching the text mined data with information from other sources. The results indicated that, on the one hand, while external stakeholder engagement was the primary motivation behind voluntary disclosure of sustainability reporting, firms to engage in internal stakeholders through workforce practices. On the other hand, internal employee-oriented intent had more influence on firm performance than external customer-oriented intent. This study demonstrated a toolset to index firms' sustainability indicators and evaluated firms' sustainability practice as an intangible asset and its impact on firms' financial performance.

In line with the objectives, the following hypotheses were postulated in null form.

Ho_i: - Social Sustainability Reporting has no significant relationship on Going Concern of Oil and Gas Companies in Nigeria.

Ho_{ii}: - Environmental Sustainability Reporting has no significant relationship on Going Concern of Oil and Gas Companies in Nigeria.

Ho_{iii}: - Moderating effect of Social Disclosure has no significant effect on the Relationship between Sustainability and Going Concern of Listed Oil and Gas Companies in Nigeria

3. METHODOLOGY

Ex-post facto and correlation research design are the research designs used for the study. The justification for using ex-post factor research design (after the fact) is that the source of data is historic in nature. That is, the study intends to adopt an existing data rather than new data specifically gathered for the study. The correlational design was employed to explain relationships between the independent, dependent variables.

This study is limited to only Listed Energy Companies in Nigeria. The population of the study therefore consists of all the Thirteen (13) Listed Oil and Gas Companies which are quoted on the first-tier security market of the Nigeria Exchange Group (NGX) as at 31st December, 2023. The population of the study include TOTAL Energy Marketing Nigeria Limited, Oando Plc., Ardova Plc., Conoil Plc., Eterna Plc., Mrs Oil Nigeria Plc. (Texaco Chevron), Japaulgold Ventures, Beco Petroleum Plc, Capital Oil Plc., Rakunity Petroleum Plc., Caverton Nig Plc., Mobil Nig Plc., Seplat Energy Plc.(Source:-Nigerian Exchange Group (NGX), 2023)

For the purpose of selecting the sample size of this study, simple random sampling technique was used to select up to fifty percent (50%) of the total population based on random selection criteria. Thus, the selected Listed Energy Companies were picked randomly. The application of this criterion is to allowed each energy companies to have equal opportunity of being selected and could have the ability to give accurate representation of the entire population, for the purpose of this study; hence a Random Sampling Technique. The application of the sampling technique led to the emergence of Six (6) Listed Oil and Gas companies in Nigeria which represents more than 50% of the population which include, Total Energy Marketing Nigeria Limited, Oando Plc., Conoil Plc., Mrs Oil Nigeria Plc., Eterna Plc. Capital Oil Plc. (Authors Extract, 2023)

This study was based on secondary source of data. The audited annual reports and accounts were used in collecting the data for both the dependent and independent variables of the study of Listed Oil and Gas Companies in Nigeria under study.

Basically, there are three set of variables in this study; dependent variable and explanatory variables (independent variables) and the Moderating Variable. The dependent variable is Going Concern Evaluation proxy by Altman Z-score Plus while the independent variables are; Sustainability proxy by Social Sustainability, while

the Moderating Variable is Social Disclosure proxy by of Local Community Disclosure and Social Donation and Gifting Disclosure.

Dependent Variable:

The dependent variable of this study is Going Concern Evaluation proxy by Z-score plus which is measured as follows. Z-Score plus: the financial strength of the company affects the evaluation of its going concern. This strength has been measured by financial ratios in most cases (ISA 570, Altman, 1968; Ohlson, 1980). Altman (1968) released an updated version in 2012 called the Altman's Z-Score plus Model that can be used to evaluate both manufacturing & non-manufacturing firms & public & privative companies in both U.S & non-U.S companies. Made use of a multivariate, linear, discriminate analysis (MDA) and identified a cut-off value that allowed him to decide on the condition upon which companies are financially distressed or otherwise. His prediction had a 95% successful accuracy. Hence, this study employs Altman's Z-score plus to determine the company's going concern.

$$\text{Z-Score} = 1.4 \text{ RE/TA} + 1.0 \text{ SA/TA}$$

Where;

Z score = Firms' financial condition

SA/TA = Sales ÷ total asset

Based on the Z score, Altman categorizes companies as strong, moderate and weak. Z score values for strong, moderate and weak are as follows:

- Strong when Z score is > 2.99
- Moderate when Z score is 1.811–2.98
- Weak when Z score is < 1.811

Descriptive, Correlation and Regression Analysis will be used as adopted by Iskandar et al (2011) and Zureigat (2015). Multicollinearity and Heteroskedasticity test were also carried out. To check for multicollinearity, the most widely-used diagnostic of Variance Inflation Factor (VIF) was used. The VIF estimates show how much the variance of a coefficient is inflated because of linear dependence with other predictors. Durbin-Watson - Hausman test was used to determine the choice between fixed effect and random effect.

how the data spread out around this value. The results indicate an average of 46.54 for Z-Scores (Sales to Total Asset) with minimum of 0.42 and maximum of 19.5 members. This indicates that Z-Scores (Sales to Total Asset) have impact on Sustainability Reporting variables of Listed Oil and Gas Companies in Nigeria with a standard deviation from the mean of 4.65%. The results indicate that average Social Sustainability was 11.51 between the minimum of 0.69 and maximum of 16.09 members and standard deviation from the mean is at 46.2%. While a mean of 30.7 indicates that Environmental Sustainability out of the total Sustainability Reporting with minimum of 0.69 and maximum of 13.5, so also the standard deviation of 45% variation from the mean. The mediating variables used in the study showed the mean of Social Donation and Gifting is 85.4 and a standard deviation of 34%, this indicates a considerable level of dispersion in Social Donation and Gifting of the Listed Oil and Gas Companies in Nigeria during study period. The minimum value indicated as 0.69 and the maximum value of 16.09 indicates that the Sustainability Reporting do differ significantly in Social Donation and Gifting.

Correlation Result.

Table 2
Correlation Matrix

VARIABLES	SA/TA	SOCSUST	ENSUST	SDG
SA/TA	1.0000			
SOCSUST	-0.2832*	1.0000		
ENVSUST	-0.2585*	0.5264*	1.0000	
SDG	-0.2781*	0.4472*	-0.1446	1.000

Source: STATA Output Result (Version 15), 2023.

Table 2 above shows the summary of correlation between dependent variables Going Concern (Z-Scores) and explanatory variables (Social and Environmental Sustainability), with a Moderating variable of Social Donation and Gifting. The values of the correlation coefficient range from -1 to 1. The sign of the correlation coefficient indicates the direction of the relationship (positive or negative), the absolute values of the correlation coefficient indicates the strength, with larger values indicating stronger relationships. The correlation coefficients on the main diagonal are 1.0000, because each variable has a perfect positive linear relationship with itself. The correlation coefficient of the independent variables Social Sustainability and dependent variable Going Concern (Z-Scores) is positively correlated (0.5264* and 0.4472*), which indicates a Positive relationship meaning that an increase in Social Sustainability may increase the Going Concern (Z-Scores) of the Listed Oil and Gas Companies in Nigeria under study. However, the correlation coefficient of the

independent variables Environmental Sustainability and dependent variable Going Concern (Z-Scores) is negatively correlated(-0.1446*), which indicates a negative relationship meaning that an increase in Environmental Sustainability may decrease the Going Concern (Z-Scores) of the Listed Oil and Gas Companies in Nigeria under study. Furthermore, Social Donation and Gifting also shows a positive relationship with Going Concern (Z-Scores).

Regression Results.

In this study, the linear regression technique has been employed as a statistical technique in order to examine the correlation between the explanatory variables, explained variable, as well as the moderating variables of the study in respect of the listed oil and gas companies in Nigeria. Table 3 discusses the analysis of results for linear regression model, Correlated Panel Corrected Standard Errors (PCSEs).

Table 3
Summary of Linear Regression Model Correlated Panel Corrected Standard Errors (PCSEs) Result.

Z-SCORES	Coef.	Std.Err.	Z-values	p>t
SOCSUST	0.4557	1.6129	0.28	0.778
ENVSUST	-0.3191	0.0951	-3.36	0.001
SDG* SOCSUST	-4.3888	1.0207	-4.30	0.000
SDG* ENVSUST	0.5233	0.0414	4.09	0.000
CONS	10.3210	0.9508	9.26	0.000
Prob > chi2	0.0000			
R ²	0.1695			
Wald Chi2(PCSEs)	265.66			
Estimated Covariance	21			
Estimated coefficients	4			
Hausman test:- (Prob > chi2)	0.7204			
Langrangian Test:- Prob > chi	0.0000			
Number of Obs	60			

Source: STATA Output Result (Version 15), 2023.

Social Sustainability and Going Concern.

The result in table 3 shows that Social Sustainability Reporting is statistically positive (Coefficient 0.4557) but insignificantly (P>/t at 0.778) affecting Going Concern of listed Oil and Gas Companies in Nigeria. The policy implication desirable from this finding therefore is that the management listed Oil and Gas

Companies in Nigeria under this study should re-strategize the Social Sustainability Reporting when coming up with decision or policies which are Sustainability reporting related issues. The result produces an evidence of failing to reject the hypothesis One(1) of the study which states that Social Sustainability Reporting has no significant relationship on Going Concern of Oil and Gas Companies in Nigeria. The finding is in line with the study of Şimşek and Öztürk (2020).and contrary with the study of Xue, Yim, and Khuntia (2021).

Environmental Sustainability and Going Concern

The result in table 3 shows that environmental sustainability reporting is statistically negative (Coefficient -0.3191) but significantly at 1% with $P > t$ at 0.001 of the relationship with going-concern of listed oil and gas companies in Nigeria under study. The policy implication desirable from this finding therefore is that the management of listed oil and gas companies in Nigeria under study should place an emphasis on the environmental sustainability reporting when coming up with decision of environmental sustainability. The result produces an evidence of rejecting the hypothesis two (2) of the study which states that Environmental Sustainability Reporting has no significant relationship on Going Concern of Oil and Gas Companies in Nigeria. The finding is in line with the study of Ldama and Pembi (2020) and contrary with the study of Ldama and Pembi (2020).

Social Donation and Gifting Disclosure on Social Sustainability and Going Concern.

The result in table 3 shows that Social Donation and Gifting Disclosure as moderating variable is statistically negative (Coefficient -4.3888) but significantly at 1% with $P > t$ at 0.0000 of the relationship with going-concern of listed oil and gas companies in Nigeria under study. The policy implication desirable from this finding therefore is that the management of listed oil and gas companies in Nigeria under study should place an emphasis on Social Donation and Gifting Disclosure when coming up with decision of disclosures. The result produces an evidence of rejecting the hypothesis three (3) of the study which states that Moderating effect of Social Donation and Gifting Disclosure has no significant effect on the Relationship between Social Sustainability and Going Concern of Listed Oil and Gas Companies in Nigeria. The finding is in line with the study of Nkwoji (2021) and contrary with the study of Tiamiyu and Oyekunle (2019).

Social Donation and Gifting Disclosure on Environmental Sustainability and Going Concern.

The result shows that Social Donation and Gifting Disclosure as moderating variable is statistically positive (Coefficient 0.5233) and significantly at 1% with $P > t$ at 0.0000 of the relationship with going-concern of listed oil and gas companies in Nigeria under study. The policy implication desirable from this finding therefore is that the management of listed oil and gas companies in Nigeria under study should place an emphasis on Social Donation and Gifting Disclosure when coming up with decision of disclosures. The result produces an evidence of rejecting the hypothesis Four (4) of the study which states that Moderating effect of Social Donation and Gifting Disclosure has no significant effect on the Relationship between Environmental Sustainability and Going Concern of Listed Oil and Gas Companies in Nigeria. The finding is in line with the study of Nkwoji (2021) and contrary with the study of Tiamiyu and Oyekunle (2019).

Considering the Hausman specification test for Fixed Effect and Random Effect Models, the outcome of $\text{Prob} > \chi^2$ is 0.7204 for both the two Models) this signifies insignificant, therefore, Langrangian Multiplier test was conducted as per the rule of thumb, which shows a significant value at 1 % ($\text{Prob} > \chi^2$ is 0.0000), the Random Effect (Robust) is to be interpreted. However, the result of the variables under study shows a presence of unobserved heterogeneity, and this was corrected after testing the linear regression, correlated panels corrected standard errors (PCSEs), this study therefore, adopted and interpreted.

As depicted in Table 6, cumulatively, the R^2 from the linear regression, correlated panels corrected standard errors (PCSEs) is 0.1695 (16.95%). This further indicates that the model explains 17%, a weak variation in Sustainability Reporting as being Proxies using Social and Environmental sustainability measured using sustainability reporting index and moderated by social donation and gifting disclosure, also measures using the disclosure index. The R^2 value of 0.1695 signifies that 16.95 % of the difference from the dependent variable is determined as a result of variations in the explanatory variables and the moderating variable within the study. This also indicates that the change in Sustainability Reporting as being measured using reporting index is statistically justified by the regression equation. The findings from Table 4.4 also shows that the model is statistically significant ($\text{Prob} > \chi^2$ is 0.0000) signifying the strength of the model employed. Furthermore, in linear regression, correlated panels corrected standard errors (PCSEs), the regression result shows that “R-square” of 0.1695 (17%) signifies a weak Relationship on Moderating effect of Social Disclosure on the relationship between Sustainability Reporting and Going

Concern of Listed Oil and Gas Companies in Nigeria under study. The model accounts for about 17% change in the going-concern that is Z-Scores, while the remaining 83% of the change is as a result of other variables not addressed by this model. The overall R^2 is 17%(weak correlation) below 20% as per the conventional rule (Gujarati and Dawn, C. P, 2009), and also F-Statistics(Wald chi2) of 265.66 is also is greater than the conventional rule of 2 (Gujarati and Dawn, C. P, 2009), the higher the Wald chi2, the stronger the model fitness in explaining among the variables under study, also the Prob > chi2 shows a significant value of 0.0000(1% significance level and 99% confidence level). Therefore, the result of the linear regression, correlated panels corrected standard errors (PCSEs), estimation is accepted.

Collinearity Diagnostics

Table 4
Diagnostic Statistics

Variables	Collinearity Statistics	
	Tolerance	VIF
SOCSUST	0.4432	2.26
ENVSUST	0.5424	1.84
SDG	0.6002	1.67
Mean VIF		1.92

Source: STATA Output Result (Version 15), 2023.

From the table 4, shows the result of the multicollinearity issue as tolerance and Variance Inflation Factor (VIF) values for all the explanatory variables is less than 1 and also less than 10 which signifies that the explanatory variables in this study are within the normal range. It is accordingly, expected that the present study is free from multicollinearity or serial correlation. Meanwhile, multicollinearity issue may not pose a strong threat to the variables of the study.

Table 5
Ramsey RESET tests using powers of the fitted values of sata.

Ho: model has no omitted variables	
F(2, 54)	0.03
Prob>chi2	0.9716

Source: STATA Output Result (Version 15), 2023

From the table 5, shows the result of Ramsey RESET test using powers of the fitted values of Sale to Total Assets with Fishers's value of 0.03 and insignificant at

Prob>chi2 is 0.9716. This is in line with the conventional rule that all post diagnostics tests are required to be insignificant.

Table 6

Breusch and Pagan Lagrangian Multiplier Test for Random Effects

Variables	Var	sd = sqrt(Var)
Sata	18.84819	4.34145
E	6.387754	2.527401
U	28.56785	5.34489
chibar2(01) =		94.51
Prob > chibar2 =		0.0000

Source: STATA Output Result (Version 15), 2023

From the table 6, shows the result of Breusch and Pagan Langrangian Multiplier Test for Random Effects test was conducted as per the rule of thumb, which shows a significant value at 1 % (Prob>chi2 is 0.0000), hence, the Random Effect (Robust) is to be interpreted.

Table 7

Modified Wald test for Groupwise Heteroskedasticity in fixed effect regression model

H0: $\sigma(i)^2 = \sigma^2$ for all i	
chi2	19396.80
Prob>chi2	0.00000

Source: STATA Output; 2023

Table 7, above discussed on issue of Heteroskedasticity as was corrected using the Modified Wald test for Groupwise Heteroskedasticity in fixed effect regression model which this study adopted because the result shows a significant P-Value of 0.000(1% level of significant) as against the Bruch Pagan/Cookweisbarg test for Heteroskedasticity with shows a significant P-Value of 0.0002(at 5% level of significant), which however, violated the Homoskedastic rule. Therefore, this study has no issue of Heteroskedasticity among the variables under study.

5. CONCLUSION AND RECOMMENDATIONS

Conclusion

The study assesses the Moderating Effect of Social Disclosure on the Relationship between Sustainability and Going Concern of Listed Oil and Gas Companies in Nigeria. Based on the findings of this study, it is concluded that Social Sustainability reporting were found to be statistically Positive and Insignificant relationship

between Sustainability reporting and going-concern of Listed Oil and Gas Companies in Nigeria. Environmental Sustainability Reporting negatively and significantly influencing the relationship between Sustainability reporting and going-concern of Listed Oil and Gas Companies in Nigeria at 1% level of significance. It was also concluded that, Social Donation and Gifting Disclosure have statistical, positive and significant Moderating Effect of Social Disclosure on the Relationship between Sustainability and Going Concern of Listed Oil and Gas Companies in Nigeria at 5% level of significance.

Recommendations

It is recommended that the management of the management listed Oil and Gas Companies in Nigeria under this study should re-strategize the Social Sustainability Reporting when coming up with decision or policies which are Sustainability reporting related issues. Again, the management of listed oil and gas companies in Nigeria under study should place an emphasis on the environmental sustainability reporting when coming up with decision of environmental sustainability related issues. Furthermore, management of listed oil and gas companies in Nigeria under study should place an emphasis on Social Donation and Gifting Disclosure when coming up with decision of disclosure. Finally, the management of listed oil and gas companies in Nigeria under study is recommended to diversify into another aspect of Sustainability Reporting like Economic Sustainability Reporting.

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